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A Monthly Journal of Medical and Surgical Science, Criticism and News.

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Vol. XXIX. No. 9. | TORONTO, MAY, 1897. | Price, 30 Cents. $3 per Annum.

THE HUNTER, ROSE CO., LTD., PRINTERS, TORONTO.

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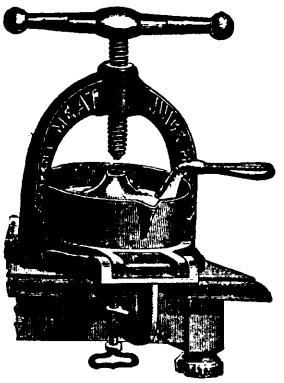

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Gelsemin.....1-20 gr.
Ferri Sulph. exs.....½ gr.
Ol. Res. Capsici.....1-10 gtt.

Chinoidin, Comp.
Chinoidin.....2 grs.
Ferri. Sulph. Exsic.....1 gr.
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Cinchoniæ Sulph......2 grs.

Cinchonidiæ Salicyl......2½ grs.

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Cinchonidiæ Sulph......2 grs.

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Quiniæ Sulph.....1 gr.

Quiniæ Sulph.....2 grs.

Quiniæ Bi-Sulph......1 gr.

Quiniæ Bi-Sulph......2 grs.

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Podophylli.....1-10 gr.
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Pv. Capsicum.....¼ gr.
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Aperient.
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Ext. Hyoscyami.....¼ gr.
Ext. Coloc. Co.....2 grs.

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(Dr. Leutaud).
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Ext. Hyoscyami.....1½ gr.

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Sulphur.....1-5 gr.
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Aloin.....1-10 gr.
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Podophyllin.
Ext. Hyoscyami.....aa ½ gr.

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Podophyllin.....¼ gr.
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Juglandin.....1 16 gr.
Mecrotin.....1-32 gr.
Ol. Res. Capsici.....q. s.

Podophyl. et. Bellad.
Podophyllin.....¼ gr.
Ext. Bellad.....⅛ gr.
Ol. Res. Capsici.....¼ gr.
Saccharum Lact.....1 gr.

Sumbul Aperient.
(Dr. Shoemaker.)
Eqt. Sumbul.....1 gr.
Asafetida.....1 gr.
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Ext. Cascara Sag.....¼ gr.
Aloin.....¼ gr.
Gingerine.....¼ gr.

Astringents.

Astringent.
Ext. Geranni.....2 grs.
Pv. Opii.....¼ gr.
Ol. Menth. Pip.....1-20 gtt.
Ol. Res. Zingiber.....1-20 gtt.

Opii et Plumbi Acet.
Pulv. Opii.....¼ gr.
Plumbi Acet.....1½ gr.

Cathartics.

Cascara Cathart. (Dr. Hinkle.)
Cascrin.....
Aloin.....aa ½ gr.
Podophyllin.....1-6 gr.
Ext. Belladon.....¼ gr.
Strychnin.....1-60 gr.
Gingerine.....⅛ gr.

Cathartic Comp. U. S. P.

Cathartic Comp. Imp. 3 grs.
Ext. Coloc. Comp.....
Ext. Jalap.....
Podophyllin, Leptandrin..
Ext. Hyoscyami.....
Ext. Gentianæ.....
Ol. Menth. Pip.....

Cathart. Comp. Cholagogue.
Res. Podophylli.....½ gr.
Pil. Hydrarg.....¼ gr.
Ext. Hyoscyami.....¼ gr.
Ext. Nuc. Vom.....1-16 gr.
Ol. Res. Capsic.....⅛ gtt.

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Ext. Hyoscyami.....1 gr.

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Ext. Cascara Sag.....3 grs.
Res. Podophyllin.....⅛ gr.

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Pv. Res. Guaiac.....1 gr.
Pv. Aloes Socot.....¾ gr.
Pv. Myrrhæ.....½ gr.

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Morphiæ Acetat.....1-25 gr.
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Pv. Nuc. Vom..... 1 gr.
Sol. Canthar. Conc't..... 1 m.

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Aloin ..... 1-5 gr.
Strychnin..... 1-60 gr.
Ext. Belladon..... ⅛ gr.

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Ext. Belladon..... ¼ gr.

Sedative.

Ext. Sumbul..... ⅛ gr.
Ext. Valerianæ..... ⅛ gr.
Ext. Hyoscyami..... ⅛ gr.
Ext. Cannab. Ind..... 1-10 gr.

Ulsemin ..... ¼ gr.

Phosphori Cum. Cannabe Indica.

Phosphori..... 1-50 gr.
Ext. Cannab. Ind..... ¼ gr.

Tonics.

Aloes et Ferri.

Pulv. Aloes Socot..... ½ gr.
Pulv. Zingib. Jam..... 1 gr.
Ferri Sulph. Exsic..... 1 gr.
Ext. Conii..... ½ gr.

Tonics—continued.

Aloes et Nuc. Vom.

Pulv. Aloes Soc..... 1½ grs.
Ext. Nuc. Vomicæ..... ½ gr.

Antiseptic Comp. (Warner & Co.)

Sulphite Soda..... 1 gr.
Salicylic Acid..... 1 gr.
Ext. Nuc. Vom..... ½ gr.
Powd. Capsicum..... 1-10 gr.
Concent. Pepsin..... 1 gr.

Chalybeate..... 3 grs. Pink (Warner & Co.)

Ferri Sulph..... 1½ grs.
Potass. Carb..... 1½ grs.

Chalybeate Compound (Warner & Co.)..... Pink

Chalybeate Mass..... 2½ grs.
Ext. Nuc. Vom..... ⅛ gr.

Damiana Cum. Phosph. et Nuc. Vom.

Ext. Damiana..... 2 grs.
Phosphori..... 1-100 gr.
Ext. Nuc. Vom..... ⅛ gr.

Digestiva (Warner & Co.)

Pepsin Concentrat..... 1 gr.
Pv. Nuc. Vom..... ¼ gr.
Gingerine..... 1-16 gr.
Sulphur..... ⅛ gr.

Ferri (Quevennes)..... 2 grs.

Ferri Carb (Vallett's), U.S.P. 3 grs.

Ferri Iodid ..... 1 gr.

Neuralgic.

Quiniæ Sulph..... 2 grs.
Morphiæ Sulph..... 1-20 gr.
Strychniæ..... 1-30 gr.
Acid Arsenious..... 1-20 gr.
Ext. Aconiti..... ½ gr.

Quidiæ Comp.

Quiniæ Sulph..... 1 gr.
Ferri Carb. (Vallett's)..... 2 grs.
Acid Arsenious..... 1-60 gr.

Quiniæ et Ferri.

Quiniæ Sulph ..... 1 gr.
Ferri Redact ..... 1 gr.

Quiniæ et Ferri et Strych. Phos.

Quiniæ Phos..... 1 gr.
Ferri Phos..... 1 gr.
Strychniæ Phos..... 1-60 gr.

Tonics—continued.

Quiniæ Iodoform et Ferri.

Iodoform ..... 1 gr.
Fer. Carb. (Vallett's)..... 1 gr.
Quiniæ Sulph ..... ½ gr.

Sumbul Comp. (Dr. Goodell.)

Ext. Sumbul..... 1 gr.
Asafetida..... 2 grs.
Ferri Sulph. Exsic..... 1 gr.
Acid Arsen..... 1-40 gr.

Tonic.

Ext. Gentianæ..... 1 gr.
Ext. Humuli ..... ½ gr.
Ferri Carb. Sacch..... ½ gr.
Ext. Nuc. Vom..... 1-20 gr.
Res. Podophylli..... 1-25 gr.
Ol. Res. Zingib..... 1-10 gr.

Zinci Posphide and Nuc. Vom.

Zinci Phos..... 1-10 gr.
Ext. Nuc. Vom..... ¼ gr.

Strychniæ..... 1-16, 1-20, 1-30, 1-32, 1-40 and 1-60 gr.

Pil. Phosphori, 1-25, 1-50, 1-100 gr.

Pil. Phosphori Comp.

Phosphori..... 1-100 gr.
Ext. Nuc. Vom..... ¼ gr.

Pil. Phosphori Cum. Nuc. Vom.

Phosphori..... 1-50 gr.
Ext. Nuc. Vom..... ⅛ gr.

Pil. Phosphori Cum Ferro.

Phosphori..... 1-50 gr.
Ferri Redact..... 1 gr.

Pil. Phosphori Cum Ferro et Nuc. Vom.

Phosphori..... 1-100 gr.
Ferri Carb..... 1 gr.
Ext. Nuc. Vom..... ¼ gr.

Pil. Phosphori Cum Ferro et Quiniæ et Nuc. Vom.

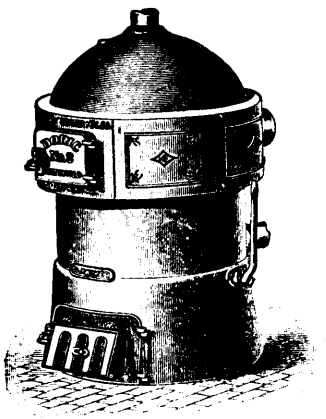
Phosphori..... 1-100 gr.
Ferri Carb..... 1 gr.
Quiniæ Sul..... 1 gr.
Ext. Nuc. Vom..... ¼ gr.

Pil. Phosphori Cum Quiniæ.

Phosphori..... 1-50 gr.
Quiniæ Sulph..... 1 gr.

Quiniæ et Ferri Carb.

Quiniæ Sulph..... 1 gr.
Ferri Carb..... 2 grs.



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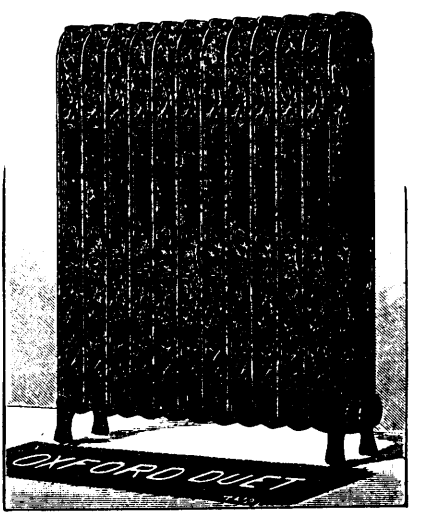

The Gurney Foundry Co., Ltd., Toronto.

The Canada Lancet.

VOL. XXIX.] TORONTO, MAY, 1897. [No. 9.

POISONING BY ILLUMINATING GAS.

BY J. E. GRAHAM, M.D., L.R.C.P., LOND.
Professor of Clinical Medicine University of Toronto.

Cases of gas poisoning have of late years occurred so frequently that no excuse is necessary for a special reference to the subject.

Notwithstanding frequent warnings, so long as a very poisonous gas is introduced into bedrooms which can be so easily turned off or on, accidents will occur, and it is the duty of the practising physician to be ready to adopt at once the most effective measures to restore the patient to health, if that is at all possible.

In the two cases which have recently occurred in this city special warning was given, and it would really seem that the accident might have been brought about by extreme anxiety rather than by carelessness.

The history of the cases is as follows:

Two young ladies came on a visit to the city on a Monday, and retired about eleven o'clock Tuesday evening. They slept in a double bed in a rather small room. At 8.30 on Wednesday morning gas was noticed in the halls, and, on examination, it was found to escape from the keyhole of the bedroom occupied by the patients. The door was forcibly opened, and the patients were found lying on the bed in an unconscious condition. The elder one was on the side of the bed furthest from the wall and nearest the door. The position, the limbs partly out of bed, indicated an attempt to get up when she was over-

come by the poison. The younger one was on the inner side of the bed, and her body was straight. Both were quite unconscious, and the air of the room was strongly impregnated with gas. The gas-jet was found turned on. Help was immediately summoned, and the patients were removed to a pure atmosphere. Artificial respiration was used in both cases, strychnine was injected hypodermically, and brandy was given per rectum.

The elder of the patients, Miss B., the one who was found partly out of bed, was in a deeply comatose state. The pulse was quick and weak, and a large amount of gas was given off from the lungs. The patient did not vomit. During the day the conditions remained unchanged; at times the breathing was loud and stertorous, and at times quiet. The pulse ranged from 120 to 130 and was weak and small. The face presented peculiar eythermatous patches. On the evening of the day of the accident the patient's face was livid with some bright red spots on the cheeks, and the surface of the body was covered with cold perspiration. Oxygen gas was administered with apparently good result. The pulse became fuller and more regular. The spasms of the limbs, especially of the arms, were not so marked as in her sister's case. Urine and fæces were discharged involuntarily. On the next day the condition became gradually worse. The coma deepened, and it required a greater amount of irritation to rouse her at all. On the first day severe pinching of the skin would cause the patient to move the limbs. The temperature rose gradually until, on the evening of the second day, it reached 104. The pulse and respiration also increased in rapidity until shortly before death, which took place 66 hours after the accident; the respirations were 80, pulse 150, and temperature 105. The temperature was taken in the axilla. If it had been taken in the rectum the thermometer might have registered even higher.

The treatment in each case consisted in the administration of strychnine, nitro-glycerine and caffeine. Oxygen gas was given by inhalation. This patient, for some reason, seemed more deeply poisoned, and from the commencement appeared to be more prostrate than her sister. The very high temperature would indicate a marked toxhæmia.

The second patient, Miss A. B., seemed at first to be in a very similar condition to that of her elder sister. She, however, suffered from nausea and vomited freely. The vomited matter had a strong odor of gas. When the patients were seen by me in the afternoon, this one, the younger, did not seem to be so profoundly comatose as the elder. She could be made to move by pinching the skin. The breathing was more decidedly stertorous than that of her sister. She, at times, had severe tonic spasms of the arms, which often extended to the lower extremities, amounting almost to a convulsion. The pupils were sometimes contracted and did not respond readily to light. The lips were slightly bluish, and the cheeks flushed. Her face became livid when she was moved on her right side. The pulse was not so rapid; the breathing became constantly stronger after the first few days and was full and regular. This condition of stupor continued 79 hours. The first sign of consciousness was the closing of the lips over the spoon when milk was given, and

thus preventing the giving of nourishment. The spasms of the extremities increased as the stupor passed off, and continued for two days afterwards. During the unconscious state, the urine was drawn off by catheter. This continued to be necessary during the first four days. Then for four days the micturition as well as defæcation were involuntary, after which time both functions were normally performed. The urine on the fifth day was albuminous, no sugar sp. gr. 1,036. The temperature continued raised throughout the illness, generally about 100. During the first few days after the unconscious period the patient suffered more or less from aphasia. She had difficulty in finding words; for instance, she called the thermometer the refrigerator. She did not appear to know her position in bed, thought she was lying crookedly when she was straight, and vice versa. She slept well as a rule, but had a habit of talking incessantly during waking hours, and was at times delirious, even two weeks after the return of consciousness. She was able to use her arms the second or third day after the accident, and on her return to consciousness she could use them freely. She suffered, however, from complete paraplegia, which continued for more than a week after the exposure. About the end of the first week a number of boils appeared on the lower extremities, above and below the knees. A bed sore formed on the lower part of the spine. Slight pressure on any part seemed to produce soreness. A peculiar mental condition followed the semi-comatose state, and this to some degree continues. She is irritable, easily excited, and asks childish questions. She is naturally very matter of-fact and quick of comprehension. She is still very weak and is easily discouraged when she finds that she is unable to go about freely. Three weeks after the accident she did not seem to have the least idea of what had happened. She thought that she had passed through a very severe illness, but has no recollection of anything that occurred immediately before the accident. She remembered coming to the city, and about some entertainment at which she was present the day before the poisoning.

The treatment, after the first few hours, consisted largely in the hypodermic administration of strychnine. Oxygen gas was given with apparent benefit. The bowels were moved by enemata, and saline solutions were given per rectum. This had a decided effect in increasing the amount of urine. They were given to assist in the elimination of poison by the kidneys. About the fifth day these injections were omitted forty-eight hours, when the urine became scanty and sp. gr. 1,036. After the saline solution was again given the urine became increased in quantity and sp. gr. 1,020. Nitro-glycerine was given for the first week in 1/100 gr. doses. In the latter part of the illness general tonics were administered. A peculiarity in the case was the unfavorable symptoms which followed the administration of stimulant. After brandy was given by Enema, the breathing became more stertorous and the coma deeper.

Sponging with warm water was frequently done to keep the skin in as healthy a condition as possible.

The active poisonous agent in poisoning by illuminating gas is the Carbon Monoxide which exists in gas as it is at present made, in the proportion of 20 per cent. to 30 per cent.

This compound formed but from 5 per cent. to 10 per cent. of illuminating gas as it was formerly manufactured. When it is remembered that 1/10 of one per cent. is sufficient to render an atmosphere uncomfortable, and that from one to 10 per cent. will produce death when inhaled sufficiently long, one is not surprised that patients who have been exposed to illuminating gas as it is now made should so frequently die, notwithstanding all our efforts to save them.

The effects of Co. upon the blood and tissues are still under discussion. It certainly combines with the hæmoglobin of the blood, dispelling the oxygen and producing a much more stable compound. The blood corpuscles are paralysed and no longer act as carriers of oxygen. For this reason, it is exceedingly difficult to free the system from the poison. It produces directly deleterious effects on the nerve-cells, a fact which may to some extent account for the spasmodic movements which characterize this form of poisoning. The presence of this compound in the system produces a large amount of disintegration, and the kidneys are often put to a very severe test in eliminating the waste matter from the blood.*

The symptoms of gas poisoning are so well known that I need scarcely give them in detail. Their character depends to a great extent upon the process of poisoning. If a patient is exposed for a length of time to a moderate amount of gas, the symptoms may extend over several days. When, on the other hand, there has been a short exposure to a large amount of gas, if the patient recovers he does so rapidly. In the former class of cases time is given for chemical changes to take place in the blood, and tissues and combinations are formed, hurtful to the system, which are exceedingly difficult to remove; hence, the duration of the symptoms. In such cases the principal manifestations are stupor, deepening to profound coma, the presence of tonic spasms, and a decided elevation of temperature. The depth of the coma and its duration will depend largely on the length of time the patient has been exposed, as well as to the proportion of gas in the atmosphere. The coma is probably partly caused by want of oxygen by the direct effect of the gas upon the brain tissues, and partly the effect of toxines, the result of the tissue disintegration which has been already mentioned. The coma in one reported case lasted ten days, when a fatal termination ensued. Convulsions are sometimes present. In the cases under consideration the tonic spasms of the limbs were so general as to amount almost to convulsions. The elevation of temperature to 100 and 101 is a very constantly-observed symptom, and was present in both cases. In the fatal case 105 was the highest point reached, whereas in the other 101 was the highest recorded. This is probably due to the very rapid changes which directly

* Dr. Haldane (*Brit. Med. Journal*, Oct. 3rd, 1896) maintains, first, that Carbon Monoxide, apart from its action upon hæmoglobin, is a physiologically inert gas, and that the symptoms it gives rise to are due, not to any positive action upon the tissues, but simply to its negative action in depriving them of their oxygen ; and, secondly, that the stability of Carbon Hæmoglobin is in inverse proportion to the tension of the oxygen in the alveoli.—(Dr. Davison).

According to this view, the nervous symptoms are due to the absence of oxygen and to the slight hemorrhages described, and not to any direct effect of the gas upon the nerve-cells.

The usefulness of oxygen given under pressure is also proven. The gas might thus be given by means of Dr. Fell's respirator.

result from the action of the poisons. Experiments have been carried on in Dorpat by M. Edelberg, under the direction of A. Schmidt, which demonstrate that the fibrin ferment set free by the disintegration of red blood corpuscles causes pyrexia. A loss of memory of events preceding the accident is a very common symptom. A case is reported in which a young girl was subjected for three hours to a very moderate amount of gas. She did not become unconscious, but suffered from nausea and general malaise. She could not recall anything which preceded or occurred for a day and night after it. Extraordinary cases have been reported from time to time. Litten reported a man restored by long continued artificial respiration. He had afterwards paralysis and œdema of the right arm.

The case of a workman is given who was completely unconscious until the transfusion of a normal saline solution. The patient then slept ten hours and awoke comparatively well.

Marcel Briant (*La Semaine Médical*) reports a case of disorder of the intellect after gas poisoning. The patient, a young girl, could not recollect any of the circumstances preceding the accident.

A matter of a good deal of importance in connection with this subject is the condition in which those are found who have been for a long period (weeks or months) subjected to a small amount of carbon monoxide in the atmosphere: those, for instance, who have lived in rooms where there has been a slight escape of gas. The symptoms are those of general debility, anæmia, together with anorexia and more or less headache. A dry, irritating cough is often present.

These symptoms, which are too often thought to be due to nervous exhaustion from overwork, are at times the direct result of the action of a small amount of gas on the system.

The secondary consequences of poisoning by illuminating gas have been carefully studied. It is not surprising that an agent which produces such profound chemical changes in the blood should cause many secondary pathological conditions. Gas poisoning has been followed by bronchitis, hæmoptysis and pneumonia, persistent headache, mental apathy, neuralgia, paralysis, delirium, cutaneous hyperæsthesia, sometimes localized anæsthesia, chorea aphasia, certain trophic disturbance, and gangrene (F W. Draper, M.D., *Med. Times and Register*, Mar. 14th, 1896).

In cases of poisoning of the blood by carbonic oxide, there is, according to Thoma, an increased permeability of the capillaries, resulting in local hæmorrhage. This accounts for many of the nervous symptoms.

Post-mortems are frequently made in fatal cases of gas poisoning; but the reports have not been as exhaustive as one could wish.

Templeman found the following conditions: the brain was deeply congested, and more or less fluid was found in the subarachnoid space and in the lateral ventricles. The lungs were congested, engorged with dark, thick blood, and in some cases little air was found. A decolorized blood-clot was found in the right ventricle; the left one was empty (*Brit. Med. Journal*, 1894).

Dr. Draper gave the following account of the post-mortem examination of a typical case: Structure of the heart, normal; the cardiac cavi-

ties contained blood of a light cherry-red color, and showed a few stringy clots; there was no engorgement of the right auricle or ventricle; slight reddening of the bronchial and tracheal mucous membrane, and the air-passages contained froth tinged with blood; the spleen was large, soft and red; stomach healthy; intestines showed a reddening of the mucous membrane in the jejunum and upper part of the ileum; pancreas was a pale reddish colour; the liver congested and of a heightened color; kidneys injected and of a cherry-red color.

Hemeke performed experiments on animals, and found the blood bright red and more or less fluid. Widespread blood extravasations were found in submucous tissues. In the organs of different animals experimented on white thrombi were found, the result of changes in the white corpuscles, which caused them to adhere to one another.

In acute cases the blood is cherry red and liquid. The lungs are engorged and the tubes are filled with mucous. The presence of Co. in the blood can be positively demonstrated by the spectroscope. The spectrum of ox. hæmoglobin is similar to that of the combination of Co. with hæmoglobin; but the spectrum of the former disappears in the presence of a reducing agent, whereas that of carb. ox. hæmoglobin remains. This may be a means of diagnosis both before and after death. In the more chronic cases, when death takes place after some days, capillary hæmorrhages and patches of softening are found. These lesions explain the nervous phenomena which have been already described.

The prognosis depends on the proportion of gas in the atmosphere and the length of time during which the patient has been exposed. A patient who has been exposed for a short time to a large amount of gas will recover much more quickly than one who has been exposed for some hours to a small proportion of gas. In the latter case chemical changes take place in the blood and tissues, which have been already described. It is generally stated that when a patient has been exposed to illuminating gas for eight hours and is found in a comatose state, the prognosis is exceedingly grave, and that, under such circumstances, death may be expected. It must be remembered that during sleep a small proportion of Co. may produce death, if the patient has been for a long time exposed.

TREATMENT.

The first and most important part of the early treatment is to free the system in every way of gas. It may be expelled from the respiratory tract and lungs by first moving the patient to a pure atmosphere, and then practising artificial respiration so long as any odor of gas remains on the breath. In some cases artificial respiration has been kept up intermittently for hours with good results. It is quite probable that during the stupor which follows gas poisoning, the "besoin de respirer" is not so marked as in health, and that artificial respiration is necessary for the complete oxygenation of the blood. The utility of the administration of oxygen gas has been doubted by many. The combination of the hæmoglobin with Co. is so strong that it is not displaced by the oxygen, and it is generally thought that forced respiration is quite as beneficial

as the administration of oxygen. It will be noticed that in the cases reported the elder and stronger of the two did not vomit and afterwards succumbed; while the younger and weaker patient vomited when she was removed from the bedroom, and, after a long period of unconsciousness, recovered. As both patients were subjected to the same amount of poison, it might be considered that the vomiting saved the younger and weaker patient. I think it more likely, however, that perhaps from a peculiar idiosyncrasy the elder was from the first more affected by the gas, and on that account did not vomit. The vomited matter, however, had a strong odor of gas, a fact which would go to prove that in this way the system had been freed from a certain amount of poison. It would, therefore, be advisable to empty the stomach and bowels as soon as possible. A tube might be used in washing out the stomach, and large hot water enemata might be given per rectum.

On account of the combination of the hæmoglobin and the Co., some physicians have bled the patients, thus freeing the circulatory system of a large amount of poison. At the same time a normal saline solution may be introduced into the veins. This practice has been followed by good results, and could easily be carried out in severe cases. The weak pulse would appear to be at first a counter indication, but when it is considered that the weak pulse results from a heart muscle weakened by poison, the seeming objection is removed. The more rapidly the circulatory system is freed from poison, the sooner will the myocardium resume its tone.

In one case reported, the injection of a small amount of saline solution appeared to have a good effect. In the following case a fatal result occurred, notwithstanding all these remedies.

Broadbent (*Brit. Med. Journal*) relates a case of a man who was found in an unconscious state. Oxygen inhalations were tried, the patient was bled, and transfusion of defibrinated blood was practised. Tr. ferri mur. and Lig. arsenic. A slight improvement followed. Hydrochloric acid was given. He began to recognize those around him on the tenth day, after which a relapse took place. Extreme weakness, muscular wasting, and profuse sweating followed. Death took place on the nineteenth day. His wife, who was subjected to the same poison, recovered in a week. The fatal result in this case might have been due to secondary lesions already described.

Having freed the system as rapidly as possible from gas, the next indication for treatment would be to support the system, and to assist elimination of poison by the kidneys and bowels. The cardiac weakness, which is such a pronounced feature, is best counteracted by strychnine, which may be given hypodermically. Nitro-glycerine has been strongly recommended as a cardiac stimulant, and together with strychnine was given by Dr. Willoughby from the commencement in the cases mentioned. Caffein appeared also to have a good effect, especially on the patient who recovered.

At the same time milk may be given freely. It is probable that it would be more readily digested if given in a peptonized form. The administrations of a normal saline solution were of great benefit in these

cases. The kidneys are the great eliminating organs, and the marked increase in the quantity of urine excreted must have had a decided effect in freeing the system of toxines. It would appear from the protracted course of these cases that toxines are formed in large quantities from the disintegration of the proteid compounds, and the presence of those are a source of danger.

Care should be taken that the body is not chilled, so that the kidneys are guarded from congestion. This warning is often necessary, because in the free admission of fresh air the temperature of the room may be too much lowered. In some cases it is necessary to have resource to hot water bottles to keep the extremities up to the normal temperature.

SURGERY OF THE KIDNEY.—Dr. Bayard Holmes (*Jour. Amer. Med. Assoc.*, Sept. 5th) summarizes as follows:

1. Tuberculosis of the kidney is a relatively common disease.
2. It usually begins in the kidney itself, descends through the ureter to the bladder, and ascends to the opposite kidney.
3. It is, therefore, for a long time a unilateral disease.
4. It is a progressive and destructive disease, not subject to improvement through medication, offering an unfavorable prognosis as to life and comfort, and subject to extension downward by the urinary tract and outward through the peri-renal lymphatics.
5. Diagnosis can be made through the symptoms of cystitis, with a low temperature, rapid pulse, dilatation of the heart, the detection of tubercle bacilli in the urine, tuberculosis of the bladder about the orifice of the ureter of the diseased kidney, pus or blood with tubercle bacilli and diminished normal constituents in the urine from the diseased kidney; normal urine in increased quantity from opposite kidney; sometimes tenderness, pain and tumor *in situ* of diseased kidney and ureter.
6. The indications in case of an absolute diagnosis of tuberculosis of one kidney and healthy opposite kidney are immediate removal of the diseased kidney *and its ureter*; in case of disease in both kidneys, no operation should be performed.
7. The competency of the healthy kidney should be proved by repeated catheterization of the ureters before nephrectomy, and the removal of all toxic elements from the blood should be secured by a liquid diet, irrigation of the colon and hydration of the whole system for some days before the removal of the kidney.
8. Lumbar, extra-peritoneal nephrectomy is the safer operation.
9. In women the removal of the ureter should be completed through the vagina.
10. Any remaining tuberculosis of the bladder should be treated locally by curetting or cauterization.
11. Catheterization of the ureter is not a dangerous procedure, and it may easily be accomplished in women with the simple cystoscope of Simon, Pawlik or Kelley, and in men with the more complicated instrument of Casper.

SURGERY.

IN CHARGE OF

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THE PREVENTION OF DEFORMITY IN FRACTURES OF THE EXTREMITIES.

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The deformity following broken bones is a frequent cause of litigation because the disability and unsightliness of the condition are readily apparent to the patient and his friends. For the same reason the surgeon is more often subject to unfavorable criticism than the physician, whose failure to do the best possible is often unknown to the public. So annoying is the sight of a deformed limb, and so great is the responsibility and anxiety assumed in taking professional care of a bad fracture, that some practitioners feel glad to have such cases fall into the hands of other physicians or receive treatment at hospitals.

Mistaken diagnosis is a common cause of deformity after fracture. It is necessary not only to know that a fracture exists, but also to be acquainted with the situation and general character of the lines of separation if the surgeon is to obviate deformity. Many physicians fail in this important part of the treatment because they neglect to compare the injured with the uninjured limb; because they have forgotten the anatomical outlines of the region and do not take the trouble to look at the dry bones of the part while studying the injury; or because they fail to examine the patient under general anesthesia, which prevents pain and relaxes the muscles.

I have seen fractures overlooked because these precautions have been omitted. This is perhaps most often the case in fractures near joints, where the normal mobility of the part and the irregular contour of the bones obscure the deformity and unnatural mobility due to the fracture. It has at times surprised me to find a peculiar curve in a bone of an injured limb existent also in the skeleton of the opposite side, proving that which I at first supposed was an abnormality due to fracture to be a natural configuration peculiar to the patient. Every doctor should have in his office the parts of a human skeleton. At times nothing so clearly

straightens out an obscure diagnosis as a moment's inspection of the bare bones. An articulated skeleton is not necessary and is rather expensive. The separated bones can be obtained through any medical student, at very little cost, from a dissecting-room. Finer and more costly preparations, but no better for study, can be bought from the surgical instrument makers.

General anesthesia is not employed as often as it should be in obscure injuries. A few inhalations of ether will relax the tightened muscles and permit the surgeon to freely manipulate the injured limb. The freedom from pain thus obtained is also desirable and prevents the unwise hurry which sometimes is the cause of erroneous treatment at the hands of skilful and careful medical men.

When it is impossible to make out the exact character of the fracture even under etherization, and there exists bony deformity which the surgeon is unable to correct, it may, in my opinion, be wise to make an aseptic incision down to the broken bone. This clears up the diagnosis, permits proper readjustment of the fragments, and only converts a closed fracture into an open one. With our present aseptic and antiseptic methods of operating the incision adds little risk to the case, and may be of incalculable value in overcoming displacement and preventing permanent deformity and disability. If the practitioner having charge of the case is not familiar with aseptic surgery he should seek the aid of a modern surgeon familiar with aseptic details. Suppuration must, of course, be avoided, and energetic relief measures must be promptly instituted if septic contamination occur. The wound, even if it look well superficially, must be opened and drained if septic process begin in it.

The Roentgen ray now gives us an almost perfect method of discovering the lines of fracture without incision. It is not always available, unfortunately. When the diagnosis of fracture has been made, complete reduction of the fragments should be promptly accomplished. This is usually not a difficult task if the medical man is acquainted with the normal outline of the bone, compares the injured limb with the normal one, and uses the skeleton of the arm or leg as a test of accuracy. The swelling which sometimes obliterates the outlines may often be greatly diminished by elevating the limbs for a few minutes, rubbing it with the hands from the fingers or toes towards the body, and encircling it for a few minutes with a rubber or flannel bandage firmly applied by spiral, or spiral and reverse turns. These manipulations urge the serum upwards toward the heart and lessen the distension of the subcutaneous cellular tissue. The bandage must not be allowed to remain on the limb for more than a few minutes lest it cause gangrene. It usually cannot be applied unless the patient be etherized, as it gives pain.

In the "greenstick" fractures of childhood much force may be demanded to bring the bent bone into its normal shape. This should usually be done, even if the fracture is thereby made complete. The exception I make to this rule is in greenstick fractures of the clavicle. Complete fractures of the clavicle are often difficult to keep in perfect apposition. I therefore frequently desist from applying force sufficient to cause complete separation of the fragments in little children with green-

stick fractures of this bone. I believe that the slight deformity, which is left after partial restitution of the normal outline by moderate force, is likely to be less conspicuous than that which may result if I completely separate the fragments and unavailingly try to keep the ends in perfect coaptation. If the child is very young the deviation in shape will probably diminish as the bone grows in length and thickness. If the child is nearly full-grown, I am much more apt to attempt complete reduction even if the bone does give way under the pressure of my fingers.

In impacted fractures considerable force is frequently needed to disentangle the interlocked ends. Unless this is accomplished, reduction is incomplete and deformity will persist. I think, at present, of but one instance in which it is unwise to attempt to separate the impacted fragments. Fractures of the neck of the femur in the aged have a characteristic indisposition to repair by bony union. Hence, the interlocked ends of the broken bone should not be pulled apart in the attempt to make a diagnosis or to obtain perfect restoration of the bony outline of the femoral neck. The deformity that will occur from the impaction is far less important than the disability certain to remain after treatment, if the fragments are separated and non-union occurs. If the bony entanglement is undisturbed, osseous or cartilaginous union becomes more probable. This advice to avoid meddlesome activity applies only to fractures of the femoral neck in the aged. Under other circumstances the impaction should be overcome and careful coaptation of the fragments sought.

The fractures which probably most often give rise to deformity is that of the lower end of the radius with backward displacement of the lower fragment. In this injury the lower fragment is very often impacted or caught upon the dorsal edge of the upper fragment. It requires force suddenly applied with all the power of the surgeon's hands to drive the lower fragment forward into its proper relation with the shaft of the bone. This is neglected, I fear, by a great majority of practitioners. Deformity much greater than necessary, and a protracted convalescence with pain and stiffness of the fingers, are the consequences of this error. Immediate and thorough reduction will usually result in a rapid cure, with little or no noticeable deformity. I have sometimes bent the lower end of the radius across my knee before I could disentangle the fragments and bring the lower one into place. This is not often necessary, unless the fracture is some days old when first subjected to treatment. Deformity, after unsuccessfully treated fractures, may be prevented or relieved by refracturing the callus which unites the fragments. This is occasionally necessary in instances where no treatment has been given. The bone is bent across the edge of a padded table or over the surgeon's knee, and after the band of union has been ruptured, is treated as a recent accidental fracture. This may be done with success at the expiration of even six months, since the seat of fracture remains weaker than the rest of the bone for a long time. There are various methods of applying the power of the surgeon who wishes to refracture such vicious union of a fracture; and the bone may be weakened or divided by drills, the osteotome or the saw; but these matters are foreign to the present discussion.

To obviate the occurrence of distortion, after reduction and coaptation have been accomplished, some sort of retention apparatus is required.

In fractures of the thigh I usually employ permanent traction, by means of a weight attached to the limb with adhesive plaster. This overcomes the tendency to overlapping. Any tendency to lateral displacement I antagonize by sand-bags laid along the sides of the thigh and legs, or by moulded splints. The moulded splints may be made of bookbinders' pasteboard, wet with water, and applied to the limb before becoming dry, or of gauze saturated with plaster of Paris water.

The best and probably the cheapest splints for fractures of the extremities are moulded gypsum splints. Plaster of Paris or gypsum is obtainable in every vicinity from storekeepers or druggists and costs but a few cents a pound. When added to water it forms a creamy mixture which, as everybody knows, soon "sets" on, hardens into the familiar plaster used for covering the inner walls of our houses. A few strips or layers of cheese-cloth or mosquito-netting, saturated with a moderately thick solution of plaster and laid upon the broken limb after the fracture has been set, soon stick together and hardens, forming a splint which actually fits every inequality of the limb's surface. The rigidity of the hardened gauze and plaster splints may be made as great as the surgeon pleases, by placing more layers of gauze saturated with the plaster mixture upon the outside of the first layers, before the plaster in them has "set." If there is a tendency for any fragment to become displaced the surgeon's finger pressed for a few minutes upon the outside of the splint, so as to hold the piece of bone in position, makes a permanent prominence on the inside of the splint, which acts as a substitute for his finger and does the same service as long as the splint is worn.

These moulded splints are held in place by a roller bandage, and are far better than any carved or manufactured splint ever made. They fit as a man's skin fits, and need no padding to prevent bed-sores. One splint may be applied on each side of the limb, or a single splint may be made so as to encircle the whole or nearly the whole of its circumference. Neighboring joints may be covered and, therefore, supported by the splint; or openings may be made in the splint where a wound needs frequent dressing or inspection.

A little common salt added to the plaster mixture, or the use of hot water for the mixture, hastens its setting; borax or cream of tartar makes it harden more slowly.

Such splints, when applied as a first dressing, should never be made to entirely encircle the limb, since the swelling incident to the fracture may make them too tight and cause much pain and even gangrene. If the plaster dressing is applied so as to encircle the limb, it should be cut open on one side its entire length before the surgeon leaves the patients.

To prevent late deformity the surgeon must insist that no strain be put upon the newly-formed callus until it is hard enough to bear the burden. This is particularly important in fractures of the femur and tibia, which in locomotion carry the entire weight of the patient's body. Oblique fractures of these bones are especially liable to bend at the seat of the union, if the patient walks on them too early, without proper artificial support. It often requires very little additional support, but that amount may be essential.—*Med. and Surg. Reporter.*

INGUINAL HERNIA—GANGRENE OF THE FOOT—CARCINOMA.

BY CHARLES MCBURNEY, M.D.,
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GENTLEMEN—This is the patient upon whom I operated a week ago for an inguinal hernia of about a year's standing. It was not easily retained, and the truss caused much irritation. The ring was very large, and the tissues were of the fatty infiltrated type, so that the operation was somewhat difficult. Notwithstanding this, you see we have obtained primary and solid union throughout the length of the wound. He hardly needs any dressing now, but he will be kept in bed for the full three weeks.

The old man upon whom I operated for gangrene of the left foot has died. He had sinile gangrene on the outer side of the foot, which was steadily advancing. It was due to atheroma and plugging of the vessels. I amputated above the knee, and he bore the operation very well, but could hardly be said to have fully rallied from it. He did not show any of the symptoms of grave shock, but he rapidly became delirious; his temperature began to rise on the second day, and continued to rise steadily. He died at the end of the fifth day with a temperature of 105° F., although the wound was found to be in an absolutely aseptic condition. A dissection of the leg showed throughout the length of the anterior and posterior tibial vessels a large number of atheromatous masses. I look upon such a result as due to a combination of conditions —premature old age and the effect of alcohol. Probably the alcoholic condition had as much as anything else to do with the fatal termination in this instance.

To-day I have to operate upon two cases, both of them illustrating a similar disease in different localities of the body, and both of them coming under the general head of carcinoma. They are both to be treated on similar surgical principles. One is a carcinoma of the breast, and the other an epithelioma of the lip. Our first effort will be to remove the disease locally and absolutely. This step will be carried out regardless of the deformity produced, or the damage to the parts about the seat of disease, although we shall endeavor to restore the parts as nearly as possible to their normal condition. I mean by this that in the removal of malignant disease one should not be guided by the position, appearance or size of the scar, but the prime object should be the complete removal of the disease. One should start out with that principle firmly rooted in the mind, or else the future of the patient will be sacrificed to present comfort or ease. In all these cases of malignant disease we should endeavor to remove all chance of recurrence, either in the immediate neighborhood of the original disease, or in distant parts. To do this we must, of course, remove the channels through which such a recurrence is likely to take place.

The first patient is thirty-two years of age, and she has a carcinoma in the outer quadrant of the right breast, which does not involve the skin.

She asserts that the tumor has been present only three weeks, but this means that she first noticed it at that time, for she readily acknowledges that when she first discovered it it was of the same size as now. The tumor is very hard, but its attachments are such as to make the condition a very favorable one for operation. In the upper part of the axilla, and on its thoracic aspect, are several glands, which are decidedly, though not greatly, enlarged, and these are tender on pressure. So far as I can recollect, I have never found a case of carcinoma of the breast where the glands were not diseased. By this I do not mean that I have always been able to feel these glands before the operation, but that I have always been able to find such enlarged and infected glands at the time of the operation. I would, therefore, lay down as a positive rule that, when carcinoma exists in the breast, the axillary glands and surrounding tissues should be carefully dissected away. This doctrine, of course, almost all experienced surgeons would subscribe to, but it is a point sometimes neglected by those operating occasionally and having less experience with these cases. The longer and more carefully we have followed our cases and watched the results of operations on malignant disease of the breast, the more convinced we have become of the necessity of carrying out the most radical operative methods if we would prevent or postpone recurrence for any considerable time. We have recently learned that our operations must be exceedingly extensive. The operation which I shall do is one of that kind. It was first brought forward by Dr. Halsted, of Baltimore, and consists in the removal of the tumor, the breast, the skin overlying it, the pectoralis major and minor muscles, and all the contents of the axilla. There are several reasons for doing such an extensive operation. In the first place, we know by microscopical examination that the lymphatic ducts and glands are very frequently found in the adjacent tissues infected with the malignant disease. By the method referred to, all of the parts in which the disease is likely to be found can be easily and thoroughly removed. One who has not followed these cases would naturally suppose that the removal of these important muslces must have a very disastrous effect on the movements of the arm but this is not the case. On the contrary, the patients operated upon in this radical way are usually able to move the arm much more quickly and extensively than cases operated upon by the older method. Now, what are the results of the method? In my own experience, they have been extremely gratifying, for a very large number of these patients are still entirely free from any recurrence—a result entirely different from that formerly observed.

Any incision which runs directly across the axilla is to be deprecated, for cicatrical bands will be formed, and these are likely to interfere with the motions of the arm. A very good way is to carry the incision upward toward the shoulder in such a way that when the flaps are coaptated the line of incision will come to one side of the axilla. An incision made downward from the clavicle simplifies the operation, but it has the disadvantage of giving a line of cicatrical tissue which is particularly disfiguring, and which is also so situated as to interfere with the movements of the arm and the comfort of the patient. Such an incision, therefore,

should be avoided, for, in certain walks of life at least, the avoidance of *unnecessary* disfigurement is of great importance. I should consider that this operation had been sufficiently radical in the present case if the clavicular portion of the pectoralis major were left. Having dissected away a thin flap and exposed the posterior edge of the axilla, we shall sever the clavicular portion of this muscle, and then pass below the muscle into the axilla. We next divide the insertion of the muscle into the humerus. Having gone down into the axilla and exposed its contents fully, we now begin their removal, starting at the upper portion. I have taken care to tie the numerous vessels stretching across the axilla, otherwise there would have been troublesome hemorrhage. By proceeding with the dissection slowly and systematically, I have at last removed the tumor, the breast and the contents of the axilla all in one mass. Having checked all bleeding, the large resulting wound is irrigated with saline solution, and then the flaps are brought together as well as circumstances will allow. I find that in this case it is possible to unite them, so that the prospect of securing primary union is good.

The next case is one of epithelioma of the lower lip, occurring in an old person. There is not much infiltration, yet it is very clearly defined epithelioma. At first, you might think it was quite circumscribed, and careful external palpation of the submaxillary region shows no enlarged glands. If, however, you put one finger in the mouth, and press against the examining finger outside, you will distinctly feel the enlarged and infected glands. Of course, it would be treating this case very superficially indeed if we removed the disease from the lip and left these infected glands in the submaxillary region. The removal of these secondary masses should be the rule, and it should be done at the same time as the extirpation of the epithelioma, unless the patient's condition will not admit of this, in which case it should be done as soon as possible afterward. In elderly patients, one is justified in some cases in not touching the submaxillary region if the growth be sharply circumscribed, but this is decidedly exceptional, and is a matter to be determined by individual judgment. When the epithelioma is in the lower lip, and is not very large, it may be easily removed by a small V-shaped incision. It is also apparent that if the growth be large, the V-shaped incision would include nearly the whole lower lip. In this way, the mouth would be converted, after the operation, into a small, round hole. The older surgeons were content with such a result.

In many of our text-books on surgery the operation I am about to describe is hardly mentioned, although it is an extremely important one—indeed, I am of the opinion that it is the best that has been suggested for these cases. It was devised by an old French surgeon named Malgaigne, and is known by his name. You begin by taking out a square block below the disease; then starting at one angle of the mouth, a straight horizontal incision is made out on the cheek, and a similar incision, parallel to this, is carried from the lower edge of the "block" that has been cat oat. Two parallel incisions are made in the same manner on the cheek of the opposite side. These square lateral flaps are dissected away freely, so that they will slide together easily. But a raw, cicatrical edge

would not make a comfortable or useful lower lip. To obviate this, the first, or upper lateral incisions, do not pass all the way through, but, instead, the mucous membrane is divided at a higher level. This mucous membrane is subsequently doubled down over the raw edge of the flaps. To avoid the wrinkling that otherwise occurs on bringing together these flaps, a small triangle of skin only is taken out at the hinge of each lateral flap. If the lesion exists only on one side, the double operation, as just described, is not required. It is the single operation which will be required in the present case. The double operation of Malgaigne appears to be a very extensive and severe one, yet the fact is that these patients uniformly do extremely well. I do not recall having seen any sloughing after this operation. As our patient is advanced in years, and is not very strong, I think it will be better to operate upon the lip to-day, and then, after ten days, operate upon the glands in the submaxillary region.—*International Jour. of Surgery.*

SURGICAL ITEMS.

If we suspect a woman has cancer, is it just and right to conceal the suspicion in our own bosoms when to her it is a matter of life or death? Is it not our bounden duty to use every means in our power to decide the question, laying the facts before some member of her family, or, if need be, before the woman herself? I fear that we go too far in the concealment of danger from the victim.—*D. E. Walker.*

The diagnosis of malignant disease of the tonsil must be made early in the course of the malady if surgical treatment is to be of any avail. The presence of a recently-developed unilateral non-inflammatory new formation in the tonsil of an adult past middle life suggests the probability of malignant disease; and if the tumor is hard, dense, and of rapid growth, the presumption is strengthened.—*D. Newman.*

Some physicians say that they cannot palpate a normal appendix; other physicians fear that no one can do it. Gynecologists, who are in the habit of palpating ureters and Fallopian tubes, find it an easy matter to palpate normal appendices after they have adopted a correct method of procedure. Some surgeons palpate most of their interval appendices in the presence of an audience, and state their findings before operating. It is all a question of acquired skill and method.—*R. T. Morris.*

I believe in early operation: the complete removal of tumor and diseased mammary gland, keeping wide of the skin involved, pectoralis major and minor muscles, and glands and fat in the axillary and Mohrenheim's spaces. The closure of the wound should be with silkworm gut, with button tension sutures if necessary, omitting the use of drainage materials, and Thiersch's method of skin grafting, where a granulating surface remains owing to the extensive removal of the skin, should be employed.—*J. W. Keefe.*

MEDICINE.

IN CHARGE OF
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THE PRESENT STATUS OF THE SERUM TREATMENT OF DIPHTHERIA.

As there have been over one million injections of antitoxin made up to this time, some proper conclusions as to its use and results are being arrived at. It has reached such a stage that an assertion made many months ago, "that it is criminal to treat a case of diphtheria in its early stage without antitoxin," can be justly repeated with increased vehemence.

Such investigations have been made as to render positive assertions as to its efficacy possible. The fight between the exponents and opponents of the serum treatment of diphtheria was at one time too vindictive and too personal to be of any scientific advantage: as the hot-heads have cooled down enough to analyze facts, they have come to realize the truthfulness of the saying of Virchow early in the fight. All the arguments of the opposition have been met and silenced, except a very few; and even those who advanced such arguments are now, in pool-room vernacular, "hedging."

We cannot yet claim it as a specific; yet Jacobi, who at first opposed the use of the serum, says in a recent article: "It will be entitled to be claimed as a specific, though it has not the power to cure every case of diphtheria, any more than quinine cures every case of malaria, or mercury of syphilis." Many say, if injected the first day of the disease, no case need die.

My experience with it has been exceedingly favorable. Of the many cases in which I have used it there have been exceedingly few deaths, and my dread of diphtheria has decreased to such proportion as to render me very much less worried when called to see a case. It does not do away with other treatment, as many suppose, but does away with so much of it as to render it almost *nil*, not only as to quantity but as to perseverance and severity. A case seen in the last few days will illustrate what I mean. All cases do not end so, but it is more the rule than the exception.

J., a girl five years old, had had diphtheria, so far as known, two days: she was quite hoarse; pulse weak and irregular; a typical membrane was on the palate and pharynx; it was a typical case of diphtheria of the pharynx, soft palate, and larynx; a case in which, without antitoxin, I

would have immediately advised intubation. I gave her 4 c.c., or 1,000 units, of serum, injecting it into the outer part of the left thigh. I first washed the part well with alcohol, and used ethyl chloride as a local anæsthetic; with this the injection gave little or no pain. A five-per-cent. solution of carbolic acid can be used instead of the alcohol; it is not only a good cleanser, but also a local anæsthetic. My needles I wash in the same solution. After the injection no pressure was made to distribute the serum. The part was again bathed with alcohol, and a small piece of cotton with alcohol on it placed over the wound, and held in place by an adhesive strip. No reaction whatever followed. All membrane in sight was gone the next day; pulse was good, temperature about normal; patient with a good appetite, and voice nearly clear in three days. As I stated before, this is not an exceptional case. The little patient made a good recovery.

If the general practitioner who usually sees these cases first will, early in the disease, make or have made a serum injection, the above history will be much more common than it is now. Do not wait for a bacteriological investigation. The serum, if fresh and pure, and if properly injected, is harmless; and a membrane in a throat with no history of trauma means, in ninety-five cases in a hundred, diphtheria—so why wait? As to the objections urged against the serum treatment of diphtheria, all of them have been about swept away by the investigations and conclusions of 1896. A few deaths have been attributed to its use, but not proven. Five, I believe, in over one million of injections, and not one which could be proven beyond any doubt as the result of the serum. It is true, death might not have occurred in three of the cases had not the injection been made. Even admitting that five or twice five deaths had been the direct result of the serum injection, who of us would not take such a chance? Some of these cases were very sad indeed, cases in which the injections were made for immunity; this, I think, is unnecessary in a majority of cases, as there are no better immune agents than fresh air and sunlight.

Still, reports as to immunizing are very encouraging, as will be seen from the following, which is from Dr. Biggs' last report, *Medical News* of New York, December 26, 1896: Number of cases, 17,516. Of these there were 109 attacked with mild diphtheria in thirty days, and 1 fatal. After thirty days there were 20 mild, and 1 fatal; or in 17,516 cases there were 129 mild cases, and 2 fatal; which, I think, is a great result. The other statistics of Dr. Biggs seem to me to be unanswerable. For instance, in 79,085 cases treated by antitoxin in different parts of the world the death-rate was about 16 per cent.; in cases treated without antitoxin the death-rate was between 30 and 40 per cent.. Or, take another series of cases: In a total of 2,930 cases treated with antitoxin 436 died, giving a mortality of 14.9 per cent., while of 3,625 cases treated without antitoxin at the same time, or during intervals of forced interruption (owing to lack of antitoxin) 1,455 died—a mortality of 40 per cent. Virchow, who is frequently quoted, and who at first was opposed to the use of antitoxin, said: "All theoretical considerations must give way to the brute force of the figures; and I consider it the duty of every physician to use a remedy giving such clinical results."

Dr. Hermann M. Biggs says, further, in his more recent article, that "Baginsky, in commenting on this circumstance, says: 'It is all the more remarkable, as the ratio of mortality of those treated with the serum, before and after the period of interruption, varied within very small limits. If one will permit figures to speak at all, there has scarcely been made on human beings a more demonstrative test of the curative power of a therapeutic agent. It was an experiment forced upon us; but it proved to us how terrible was the form of disease which we were treating, and how numerous would have been the victims without the use of the healing serum.'"

Prof. Virchow again reiterated his opinion in a report which was read on the antitoxin treatment of diphtheria in the same hospital, on December 25, 1895, when he said that from April to November of that year 303 cases out of 335 treated had recovered; the mortality, which had formerly been 43 per cent., having decreased to 9.5 per cent.

Vucetig reports two groups of cases of 30 each, one treated with antitoxin and the other with Loeffler's solution; the antitoxin cases gave a mortality of 6.6 per cent., the others a mortality of 20 per cent.

According to the official records of the Austrian Health Department, there were treated during the month of February (1896) in all Austria 1,128 cases with antitoxin, with a mortality of 13.2 per cent, whereas 1,849 cases, which were treated without antitoxin at the same time, gave a mortality of 38 per cent.

Rauchfuss reports 34 cases treated in hospital with a mortality of 21 per cent., and 30 control cases treated at the same time without antitoxin with a mortality of 52 per cent.

Von Engel, in Bohemia, reports 39 cases treated with antitoxin with a mortality of 25.5 per cent., and 62 cases treated at the same time without antitoxin with a mortality of 50 per cent. The antitoxin cases in these reports are said to have been unusually severe, and therefore taken as a test of the new remedy.

Heubner reports 299 cases treated with antitoxin in the Hospital Charite in Berlin with a mortality of 16.7 per cent., and 249 cases treated in the Bethany Hospital, at the same time under the same conditions of age, season, etc, without antitoxin, with a mortality of 43 per cent.

Blumenfeld reports 229 cases treated in private practice with antitoxin with a mortality of 8.7 per cent., and 48 cases not treated with antitoxin, because they were considered to be *too mild;* the mortality among the "mild cases" was 23.6 per cent., as against 8.7 per cent. among the apparently severer cases treated with antitoxin.

Many examples of the same kind might be cited from the published reports, fuller details of which will be found in the Bulletin of the Health Department (of New York), but from these it may be seen that the antitoxin treatment has stood the test of comparison with other approved methods of treatment whenever the contrast has been decidedly drawn.

The date of the administration of the antitoxin is of the greatest importance; this is really the obstacle that is the most difficult to overcome in this treatment of diphtheria. All who use it know the several reasons for it, which are not necessary to give here; the cost is but little, and

any doctor with a clean hypodermic syringe should be able to use the remedy. So the objections which have heretofore been advanced against the use of diphtheria antitoxin are being, as I stated before, rapidly dissipated.

The amount of membrane present does not indicate the amount of sepsis to be expected. I hear gentlemen reporting cases in which there was membrane covering an immense space, and yet the child got well. So long as this does not act in a mechanical way to obstruct respiration it is not necessarily of great prognostic importance, as I have frequently seen such cases get well, while others died promptly with an exceedingly small amount of membrane. Its location and the activity of the absorbents, with the power of resistance of the patient, have more to do with the result. Other toxines, the result of other bacilli than that of Loeffler, are the cause of the bad results in many cases of diphtheria, whether antitoxin is used or not. So, when antitoxin fails, it is not so much the failure of the remedy as it is that of the ignorance or carelessness of the attending physician in not making the injection before other toxines are produced. We all see such cases, not only of our brother doctor but of our own, and in making these statements I include myself with the derelict. Many of these cases, in small children especially, have membrane in undiscoverable localities. In such cases the heart and general condition of our patient can be our only guide.

In a certain class of cases—I refer to those in which croup is a prominent element—even with no membrane in sight, with our present knowledge of its pathology, there should be no hesitancy in using the serum, and I believe one who does not use it is guilty of great negligence. We can have membrane on the cords which it might be difficult to make out, although the patient will permit the examination; and it must be remembered that membrane in this location, if it does not produce mechanical obstruction, may give little or no constitutional disturbance, as its products are not absorbed, on account of the presence of a normal basement membrane in the mucous lining. To the serum in these cases calomel by fumigation can profitably be added. These cases in which intubation and tracheotomy had to be performed formerly, and those in which the conjunctivæ are involved, cases in which, before antitoxin was used, a majority of the eyes were lost, demonstrate to us the wonderful and beneficent effect of antitoxin in diphtheria.

In one hospital in New York the number of cases of broncho-pneumonia occurring after the use of antitoxin was urged against the use of the remedy. As soon as the rooms were kept at a temperature of 70° there were no more cases of broncho-pneumonia which had not developed before admission. The serum does not affect the blood unfavorably; the eruptions and joint involvements it occasionally produces amount to nothing; it has been demonstrated beyond doubt that its use does not increase the danger of any kidney involvement nor after-paralysis.

In all the cases in which I have used antitoxin I have never seen an eruption or a joint involvement; have never had but one to die of kidney complication; have seen but little paralysis; have seen the membrane disappear in half the usual time; have usually seen the temperature fall

promptly, and the child's appetite improve very much; the cheerfulness of the patient improves wonderfully—all this with antitoxine alone, or with little or no other treatment, either local or general. This is not in all cases. If the child receives the injection late, cell-tissue destroyed cannot be restored. Bearing on this point is a report on a recent epidemic in Chicago. Of sixty-one children injected the first day of the disease, all got well; of one hundred and eighty-seven the second day, three died; of three hundred and seventy-two the third day, ten died; of one hundred and nine the fourth day, seventeen died. From this the importance of an early injection can be readily seen. A fair criticism of any remedy can result in nothing but good. Professor Soltman gives us the following quotation from a German poet:

> "The best critics in the world are they
> Who, along with that which they gainsay,
> Suggest another and a better way."

These three lines answer, I think, all criticism that have been made on the serum treatment of diphtheria. It is not a cure-all. The dose, and some few other points of importance, in my opinion, have not yet been definitely settled. Even accepting the statistics given as "double-edged," yet, as Soltman says, "Suggest another and a better way." I believe the serum treatment of diphtheria is the best that has yet been offered; that, in the full sense of the word, it is not a specific, yet, if used in the first or second days of the disease, in the proper dose (which has not yet been definitely settled), it is as much a specific as quinine in malaria, or potassium iodide and mercury in syphilis.—*Dr. William Cheatham (Louisville), in Am. Pract. and News.*

A NOTE ON PICRIC ACID IN THE TREATMENT OF SUPERFICIAL BURNS AND SCALDS.

The treatment of superficial burns and scalds has long seemed to be most unsatisfactory, for these injuries are attended with an unnecessary amount of inflammation, while the act of renewing the dressings is unduly painful. From time to time I have tried various methods of treatment, and I have come to the conclusion that the picric acid treatment is by far the simplest and the most satisfactory. The method is well known in France, where it has been extensively used by Professor Thiery, while Dr. Filleul and Dr. Papazoglou have done their best to disseminate a knowledge of its value. I do not therefore claim the least merit for myself, but I find that so few practitioners know of it that it is perhaps worth while to draw attention to it in England.

The solution of picric acid is made by dissolving a dram and a half of picric acid in three ounces of alcohol, which is then diluted with two pints of distilled water; or, more accurately, picric acid, 5 g.; alcohol, 80 g.—dissolve; add 1,000 g. of distilled water. This is a saturated solution of picric acid.

The clothing over the injured part should be gently removed, and the

burnt or scalded portion should be cleaned as thoroughly as possible with a piece of absorbent cotton wool soaked in the lotion. Blisters should be pricked and the serum should be allowed to escape, care being taken not to destroy the epithelial surfaces. Strips of sterilized gauze are then soaked in the solution of picric acid, and are so applied as to cover the whole of the injured surface. A thin layer of absorbent cotton wool is put over the gauze, and the dressing is kept in place by a light linen bandage. The moist dressing soon dries, and it may be left in place for three or four days. It must then be changed, the gauze being thoroughly well moistened with the picric acid solution, for it adheres very closely to the skin. The second dressing is applied in exactly the same manner as the first, and it may be left on for a week.

The great advantages of this method of treatment are: First, that the picric acid seems to deaden the sense of pain, and, secondly, that it limits the tendency to suppuration, for it coagulates the albuminous exudations, and healing takes place under a scab consisting of epithelial cells hardened by picric acid. A smooth and supple cicatrix remains, which is as much superior to the ordinary scar from a burn as our present surgical scar is superior to that obtained by our predecessors, who allowed their wounds to granulate.

I have used this method for more than a year in a hospital practice, both among out-patients and in-patients, and I have every reason to be thoroughly satisfied with the results I have obtained. It is not an ideal method, for it stains the clothes and discolors the hands of the surgeon, but it is a great improvement upon anything else I know of.—Dr. D'Arcy Power, in *British Medical Journal.*

DIET RULES FOR PATIENTS WITH WEAK HEARTS.

1. There must never be less than five hours between one meal and another.
2. No solid food must ever be taken between meals.
3. All persons suffering from weak heart should take their principal meal in the middle of the day.
4. All those with weak hearts should take their meals as dry as possible.—Dr. G. W. Balfour, in "The Senile Heart."

FORMALIN AN APPROXIMATE SPECIFIC FOR RINGWORM.—An interesting editorial note has appeared in *Guy's Hospital Gazette* calling attention to a recent paper by Mr. Alfred Salter, on the treatment of ringworm by formic aldehyde, or formalin. This treatment is now so well known in Guy's and has had such a conspicuous success that it should be part of the ordinary practice of every old Guy's man. There seems no doubt that it is the almost specific treatment for the disease, especially in obstinate and hitherto incurable cases. And yet this discovery arose from the annoying fact that the inventor's cultivations of the ringworm microbe were all killed one night through his having left the stopper out of the formalin bottle.—*Boston Medical and Surgical Journal.*

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

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VAGINAL HYSTERECTOMY FOR BILATERAL SUPPURATIVE PROCESSES OF THE UTERINE ADNEXA.

In the proceedings of the Tri-State Medical Society of Alabama, Georgia and Tennessee, the fifth annual meeting of which was held at Chattanooga, Tenn., beginning on October 13th, 1896, as published in the Nashville *Journal of Medicine and Surgery* for January, we find a report of a valuable paper on this subject by Dr. W. D. Haggard, Jr. He said that the reason for removing the uterus where the adnexa were hopelessly diseased, requiring removal, is founded on the following facts:

"A large number of cases where the tubes and ovaries were removed were not perfectly cured, the persistent symptom was pain; hysterectomy cured these cases. There were painful malpositions, a more stormy and protracted menopause. There was danger of adhesions to hollow viscera and subsequent obstruction; it takes no longer to do a total hysterectomy than curetting or ventro-fixation after double ovariotomy; the mortality is lower; the uterus is a part of the disease in pyogenic infection; hence, hysterectomy was not the removal of a healthy, intact organ. The mortality in five hospitals was 18.5 per cent. in removal for tubes and ovaries alone for pus. Vaginal hysterectomy in 724 cases, 4.6 per cent.; Jacob's 403 cases, 2.9 per cent. The supreme triumph of the vaginal operation was that it afforded the means of a thorough exploration essential to conservative procedure. The vaginal method preferable because: 1. The preliminary step, vaginal section, allows thorough exploration and conservative treatment with a minimum of risk. 2. The vagina is the natural approach and logical avenue for drainage of the pelvis. 3. It is immune from the unpleasant sequelæ of laparotomy, possibly of hernia, stitch abscess, infected ligature and sinus and the abdominal supporter. 4. Less immediate shock; convalescence is smoother and shorter. 5. No exposure or handling of intestines. 6. Less danger of peritoneal contamination. 7. Mortality is lower. 8. Invades only the diseased area, and leaves undisturbed the protecting mass of adhesions. Quoting Segund: 'I have arrived at the conviction that whatever can be enucleated through the abdominal wall can also be removed through the vagina, and whatever it is impossible to enucleat through the vagina cannot be removed by the abdominal method, except at the price of procedures incomparably

more grave and more laborious.' Vaginal hysterectomy, stigmatized 'blind surgery,' has for its motto, 'Do what you see, and see what you do.' The steps may be summarized as follows, but may be varied: 1. Preliminary curettage. 2. Completion of incision around cervix prolonged transversely in the lateral fornices. 3. Freeing cervix anteriorly from the bladder and ureters. 4. Application of clamps to base of broad ligaments containing the uterine arteries. 5. Amputation of cervix. 6. Median section of the uterus. 7. Enucleation of each appendage separately. 8. Application of clamps to upper portion of broad ligaments containing ovarian arteries. 9. Excision of each lateral half of uterus with diseased mass."

THE TREATMENT OF PUS IN THE PELVIS.

Dr. W. B. Davis, at the same session, presented a paper on this subject. He said that the French surgeons reported their inability to remove the appendages in some cases of vaginal hysterectomy for pus in the pelvis, but that the patients recovered, which demonstrated that drainage would cure many cases of pus in the tubes and ovaries. Vaginal incision for pus in the pelvis, not confined to the tubes, had been practised for a long time with good results. A considerable number of such cases required no further surgery. He claimed that large pus tubes and ovarian abscesses could be drained through the vagina with permanent recovery, in a good proportion of cases, where vaginal hysterectomy is recommended so highly by the French surgeons. If not relieved, the patient's condition would be made better, and later on an abdominal operation could be done, and the diseased appendages removed. It is very exceptional that the uterus will have to be extirpated.

Dr. J. A. Goggans opened the discussion on these two papers by saying that he followed the practice of Dr. Davis. He thought we should be very conservative, and seriously consider harmful sequelæ of complete ablation of genital organs in young women. Every appropriate treatment was justifiable when we consider the great variety of pathological conditions. He recognized three methods of treating pus in the pelvis: 1st, Simple incisions with drainage through the vagina or abdomen. 2nd, Opening abscess by laparotomy. 3rd, Opening abscess per vaginam. Each applicable to suitable cases. He related a case of laparotomy drained finally through the vagina followed by irrigations, recovery; also, one of large pelvic abscess, which ruptured during examination. An immediate laparotomy saved the patient.

Dr. Haggard said that conservative methods should be exhausted. In a recent case he had opened pus tubes, and did not remove the uterus. In chronic cases the uterus becomes diseased, and will cause untold misery. Here was the only difference between Drs. Davis and Goggans and himself. The cases which rupture per rectum or vagina and undergo spontaneous cure occur in country districts, and are not cases of gonorrhea.

Dr. Davis said that Dr. Haggard was sustained by many eminent men in his position. When these organs are removed, there is a condition of the nervous system which causes a little suffering to be exaggerated to

an excruciating pain. Gonorrhea is not the dangerous disease some would have us believe. He thought a large proportion of these cases could be cured without removing the uterus, which is an important organ after removal of ovaries and tubes. A woman is thus more natural, and the vagina does not shrivel up.

PUERPERAL ECLAMPSIA; ITS ETIOLOGY AND TREATMENT.

Abstract of a paper by Dr. William Warren Potter, of Buffalo, read at the ninety-first annual meeting of the Medical Society of the State of New York, Albany, January 26th, 1897:

He said, *inter alia*, that we seem to have arrived at the renaissance of eclamptic literature; that, while the subject is being discussed in magazine articles and societies, it would not answer for this society to keep silent.

Though the pathogenesis of eclampsia is still unsettled, we are certain that it is a condition *sui generis*, pertaining only to the puerperal state, and that to describe, as formerly, three varieties—hysterical, epileptic and apoplectic—is erroneous as to pathology and causation as well as misleading in treatment.

The kidney plays an important office in the economy of the eclamptic. If it fails to eliminate toxins, symptoms are promptly presented in the pregnant woman. Renal insufficiency is a usual accompaniment of the eclamptic state. Over-production of toxins and under-elimination by the kidney is a short route to an eclamptic seizure. However, many women with albuminuria escape eclampsia, and many eclamptics fail to exhibit albuminous urine.

The microbic theory of eclampsia has not yet been demonstrated. The toxemic theory, in the present state of our knowledge, furnishes the best working hypothesis for prevention or cure.

Treatment should be classified into (*a*) preventive and (*b*) curative. The preventive treatment should be sub-divided into medicinal and hygienic: and the curative into medicinal and obstetric. A qualitative and quantitative analysis of the urine must be made at the outset. If there is defective elimination something must be done speedily to correct a faulty relationship between nutrition and excretion. One of the surest ways to control progressive toxemia is to place the woman upon an exclusive milk diet. This will also serve to flush the kidneys, and thus favor elimination. Distilled water is one of the best diuretics; it increases activity and supplies material—two important elements. In the pre-eclamptic state, when there is a full pulse with tendency to cyanosis, one good full bleeding may be permissible, but its repetition should be regarded with suspicion. If there is high arterial tension—vasomoter spasm—glonoin in full doses is valuable.

When eclampsia is fully established, the first indication is to control the convulsions. Full chloroform anæsthesia may serve a good purpose. If the convulsions are not promptly controlled, the uterus must be speedily emptied. This constitutes the most important method of dealing

with eclampsia. Two lives are at stake, and by addressing ourselves assiduously to speedy delivery of the fœtus we contribute in the largest manner to the conservation of both.

Rapid dilatation, first with steel dilators, if need be, then with manual stretching of the os and cervix, followed by the forceps, is the nearest approach to idealism. Only rarely can the deep incision of Duhrssen be required. Cæsarean section should be reserved for extreme complications, as deformed pelvis, or to preserve the fœtus when the mother's condition is hopeless. Veratrum viride is dangerous, uncertain and deceptive in action.

In eclampsia of pregnancy, *i. e.*, prior to term, the aseptic bougie, introduced to the fundus and coiled within the vagina, may be employed to induce labor. Finally, to promote the elimination of toxic material, diuresis, catharsis and diaphoresis should not be forgotten: neither should the hot-air bath nor the hot pack be overlooked.

TURKISH HOSPITAL SERVICE ON THE GREEK FRONTIER.—That the Turkish soldier is a formidable fighter has been long known, but it will be a matter of surprise to most people to learn from the military correspondent of the *Times* that Turkish organization has made rapid strides during the last few years, especially in the matter of military railways and hospitals. Writing from Salonika with Edhem Pasha's force, the correspondent refers to the creditable state of the medical service. He says: "The main hospital here is as good as many in Europe, and has a large reserve supply of beds and medicines; the doctors are properly trained and the ambulances well-equipped and officered. A very reasonable order has just relegated all the Christian military surgeons to the depots, while the fighting line is to be supplied with Mahommedans only. A little dysentery is the only disease from which the entire army of occupation, more than half of which has been brought from the distant provinces of Anatolia, has suffered.

NON-ESSENTIAL EXPERIENCE OF EXPERT.—While there is no apparent connection between the experience acquired by a physician in a certain capacity and his qualification as an expert in a given case, the appellate term of the Supreme Court of New York holds, in Brown *v.* Third Ave. Co., Feb. 26th, 1897, that it is not error to exclude questions relative to such experience, when he is being qualified as a medical expert in such case. To illustrate, the Court holds that it is not error to rule out questions regarding the duties of the witness as a member of a board of health where there is nothing to show that the duties of a member of a board of health would give the testimony of the witness greater value in the case.

A pleasantry recorded of Ralph Waldo Emerson is a story he told of a friend who carried a horse-chestnut as a talisman or protection against rheumatism. "He has never had it since he began to carry it; and, indeed, it appears to have had a retrospective operation, for he never had it before."

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF
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AN UNCOMMON CASE OF OCCUPATION NEUROSIS.

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Thanks are due to Prof. Mills for the privilege of making a clinical report of the following unique patient of the clinic for Nervous Diseases of the Philadelphia Polyclinic:

A. D., a white, male, American, æt. 52 years, employed for twenty-one years as a brick sorter. He has never been a user of tobacco or alcohol, and his history, family and personal, is excellent. In 1894, after an idleness of some weeks, he resumed his occupation. The first day's work caused great discomfort in the interosseous tissues of the right hand, which discomfort later became pain and involved the whole hand, wrist and forearm of that side, as well as the left hand and arm. Labor increased the pain, and enforced rest for five months was the result. Under like circumstances he suffered with apparently the same condition in 1895, the trouble persisting for a few weeks. In July, 1896, a third very mild attack followed a spell of cholera morbus, involved both hands alike and disappeared in two weeks' time. The fourth, present, appearance of this disability was in December, 1896. Two weeks of idleness were followed by the new employment of brick-setter. A few hours of this work sufficed to cause pain and disablement of the right hand. The right wrist, forearm and arm, the left hand and wrist were involved in a very short time. A sensation as of a tight band about the right biceps developed and persisted until the next day. The muscles about the right shoulder were somewhat paretic, the whole arm felt as if bruised. Some swelling was noticed at first, but soon disappeared. Improvement has been very slight. The physical condition of the patient at the present time is good. The arms are of good size; there are no visible signs of the trouble. There is no pain on squeezing or manipulating the hands, fingers or arms; no swelling, no paralysis or paresis, no changes in sensibility to pain, touch, temperature or position; no ataxia; reflexes are normal; electrical reactions unchanged. Attempts to perform such movements as are made in his occupation cause pain and muscular spasm in the hands, wrists and forearms, so that he quickly releases the object with which he is experimenting.

The history of the patient, the knowledge of the work entailed by his

occupation, the symptoms presented, the absence of changes in motion and sensation incline me to the belief that an occupation neurosis is the correct diagnosis. The case is, however, a very uncommon one, rare, in that both arms were affected simultaneously, and in the number of attacks which have been recovered from. Some hysterical element seems to be observed in the case, but it is hardly possible to credit that disease with the whole condition.

The prognosis is extremely doubtful. The man will certainly do better in another occupation, therefore such has been advised. Treatment so far has been general; strychnine, cod-liver oil, preparations of malt, and of iron and manganese peptonates: with galvanism, systematic slow gymnastic movements and massage of the parts affected.

THE INFLUENCE OF TOBACCO ON NERVOUS AND MENTAL DISORDERS.

N. Buccelli *Rivista de Patalogia*, I Fasc., 10 Oct., 1896, has studied the effects of tobacco, used either in smoking or chewing, on two hundred subjects of vaious forms of nervous and mental disease. He finds that in many vesanies there is a decided repugnance to tobacco, though formerly used, while other excitants, like alcohol, are readily taken. When taken, however, it produced, in small doses, phenomena of intolerance, such as vertigoes, cardiac neuroses, precordial pain, neuralgia of the cardiac plexus, nausea, vasomotor disturbances, and temporary marked mental confusion. These phenomena were observed most prominently in convalescents from acute attacks, especially in those who have been addicted to alcohol.

These were the general symptoms observed. Taking up special phenomena in order, psychic manifestations were not very largely observed. In some paretics it seemed to exaggerate the euphoria, and the same occurred in some paranoiacs in the megalomaniac phase. In hypochondriac delusions, on the other hand, tobacco accented the delirious ideas.

In many neurasthenics tobacco-using caused an increase in the urine, with corresponding decrease of its density. In three cases there was a glycosurie, all old senile dements; marked phosphaturia was once observed in a tobacco chewer, but generally the phosphates were little altered. Peptonuria and acetonuria, already existing, were exaggerated by the use of tobacco in some cases of paresis and saturnism.

As regards motor disturbances, the abuse of tobacco seemed to often aggravate epileptic attacks, and in two choreics the involuntary movements were greatly increased. In neurapathic subjects it often produced a rapid tremor of the hands, lasting for some hours after use of the poison. When tremor existed before, it was exaggerated more in the degree than in the rapidity. This effect was observed in the order of frequency, in paralysis, Parkinson's disease, epilepsy, alcoholism, hysteria, and convalescence from acute disorders. In epileptics the increase was often in inverse proportion to the age of the patient.

The sensory disorders from the use of tobacco were not extensively observed. In a case of polyneuritis induced by tobacco there were characteristic perversions of the color sense. In girl smokers especially, besides feeling the thoracic constriction and precordial pain, there was sometimes observed a constrictive headache.

The pupillary reflexes were now and then influenced. In paralytics with still reacting pupils, the abuse of tobacco caused for some hours a pupillary rigidity, and where myosis existed it was more prominent.

In paretics and organic dements tobacco excesses often induced congestive conditions from vasal paresis, which was often shown in the cutaneous vessels.

The author sums up in the following conclusions:

1. Tobacco is a poison, which, perhaps, more than any other, though having little effect in health, has, on the other hand, the most pronounced action in diseased conditions.

2. Tobacco is especially a poison to the subcortical and bulbar nerve centres, as is demonstrated by the phenomena developed in individuals affected with serious morbid processes of the cortical centres.

3. Being thus capable of producing disastrous effects in convalescent cases who were given to its use before their disorder, and had then suffered no disadvantages, we should be very cautious as to permitting the resumption of its use in such cases, especially in asylums.

THE OPERATIVE TREATMENT OF FOCAL EPILEPSY.

Dr. Charles Baylard Nancrede, *Annals of Surgery*, XXIV., ii., August, 1896, discusses the effects of operation for Jacksonian or localized epilepsy, in which he reports several cases, one or two of which are rather striking in some of their features. In one, while the discharging centre was located by the battery, no excision was made after trephining, but the fits ceased, the contracture and paralysis disappeared, and the patient, at last report, was in a normal condition. The youth of the patient, an eight-year-old girl, was in her favor, but it is impossible, as yet, to say that the results will be lasting.

In another case the operation was made during *status epilepticus*, which had lasted seventy-two hours prior to the trephining.

The conclusions reached by Dr. Nancrede are given as follows:

1. Removal of a discharging lesion in cortical and Jacksonian epilepsy can only be regarded as palliative, the operative scar, in all instances thus far accessible to me, in time becoming a new source of irritation.

2. The earlier the operation is done after the disease becomes fully established, the longer will the immunity last, and it is possible that, if trephining is done very early, the operation may, in a few instances, prove curative, especially if any reliable method can be devised to lessen the extent of the inevitable scar and adhesions between the brain and the membranes.

3. That operation is not so dangerous in competent hands as to forbid our urging trephining in this class of epileptics, especially when done

early, because the chance of prolonged immunity is great, and the fits are apt to be lighter, and to recur at greater intervals after relapse than before trephining.

4. Removal of the discharging lesion is imperatively demanded as a life-saving measure in those rare cases where the intervals between the fits are so short that the paroxysms are practically continuous.

5. In all cases, but especially those characterized by frequent paroxysms, it is an error in practice to permit the early resumption of work, particularly manual labor. Thus, in addition to the last case cited, I would call attention to another, where I trephined for ordinary traumatic epilepsy, which remained perfectly well for nearly two years, until, attempting to lift a heavy weight, the encephalon becoming suddenly congested, the patient at once had a fit, since when the convulsions have been nearly as frequent as they were before operation.

6. Operation removes only one of the factors productive of epilepsy, but the ready response to inadequate stimuli still remains, and can only disappear, if ever, after a prolonged period; therefore, careful avoidance of everything which can, eieher through the mind or body, excite sudden and severe acute cerebral congestion or undue prolonged mental strain, or constant congestion of the nervous centres, must be avoided for the longest practicable period—for the remainder of life, if possible.

A CASE OF HYSTERIA IN A GIRL EIGHT YEARS OF AGE; CURE BY SUGGESTION (*Jour. de Clin. et de Therap. Infantiles.* Vol. 4, No. 11, 1896). Claus and Jacobs give an account of a child of nervous parentage, who had an attack of influenza, with severe pains in the neck, back and side, accompanied by spasmodic movements in the esophageal region. After several days these symptoms ceased, and there developed an area of extreme hyperalgesia over the greater portion of the area supplied by the thoracic and abdominal intercostal nerves on the right side. For eleven months the child would not walk on account of the fear of this pain, and some atrophy resulted. Finally the diagnosis of hysteria was made by the authors, and treatment by suggestion resulted in the girl's walking on the third day.

TOBACCO AND CHOLERA.—A recently published report of investigations of the effects of tobacco during the epidemic of cholera at Hamburg states that there were no live microbes after twenty-four hours in the cigars made up with water containing 1,500,000 cholera microbes to the cubic centimeter. (*Gaz. degli Osp. e delle Clin.*) There were no traces of microbes to be found in any of the cigars manufactured at Hamburg during the course of the epidemic. The microbes die in half to two hours exposure to tobacco smoke, Brazil, Sumatra or Havana tobacco. The smoke of any cigar kills the microbes. The smoke kills in five minutes all the microbes in the saliva. Another fact established is that none of the persons employed in the tobacco factories at Hamburg contracted cholera.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

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In the *Journal of Pathology and Bacteriology*, July, 1896, Kanthock and Stephens publish their observations on the "Escape of Diphtheria Bcailli into the Blood and Tissues," bringing forward facts which must materially alter the former idea that diphtheria is a purely local infection.

An exhaustive review of the literature is made, and reference to the works of numerous investigators, among whom are Wright and Stokes of Boston; Frosch, Booker, Johnston, Strelitz, Flexner and Kutscher.

To mention one series referred to (Wright and Stokes), the bacilli were found in the lungs in 30 out of 31 cases; in the kidney in 6; in the liver in 9 of 29 cases examined; in the spleen once; often in the lymphatic glands, and occasionally in the heart's blood and other organs. To these the authors add 26 cases of their own. In all 26 the lungs showed the organisms; they were present in the spleen in 10 of 21 cases examined, and in the kidney in 2 of 3 cases examined. As to the condition of the infected lung,—there was broncho-pneumonia in 10 of 13 cases (Wright), and in 15 of the authors' 26 cases. The Klebs-Löffler bacillus is rarely found in the lung in pure culture, but associated with streptococci, staphylococci and pneumococci. This is, however, the case in the primary focus of infection, and there the cocci are not supposed to play an important rôle: so why give them a more prominent place in the lung condition and seek, as some do, to prove it secondary, and not a true diphtheritic infection? The writers believe, with others, that the broncho-pneumonia complicating diphtheria may be due to the diphtheria bacillus with or without the association of other organisms, as the streptococcus, staphyloccus or pneumococcus.

In 19 cases of this kind, Wright and Stokes found the diphtheria bacillus alone in 8, together with the streptococcus in 5, with the streptococcus and staphylococcus aurens in 2, with streptococcus pneumococcus and staphylococcus aurens in 1, with the staphylococcus aurens in 1. With streptococcus and pneumococcus in 1, and the streptococcus alone in one. "Thus we must take exception to the statement frequently made, that the broncho-pneumonia in diphtheria is of pyococcal or, more especially, of streptococcal origin. In most cases it appears to be a direct diphtheritic complication."

There is reason to believe that broncho-pneumonia is most frequently found with laryngeal diphtheria. Of Wright's 13 cases, 9 were laryngeal

and 6 of these showed broncho-pneumonia, and of the authors' 26 cases 24 were laryngeal, and 13 showed broncho-pneumonia. They think that tracheotomy is not necessarily the cause of the pneumonia, as it was present in 3 cases where there was no tracheotomy, and in 6 cases with tracheotomy, there was no pneumonia. They conclude "that the broncho-pneumonia met with in fatal cases of diphtheria is often, if not generally, of diphtheritic nature, and is as a rule associated with or preceded by laryngeal diphtheria."

Of twenty-one examinations, bacilli were found in the spleen ten times. The condition of the infected organ was not noted in all cases: but that is unimportant.

In all cases when found in the spleen, the bacilli were present in the lungs, and in 70 per cent. there was broncho-pneumonia.

The authors do not generalize from their own results, as being too few, but when they are added to those of other observers the total goes far to prove "that in fatal cases, there is an extensive escape of the bacilli into the lungs and other organs, that is, the diphtheritic infeetion readily becomes general."

It is now known that the organisms may escape from the primary focus, (1) by direct transference as seen in cutaneous sores; (2) along existing passages to the nose, eyes, ears, pharynx, stomach, intestines, trachea bronchi, etc.; (3) along the lymphatics to the cervical or bronchial glands; (4) through the circulation to the spleen, liver, kidney and blood.

Wright, Abbott and Ghriskey, and Zarniko have proved experimentally that this migration takes place, and Klein has shown that secondary lesions may occur in inoculated cows, and that the bacilli may be found in the milk.

The process of intoxication they believe to be by means of a toxine—as yet chemically undefined, the direct product of the diphtheria bacilli, and wherever bacilli exist there the toxine is produced.

In conclusion they say: "Clinically we think our observations are of importance, since they prove the necessity of using the anti-toxine energetically in all serious cases of diphtheria, the amount of toxine to be counteracted being always enormous when the bacilli have gained access to the lungs or other organs. The existence or suspicion of broncho-pneumonia should always excite us to action, and the anti-toxine should not be spared when this complication arises. We would also suggest that in laryngeal cases prompt and copious injections should be administered, in order to circumvent the dangers of a diphtheritic broncho-pneumonia.

H C.P.

RENAL HEMORRHAGE.

KLEMPERER (*Deut. med. Woch.*) discusses this subject in cases where the kidney is healthy. He first gives evidence to show that hemorrhage may take place from a healthy organ. This has also been proved where the bleeding kidney has been removed, and no disease discovered in it.

The author thinks that the hemorrhage must then be due to a paralysis of the vasoconstrictor nerves and an escape of red cells. Thus an angioneurotic bleeding may occur as well as an angioneurotic œdema. A mere laying bare the kidney in such cases may suffice to cure the bleeding, and the author thinks that this is due to suggestion. Details are given of cases under three headings: (1) Passing renal hemorrhage after overexertion. The two illustrative cases followed upon excessive horse riding and cycling respectively. The hemorrhage was no doubt due to rupture of small vessels which rapidly healed again on rest. Although in the strict sense such kidneys might not be looked upon as healthy, yet afterwards these organs were left perfectly sound. Other possible causes of such hemorrhage must be carefully excluded. (2) Hæmaturia in bleeders. Here a slight cause may suffice to bring on the bleeding. In the 2 cases given here both patients were the subjects of hæmophilia, as proved by their family and personal history. Perhaps even here nervous influences may have something to do with the hemorrhage, thus explaining the recovery ensuing after hydrotherapeutic measures. (3) Angioneurotic hæmaturia. A man, aged 22, had hæmaturia lasting three months, which ceased by itself. In a year it reappeared. Nitze discovered by the cystoscope that the blood came from the left kidney. The organ was extirpated and found healthy. The hæmaturia ceased. Hæmaturia occurred in another case in a man, aged 37. This ceased on milk diet, rest, and hydrotherapeutic treatment. All other causes of hæmaturia were excluded, but at least a year must elapse before the diagnosis can be looked upon as certain. Klemperer concludes that (1) renal hemorrhage may occur after over-exertion and rapidly disappear; (2) in chronic renal hæmaturia, besides acute nephritis, stone, tuberculosis, pyelonephritis, and tumor, the hæmaturia of bleeders and angioneurotic hæmaturia must be considered: (3 in the hæmaturia of bleeders, no operation, not even cystoscopy, should be practised; (4) in angioneurotic hæmaturia blood and urine are present without other pathological products. There is no enlargement of the organ. The origin of the bleeding is ascertained by tenderness in the renal region, blood casts, and cystoscopy. There may be evidence of general neuræsthenia, but not necessarily so; (5) angioneurotic hæmaturia may occur along with pain, and thus simulate renal calculus; (6) the diagnosis of angioneurotic hæmaturia can only be made after several weeks' observation of the patient; (7) the treatment consists in rest in bed, chiefly milk diet, and suggestive treatment; hydrotherapeutic treatment is much to be recommended; (8) exploratory operations on the kidneys are only to be adopted when, after treatment for several weeks, the bleeding still continues, and the anæmia endangers life; (9) if the kidney is then found healthy, it should not be removed, but the effect of such exploratory operation be awaited.

THE INFECTIOUS CHARACTER OF RHEUMATISM.—In a clinical lecture on this subject (*Journ. de Méd.*,) Jaccoud pointed out that in very many cases of rheumatism some preceding local process has been observed which may serve as a point of invasion to the organism, whatever it may

be, which is the cause of acute rheumatism. Among these by far the most important is tonsillitis, and a striking fact is that the organisms found are exactly the same as those found in the tissues which are the seat of the lesion. For this reason the pharynx, the tonsils, in fact any tissue showing a lesion, may allow the organism to enter, and a case has been quoted in which a wound of the foot seemed to be the lesion to blame. Although nothing definite is known concerning the origin of acute rheumatism, there is such a series of circumstances connected with the disease that its bacterial origin is rendered practically certain. Jaccoud looks upon the infectious nature of rheumatism as beyond doubt when its mode of evolution, its diffusive character, and the fact that there is intrauterine transmission from mother to the fœtus are taken into consideration. One such case is recorded by Jaccoud himself in which a mother suffering from a severe attack of rheumatism gave birth to a child who in twelve hours developed pyrexia with pain and swelling of the joints, all of which gave way to salicylate of soda by the end of a week. This evidence the author looks upon as strongly showing the infectious nature of this disease.

RETENTION OF CHLORIDES IN URÆMIA.—Bohen (*Fortschr. der Medicin*, February, 1897) has studied the results of retention of chlorides in the animal organism by experiments on mice and guinea-pigs. A concentrated solution of sodium chloride was injected under the skin of the abdomen, and it was found that a very small dose—for example, 2.8 g. per kilog. of body weight, produced more or less violent clonic and tonic spasms alternating with a semi-comatose condition, as in uræmia, and in some cases death resulted. Clinically, a marked diminution of the output of chlorides was observed in cases of acute and chronic nephritis, and in some other conditions in which uræmia occurred. Analysis of the liver in a case where uræmia had preceded death showed marked excess of chlorides in its substance, as if the diminution of chlorides in the urine during life were due to their accumulation in the liver. The writer considers that the retention probably plays an important part in the causation of uræmia, and that estimation of the amount secreted may give valuable assistance in prognosis.

THE TOXINE ACTION OF ACETYLENT.—Mosso and Ottolenghi (*Rif. Med.*, January 23rd, 1897) give the results of experiments with this gas on dogs, guinea-pigs, and other animals. They found that acetylene has considerable toxine power. Small quantities of the gas sufficed to endanger the lives of the animals. Half a litre of the pure gas caused severe symptoms of poisoning in dogs, and even when mixed with air (20 per cent.) it proved fatal after an hour. If the gas was administered rapidly, the animals recovered when placed in free air, but if given slowly this did not occur, and the animals died. Large doses act chiefly by paralyzing the respiratory function, and throughout paralytic phenomena preponderate.

NOSE AND THROAT.

IN CHARGE OF

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NEW REMEDIES—THE MEDICAL ANNUAL FOR 1897.

Airol—A compound containing bismuth, gallic acid, and iodine. It is a green powder, tasteless and odorless, and insoluble in water, spirit or glycerine.

It has been found specially useful applied as an ointment (10 per cent.) in obstinate *fissures of the nostril*, accompanying sycosis of the upper lip.—*Wien. Klin. Rundschaw.*

Antinosmine—A sodium compound, containing iodine and phenol, a blue powder, easily dissolving in water. Its antiseptic properties equal iodoform, arresting the development of most of the pathogenic microbes. It is odorless, non-toxic and non-irritant. A half per cent. solution may be used freely in the *nose or mouth cavities* as a disinfectant.—*La. Med. Mod.*

Antipyrine (phenazon)—Its hæmostatic effects are powerful and rapid. In *epistaxis* a simple tampon moistened in a solution of this drug (1—5 or 1—2) is usually sufficient.

In more extensive hæmorrhages a 4 per cent. solution in hot water, or the powdered drug, are useful, as after *extraction of teeth or nasal polypi*.

In *amygdalotomy*, tampons may be applied, soaked in the 4 per cent. solution, and in *hæmoptysis* an inhalation of a one per cent. solution.—*Therap. Gaz.*

Dr. Roswell Parke recommends a combination of antipyrine with tannic acid as a styptic. He found by accident that a mixture of antipyrine in an alcoholic solution of tannin produced a gummy mass, at first flocculent, but which quickly cohered and formed a mixture of great stickiness and adhesiveness. The two substances may be used in any proportion, and are so remarkably cohesive that some difficulty may occur in removing it, unless granulations have formed and loosened it.

Creasotal—Has been introduced to overcome the irritant effects of large doses of creasote in lung affections. It breaks up in the intestines into

creasote and carbonic acid, the decomposition being a slow one, maintaining the almost continuous action of the creasote.

It may be given neat in teaspoonsful, or in milk, sweet wine, etc. Very large doses (300 grains a day) may be administered without upsetting the digestion. Just at first there may be some nausea, or even vomiting, but that soon passes off with the continued use of the drug. It has an extraordinary power of improving the appetite, which may become quite ravenous.

Reiner's conclusions on creasotal are:

1. It has precisely the same effect in pulmonary tuberculosis as creasote.
2. It is especially useful in the symptomatic treatment of tuberculosis, diminishing and deodorizing the expectoration, and increasing the appetite.
3. It exercises a favorable influence in the general condition, improving nutrition, and leading to increase of body weight, and so indirectly limiting the spread of the lung affection.
4. It is to be preferred to creasote on account of its milder action, and is indicated in cases when the latter is tolerated with difficulty or not at all.—*Br. Med. Jr.*

THE TREATMENT OF CHOLESTEATOMA OF THE PETROUS BONE WITH A PERMANENT RETRO-AURICULAR OPENING.—Reinhard (*Arch. of Otol.*, xxiv, 2) believes that the only way of bringing about a permanent cure in these cases is to produce a permanent opening toward the external meatus as well as in the lateral wall. This is to be accomplished in one of three ways: 1. By inplantation of broad-based cutaneous flaps from the scalp by Schwartze's method. 2. By Thiersch's transplantations. 3. By cutaneous flaps from the posterior surface of the concha. This prevents the subsequent growth of hair into the cavity. The cutaneous flap should be formed at the beginning of the operation by cutaneous incisions down to the cartilage, one centimetre behind the external margin of the concha; then dissect the flap up to the mastoid process, placing its largest side upon the upper angle of the wound; and finally make the typical parallel incision behind the concha down to the periosteum. The cutaneous defect of the concha may be covered by Thiersch's transplantations.

BINAURAL HEARING.—Bloch (*Arch. of Otol.*, xxiv., 2) sums up the characteristics of binaural hearing as follows:

1. With binaural conduction of sound there is an alternating increase in the auditory impression.
2. This increase grows less as the two auditory impressions become more dissimilar.
3. It depends probably not only on the addition of the bilateral acoustic excitation and the transference of the perception to the interior of the head, but also on an actual central increase of excitability.
4. With the binaural conduction of tone or a noise into the auditory canal, or in its neighborhood, the sound is heard in the head.
5. The subjective auditory field lies on the side of the stronger perception. By changing this, the location of the field may be altered at will.—*Bull, in N. Y. Medical Journal.*

ASTHMA.

The association of asthma with nasal disease has been emphasized by Dr. Greville Macdonald (London). Of thirty cases of nose disease associated with asthma he had twenty manifestly relieved by local treatment, while of these twelve might be quoted as tantamount to complete cures. Of the twenty, four were cases of obstruction due to septal deformities, six were of vascular engorgement or hypertrophy of the inferior turbinated bodies, four were of polypus, and four of adenoids, while the remaining two were instances of that curious œdematous swelling over the upper and anterior portion of the triangular cartilage, so often associated with paroxysmal sneezing. The remaining ten cases unrelieved were all due to polypus. He believed that the latter condition was more often associated with chronic bronchitis than with simple spasmodic asthma, and must be considered as a concomitant of, rather than as responsible for, the bronchial symptoms. From these cases he purposely excluded hay-asthma, for he regretted to have to confess that he had but seldom found this symptom relieved by intra-nasal operation, although so far as the more severe symptom—the sneezing—was concerned, he was greatly encouraged by the results of treatment. Particulars were given of three cases of complete relief of severe spasmodic asthma, which had been treated by himself, the results of operation being so immediate and emphatic that there could be no doubt that the *post hoc* was *propter hoc.*—*London Lancet.*

CORYZA.

Foxwell defines catarrhal fever as an acute specific disorder of a week's duration, occurring with or without fever, characterized pathologically by an exudation—serous, fibrinous, cellular or membranous—from one or more of the lining membranes of the body: with, in some cases, acute glandular inflammation; caused by a micro-organism, probably the pneumococcus of Friedlander, and mildly contagious.

This definition gives us a good working hypothesis with regard to catarrhal conditions, and gives a sufficient explanation of the difficulty in arresting the malady by any medicinal or other methods.—*London Lancet.*

Wunche, Dresden, has employed inhalations of menthol chloroform in the strength of 5 to 10 per cent for the purpose of aborting acute coryza. A few drops are placed upon a handkerchief, and five or six deep respirations taken. By this means the nasal secretion is augmented at first, but afterwards diminished, and the sore throat and largyngeal symptoms which are frequently found associated with a cold in the head are relieved.

The following nasal spray may be employed after the inhalations:

℞ Ichthyol, 1 part; ether and alcohol, each 1 part: distilled water, 97 parts.—*Journal de Med. de Paris.*

EPISTAXIS.

In the majority of cases the bleeding point will be found on examination to be situated on the septum, and usually in the anterior third near the nostril, and bleeding may often be arrested by the simple plan of compressing the nose between the forefinger and thumb.

In treatment the aim is not only to stop the bleeding, but to prevent recurrence. This is done by replacing a weakened point with a healthy cicatrix.

1. If the patient is not bleeding, but has recently done so, search the inside of the nose with a strong light, and in the fore part of the septum mostly several small red vessels will be seen, indicating the affected spot.

If bloody crusts obscure these, gently remove them, and then thoroughly cauterize and destroy the points with a galvano cautery, or chromic acid (or trichloracetic acid) fused on a silver (or aluminum) probe.

2. If the patient be bleeding, wash out the nostril with hot water, and introduce a large tampon of carbolized wool in front, then compress the ala upon it with the finger. Remove the plug to see the bleeding spot, then reapply a second tampon. Again remove, and cauterization will be easy.

3. Where the blood traverses the tampon or flows into the pharynx, wash out with hot water, and pack the whole nasal fossa through a speculum with strips of iodoform gauze, a finger's breadth in width. When needful to remove soften them with hot water, and gently draw them out. If there be further bleeding, again pack with strips; but this is seldom necessary.—Watson Williams in the *Medical Annual*.

LARYNGEAL AND PHARYNGEAL HERPES.

P. WATSON WILLIAMS, IN MED. AN.

Secretan[1] describes this malady as an acute affection occurring in healthy individuals or among sufferers from chronic laryngitis. It seems at times to be epidemic; at other times sporadic. The onset is usually sudden, with febrile reaction. The general symptoms are those of idiopathic cutaneous herpes. As to local manifestations, they begin with hoarseness, aphonia, lancinating pains, dyspnœa, in fact, the usual signs of acute catarrhal laryngitis.

Oedema of the larynx may or may not precede the appearance of the vesicles. The latter rarely exceed more than a dozen in number, are about the size of a millet seed, and last but little time. Soon they burst and form upon the mucosa small erosions covered with white adherent crusts (at times hæmorrhagic in appearance), which fall off in five or six days, and leave a simple depression. The laryngeal eruption may appear alone, or may be accompanied, preceded, or followed by cutaneous or pharyngeal lesions of the same variety, which, of course, greatly facilitate diagnosis. The condition at its onset may easily be confounded

with laryngeal diphtheria, but the clearness of the eruption, its lack of progressive confluence, etc, generally permit of correct diagnosis. The prognosis is invariably good.

Brindel[2] has published a report of three cases, in which he says that there are on record nineteen cases altogether, certainly a surprisingly small number. Brindel remarks that taking cold is the only cause. His conclusions are as follows: "(*a*) This affection, which is not so rare as one might suppose, is only one of the localizations isolated or associated with herpetic fever; (*b*) its most frequent situation is upon the posterior of the epiglottis, and in the vicinity of the arytenoids: (*c*) it is characterized anatomically by the evolution in these regions of herpetic vesicles surrounded by an inflammatory zone, and clinically by symptoms common to herpetic fever, on the one hand, and on the other by dysphagia, by hoarseness, a little dyspnœa—symptoms which may all be present at once, and which are in relation with the localization of the herpes: (*d*) The invasion is sudden, the progress rapid, the prognosis benign, recovery complete, although recurrence is possible; (*e*) Only very rarely is herpes of the larynx accompanied by phenomena analogous to those of croup.

Wright has recently had a case in which there was a single vesicle on the posterior surface of the epiglottis, with the constitutional and local symptoms, but without vesicles elsewhere.

TREATMENT.—Secretan recommends disinfectant inhalations, ice locally, a light purgative, and confinement to bed.

REFERENCES.—[1] "Annales des mal. de l'oreille," etc., 1895, XXI., p. 113, and "Amer. Med. Surg. Bul.," Jan. 11, 1896; [2] "Revue de laryngologie," etc., No. 6, March 15, 1895, cited by J. Wright, "New York Med. Jour." Feb. 8, 1896.

MICRO-ORGANISMS IN THE HEALTHY NOSE.—Thomson and Hewlett (*Arch. of Otol.* xxiv., 3 and 4) summarize the resuts of their observations as follows:

1. In all bacterioscopic investigations of the nasal fossæ, in all researches as to the action of nasal mucus, etc., a clear distinction must be made between the vestibule of the nose and the proper mucous cavity. The former is lined with skin, and is not part of the nose cavity proper, but only leads to it.

2. Contamination with the lining of the vestibule is difficult to avoid, even when this source of error has been realized.

3. In the dust and crusts of mucus and *débris* deposited among the bibrissæ of healthy subjects micro-organisms are never absent, and are usually abundant.

4. On the Schneiderian membrane the reverse is the case. Under normal conditions micro-organisms are never plentiful here, are rarely even numerous, and in more than eighty per cent. of cases no organisms whatever are found, and the mucus is completely sterile.

5. The occurrence of pathogenic organisms must be so infrequent that their presence on the Schneiderian membrane can only be regarded as quite exceptional.

PAEDIATRICS.

IN CHARGE OF

ALLEN M. BAINES, M D., C.M.

Physician, Victoria Hospital for Sick Children; Physician, Out-door Department Toronto General Hospital. 194 Simcoe Street, and

J. T. FOTHERINGHAM, B.A., M.B., M.D., C.M.,

Physician, St. Michael's Hospital; Physician, Outdoor Department Toronto General Hospital; Physician, Hospital for Sick Children. 39 Carlton Street.

DIPHTHERIA.

In *Annals of Gynæcology and Pædiatry*, April, '97, F. L. Morse, M.D., Boston, has a very useful paper entitled "Diphtheria," giving an exhaustive *résumé* of his experience in 1,972 cases treated in the Boston City Hospital from September, 1895, to October, 1896. The labor expended has evidently been enormous, both in collecting and tabulating his cases and in registering results of clinical study of them. We append his remarks on Antitoxine Rashes in full as a valuable contribution to a subject as yet not clearly widely understood among the profession:

"The character of the eruptions has been the most puzzling of any of the complications due to antitoxine. There have been a number of cases in which the eruption assumed the appearance of a well marked urticaria with typical wheals, and in this class there was usually no doubt as to the diagnosis. In some of the cases the distribution of the eruption has been peculiar, the urticaria assuming a symmetrical arrangement on either side of the body. All of these were usually accompanied by itching and burning of the skin, but no constitutional disturbance. Another class of cases, and perhaps the most important from a diagnostic point of view, are those in which the patient develops a general erythematous blush, at places assuming a somewhat punctate appearance, and which disappears entirely, usually in the course of from eight to twenty-four hours. It is in this class of cases that it is obviously the greatest importance to differentiate from scarlet fever, and this is particularly the case in a contagious hospital, where, if it is scarlet fever, other patients will be exposed to the disease.

"The time of the appearance of the eruption is, of course, of some importance, but, as the incubation period of scarlet fever varies so considerably in many cases, and has no fixed period, while most of the antitoxine rashes appear at about the end of the first week, an eruption appearing from twenty-four to seventy-two hours after admission with a punctate appearance would more likely be considered scarlet fever than one due to antitoxine. Other points of importance in a diagnosis, if the eruption is one of scarlet fever, have been the presence of an eruption on the palate, the redness and dryness of the palms of the hands and the soles of the feet, the rise in temperature, the presence of vomiting—this symptom occurring in about 80 per cent. of all cases of scarlet fever, the

rash beginning about the neck and upper part of the chest and extending downwards and being confirmed in a few days by the appearance of desquamation. If, on the other hand, the eruption is due to antitoxine there will be no eruption on the palate, no redness or dryness of the palms and soles, usually no rise in temperature, or vomiting, and the appearance of the rash on any part of the body, which, if it extends, does so in no definite manner. The desquamation which is characteristic of scarlet fever does not, of course, occur in these cases.

"Another class of rashes are those which by their papular appearance closely simulate an eruption of measles, but, as the incubation period of this disease is more definitely fixed than that of scarlet fever, and as the cough and conjunctivitis usually precede the eruption, the diagnosis is easier. There is also, if the rash is due to antitoxine, little or no suffusion of the eyes, no cough, no eruption on the palate, and the initial lesions of this eruption may appear on any part of the body, while in measles the rash appears behind the ears and on the neck and chest and extends downwards. If due to antitoxine, it will have disappeared in from twenty-four to forty-eight hours, at which time a measles eruption would be at its height.

"The rashes due to antitoxine have also assumed various other forms. Cases have been observed in which it resembled an eruption of tinea: others where it had the appearance of rose spots, and in two instances the eruptions have been remarkable on account of their character. In one of these it was a true eczema involving the greater part of the trunk, and also the head. It persisted for about ten days and then disappeared completely. It was accompanied by scales and crusts, but not by the usual amount of infiltration expected from the extent of the process. The other eruption commenced as a diffuse erythema of various parts of the body and was quite general in character. It persisted rather longer than usual, but the diagnosis of its being an antitoxine was never questioned. As it faded it assumed a marked hemorrhagic type, and over various parts of the body were seen these large black and blue areas as if due to some external violence. They all, however, faded in a few days.

"Combinations of these several eruptions have occurred and it is not unusual to observe a macular or papular eruption with a diffuse erythematous blush, and sometimes accompanied by an urticaria on the same patient.

"A typical erythema multiforme has been observed in a few cases and an erythema or an urticaria has been also observed, localized at the point of the injection of the antitoxine.

"These rashes are always interesting to observe, occasionally hard to diagnose, should always be isolated in questionable cases, and usually disappear in from twenty-four to forty-eight hours.

"The time of the appearance of the antitoxine rashes has been particularly interesting, and also very instructive when a diagnosis is to be made; especially when one rash simulates an eruption of scarlet fever. The earliest cases appear on the second day after the injection, but it is rather unusual to expect any rash until the fourth day, and most of them appear at about the end of the first week or ten days. The latest appearance has been on the 27th day, as observed in cases staying in the hospital: but one

case has occurred when the patient was discharged from the hospital on the sixth day after entrance, but returned three weeks later with an urticaria and in two months and three days later with a second well marked urticaria. Second urticariæ may, of course, appear at any time, but the experience in the hospital shows that they most likely appear at about the end of the second week, between fourteen and twenty days.

"The septic rashes of diphtheria are also sometimes seen, but not as frequently as before the days of antitoxine, and are usually present only in those cases which have gone untreated from the outset of the disease and are markedly septic on their admission to the hospital. The rash is usually a diffuse general erythematous blush which appears suddenly, thus resembling an antitoxine erythema, or in exceptional cases it is a coarse punctate eruption, too coarse, however, to simulate scarlet fever, and in one case it has been hemorrhagic in character. They can usually be differentiated from other rashes on account of the profound septic condition which the patient presents. Following the administration of the sulphate of atropine for its stimulating action it sometimes happens that a flush appears usually upon the face only, but occasionally extending so as to involve the whole body. It thus may resemble an antitoxine rash, a septic rash or an eruption of scarlet fever, but the history of the administration of the drug is an important matter and will usually decide whether the rash is or is not due to the use of atropine."

ACUTE ANTERIOR POLIOMYELITIS.

Acute anterior poliomyelitis, or infantile spinal paralysis, is one of the most important of the nervous affections of childhood. It presents several types in the earlier stages, but in the majority of cases follows a very typical clinical course. The variations from the ordinary type are well described in the present number by Dr. Peckham.

The presumptive evidence that this peculiar affection is an infectious disease is very strong. While it runs a chronic course, its onset is sudden and acute, and is preceded by very few premonitory symptoms, frequently by none whatever. The most common group of initial symptoms are fever, vomiting, and convulsions. The fever ranges between 101° and 103°, but occasionally reaches a higher point. It continues for twenty-four or forty-eight hours, when it gradually subsides. In rare cases it is present for a week. The vomiting occurs very early, and is independent of gastric irritation. It frequently assumes the cerebral type. Convulsions are of less frequent occurrence than are the two preceding symptoms. They are most common during the first day of the illness, but occasionally occur during the second and third days. They are general in character. Coma is sometimes seen, but is less frequent than are convulsions. The severity of the onset is an uncertain criterion by which to foretell the gravity of the later symptoms.

Paralysis may be present from the outset, but it is rarely recognized before the second or third day, and is frequently overlooked until a later period. The diagnosis cannot be made until the paralysis is recognized. It is at first widely distributed, but as a rule diminishes after the first week, and no opinion can at first be formed as to which members are to

be permanently paralysed. The subsidence of the general paralysis may require several months. This retrogression of the paralysis, leaving one or more members permanently paralysed, is one of the most characteristic features of the disease. Monoplegia is the most common form assumed by the later paralysis, the leg being more commonly affected than the arm. Hemiplegia may occur, but is rare; facial paralysis is extremely rare. In a considerable number of cases the distribution of the later paralysis is peculiar and apparently contradictory.

The paralysis is of the flaccid order, and is rapidly followed by altered electrical reaction and diminished reflexes. Atrophy is, in fact, a most characteristic feature of the disease. It may sometimes be noticed by the third week, or even earlier. The wasting affects chiefly the muscles and subcutaneous tissues, but the growth of the bone is frequently retarded. In the later stages the skin is blue, cold and clammy, and the limbs seem relaxed and lifeless. Contractures occasionally occur, but they are never spastic like those of cerebral paralysis.

The electrical reactions are of great importance. Both the muscles and nerves exhibit, with rare exceptions, the complete reaction of degeneration. These changes in electrical behavior appear very early in the disease. The faradic current fails to elicit a response from either the muscles or nerves. Galvanic stimulation fails to excite the nerves, and the response of the muscles is sluggish. Sachs states that it can be asserted with some degree of certainty that those parts which continue to respond well to faradism after a week or more will not remain paralysed. During the later stages the return of the faradic response in any muscle or a normal behavior during galvanic stimulation would lead us to infer that it may recover its previous function, but muscles which exhibit marked electrical changes for a considerable period of time have suffered serious injury.

Pain is rarely present in acute anterior poliomyelitis; the bladder and rectum are not involved; after the initial stage there are no cerebral symptoms.

"Summarizing all the symptoms," says Sachs, "we may state that the diagnosis of poliomyelitis may be made if paralysis, however widely distributed or however narrowly limited, and in whatever part of the body, comes on after an acute onset marked by fever, vomiting and convulsions, and if this paralysis is associated at an early day with atrophy, with changes in electrical reactions, and with a loss of reflex activity in the paralyzed parts."—*Arch. of Pœdiatrics*, Mar., '97.

THE TREATMENT OF POTT'S DISEASE BY FORCIBLE REDUCTION OF THE DEFORMITY.

H. L. Taylor, of New York, in *Pediatrics*, April, 1st '97, notes a method of treatment of Pott's Disease of Forcible Reduction of the Deformity under chloroform. "M. Calot, of Berck, in a recent communication to the Paris Academy of Medicine, published in the *Annales de Chirurgie et d' Orthopédie* for December last, states that he has performed the operation of forcible correction of the bosse thirty-seven times without an accident, and with the happiest results. After chloroformization

the child is placed face down, and while the assistants make traction on the extremities the operator presses down upon the bosse with all his strength. Snapping sounds are heard and the deformity in recent cases disappears within a couple of minutes: callosities are excised and in the severe cases the spinous processes over the bosse are removed. The improved position is maintained by the application of a strong plaster jacket, including the head and pelvis as well as the trunk. This is allowed to remain three or four months and is followed by a second and sometimes by a third; after this, consolidation is said to be complete, and the child is permitted to go about with an ordinary plaster corset. The patients treated in this manner have ranged from two to twenty years of age, and their deformity has lasted from three months to eight years. There have been no deaths, and in only one case symptoms of paralysis, which disappeared after the adjustment of a stronger jacket. In two cases abscess followed; on the other hand, in three cases in which abscess was already present, these were absorbed. In projections of moderate size with a duration of from four to eight months the deformity entirely disappeared; in the severe deformities, with a duration up to six years, the results were often nearly perfect and always surprising. In the few cases in which it was not satisfactory, the operation was followed by a cuneiform resection of the spinal column, which permitted considerable further correction."

Dr. Ling comments adversely upon such procedure, and we think wisely. "To deliberately break through and tear open a tuberculous focus has never been considered good surgery: in the light of our present knowledge it seems amazing that serious results have not followed such a procedure, especially when we recall the many recorded cases in which general or meningeal tuberculosis has followed the most trivial interference. The author does not state how much time has elapsed since the observations—evidently a period of several years: and a much larger experience would be necessary to justify such confident and sweeping statements."

MORPHINOMANIA IN AN INFANT FOUR MONTHS OLD.

La France Médicale, May 15, 1896, contains an account of a four months' old baby, brought up on the bottle by a nurse. As the baby was irritable and sleepless at night, the nurse had nothing better to do than to add to the milk a decoction of poppies. At first the poppy head was sufficient to produce sleep for six to eight hours; later on three were required, which were generally given in the evening. On swallowing, the child seemed well and ate fairly. Its development, however, seemed to stop for two months, and it was pale, delicate and thin. As soon as the decoction was stopped the child got irritable, crying constantly, and refused to take any nourishment. After a week of abstinence it became very weak, and the pulse and respiration became frequent. Then a decoction was administered again, and the infant recuperated at once, and after sleeping for several hours woke up apparently in good health. When the drug was suppressed again, the stools became greenish and mucous, and the child died ten days later.—*Journal of Nervous and Mental Diseases.*

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Editorial.

TRINITY ALUMNI ASSOCIATION.

The Trinity Alumni Association met at Trinity University, April 7th, Dr. J. C. Mitchell, Enniskillen, President, in the chair. The nomination and election of officers for the following year resulted as follows:

President, Elias Clouse, Toronto; Vice-President for Toronto, Dr. Rowan; for Eastern Ontario, Dr. A. S. Tilley, Bowmanville; Western Ontario, Dr. Gerald O'Reilly, Guelph; Secretary, Dr. Harold Parsons; Treasurer, W. H. Harris, Toronto; Graduates' Representative, Dr. Eadie. Toronto.

A telegram from Seneca D. Powell announced that he was unable to attend the meeting, owing to illness.

THE USE OF ANTITOXINE IN DIPHTHERIA:—Dr. Dillon Brown was unable to be present, but sent his paper, which Dr. D. J. Gibb Wishart read. It consisted of an analysis of 991 cases. From a therapeutic standpoint, diphtheria presented two distinct diseases—the laryngeal and the pharyngeal variety. The chief danger from the laryngeal form was obstruction; while from the naso-pharyngeal it was poisoning. In the laryngeal form the affection was more often unmixed and more readily yielded to the antitoxine; in fact, the serum was almost a specific for it. An analysis of his laryngeal cases for some years back proved this. Under the old, from September, 1885, to September, 1886, he treated 37 cases with 18.9 per cent. recoveries; 1886 to 1887, 65 with 23 per cent.; 1887 to 1888, 89 with 21.4 per cent.; 1888 to 1889, 95 with 32.6 per cent.; 1889 to 1890, 63 with 30.1 per cent.; 1890 to 1891, 63 with 36.5 per cent. Then began calomel sublimation: 1891 to 1892, 117 with 34.1 per cent; 1892 to 1893, 84 with 38 per cent.; 1893 to 1894, 76 with 38 per cent.; 1894 to 1895, 57 with 43.8 per cent. Then began antitoxine: 1895 to 1896, 30 with 56.6 per cent.; 1896 to April, 1897, 30 with 90 per cent.

Drs. C. Trow, J. G. Wishart, Eadie, Powell, Baines, Clouse and Fenton

discussed the paper. (We hope to give the paper *in extenso* in a future number.)

LACERATIONS AND EROSIONS OF THE VIRGIN CERVIX.—Dr. J. L. Davison read a paper with the above title. This was a comparatively new subject, but was of considerable medico-legal importance.

Dr. Harold Parsons read an interesting paper on "Bone Lesions Following Typhoid."

In the evening a goodly number of the Alumni met around the festive board at McConkey's, where the evening was spent in speeches, song and story. Old Trinity was lauded and old friendships renewed. The meeting, while not so successful numerically as in former years, made up for the lack of numbers in enthusiasm. We predict a successful meeting for next year under the able management of Dr. Clouse.

BRITISH MEDICAL ASSOCIATION.

We publish the list given below of the officers appointed by the Home Authorities for the forthcoming meeting of the British Medical Association. It would, we think, be difficult to have a more distinguished list of office-bearers, especially when it is taken into account how many of the leaders of the profession in the Old Country have already filled the most important posts at previous meetings, and, as a consequence of the wise system of rotation adopted by the Council of the Association, were not eligible to serve here. That so many who have not previously accepted office have consented to preside here in Canada is a matter for self-congratulation.

Of those appointed to deliver addresses we need say little. Dr. Osler is one of ourselves, even if a great American university has for a time secured him for its staff—and as a Canadian is a most happy choice, inasmuch as he belongs to Toronto as well as to Montreal. Mr. Mitchell Banks is the most popular surgeon in the north of England, is a speaker of great power, and is already no stranger in Canada.

Of Presidents of Sections, we have secured two representative Canadians in Dr. E. P. Lachapelle and Dr. R. M. Bucke. Most of the names of the remaining presidents are familiar to all of us—Stephen Mackenzie, Christopher Heath, Watson Cheyne, Edward Nettleship and Malcolm Morris. Drs. Sinclair, Waller, Leech and Grenville Macdonald may not be so generally known, though each is recognized as a leader by those interested in his special line of work.

Referring to the list of Vice-Presidents in the various subjects, it will be seen that a most conscientious attempt has been made by the parent association, at the suggestion of the local Executive Committee, to embrace the whole of the Dominion. When Montreal of its own free will gave up the opportunity of appointing its leading practitioners as presidents of the various sections, it is but becoming that leaders in the profession in Montreal should be appointed to vice-presidential posts, and no one can object if this list contains a considerable portion of well-known Montreal names; but it will be seen that Toronto, Quebec, London, Win-

nipeg, Hamilton, Halifax, St. John, N.B., Victoria, and all the leading centres are given recognition, and are duly honored so far as it is in the power of the authorities. Naturally there has been a difficulty in appropriately including all the leaders in the sections of Medicine, Surgery and Gynæcology. It has, in fact, been impossible to include all whom we would have desired to see nominated as vice-presidents, but it must be confessed that, as far as they go, the lists in these subjects are excellent.

BRITISH MEDICAL ASSOCIATION.

The 65th annual meeting of the British Medical Association will be held at Montreal on Tuesday, Wednesday, Thursday and Friday, August 31st, September 1st, 2nd and 3rd, 1897.

PRESIDENT, Henry Barnes, M.D., M.R.C.S., F.R.S.E., J.P., Physician Cumberland Infirmary, Carlisle. PRESIDENT-ELECT, T. G. Roddick, M.D., M.P., Professor of Surgery in McGill University, Montreal. PRESIDENT OF THE COUNCIL, Robert Saundby, M.D., F.R.C.P., 83A Edmund Street, Birmingham. TREASURER, Charles Parsons, M.D., Dover.

Addresses will be delivered as follows:

MEDICINE.—Dr. W. Osler, F.R.C.P., Professor of Medicine in the Johns Hopkins Univ., Baltimore, U.S.A.

SURGERY.—Mr. William Mitchell Banks, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

PUBLIC MEDICINE.—

The scientific business of the meeting will be conducted in eleven sections, as follows, namely:

MEDICINE.

President: Dr. Stephen Mackenzie, London. Vice-Presidents: Dr. J. E. Graham, Toronto; Dr. W. Bayard, St. John, N.B.; Dr. J. P. Rottot, Montreal; Dr. F. W. Campbell, Montreal; Dr. J. Stewart, Montreal; Dr. H. P. Wright, Ottawa. Secretaries: Dr. H. A. Lafleur, Montreal: Dr. W. F. Hamilton, Montreal; Dr. William Pasteur, 4 Chandos Street, Cavendish Sq., London, W.

SURGERY.

President: Mr. Christopher Heath, London. Vice-Presidents: Sir Wm. Hingston, Montreal; Hon. Dr. Sullivan, Kingston, Ont.; Hon. Dr. Farrell, Halifax, N.S.; Dr. I. H. Cameron, Toronto; Dr. F. LeM. Grasett, Toronto; Dr. James Bell, Montreal; Dr. G. E. Armstrong, Montreal. Secretaries: Dr. R. C. Kirkpatrick, Montreal; Dr. Thos. Walker, St. John, N.B.; Mr. Jordan Lloyd, F.R.C.S., Richmond Hill, Birmingham.

PUBLIC OR STATE MEDICINE.

President: Dr. E. P. Lachapelle, Montreal. Vice-Presidents: Dr. Montizambert, Quebec; Dr. R. Craik, Montreal; Dr. P. H. Bryce, Toronto; Dr. Sir James Grant, Ottawa; Dr. R. H. Powell, Ottawa; Secretaries: Dr. Wyatt Johnston, Montreal; Dr. E. Pelletier, Montreal; Dr. Henry Littlejohn, Town Hall, Sheffield.

OBSTETRICS AND GYNECOLOGY.

President: Prof. W. J. Sinclair, Manchester. Vice-Presidents: Dr. Wm. Gardner, Montreal; Dr. James Perrigo, Montreal; Dr. J. A. Temple, Toronto; Dr. J. C Cameron, Montreal; Dr. T. J. Alloway, Montreal; Dr. James Ross, Toronto. Secretaries: Dr. D. J. Evans, Montreal; Dr. W. Burnett, Montreal; Dr. A. E. Giles, 58 Harley Street, Cavendish Sq., London, W.

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THE PROFESSION IN CANADA AND THE NEW CUSTOMS TARIFF.

On the 22nd of April, 1897, a new tariff was brought down, and certain of its items have special interest for physicians. In the budget speech the Hon. the Minister of Finance said: "We give the medical and dental professions a boon which the younger and less wealthy members of these professions will appreciate when we put all surgical and dental instruments on the free list." It is satisfactory to know that the arguments which were forcibly presented by medical associations all over Canada last year in favor of admitting surgical instruments free of duty have prevailed. Not many years ago a dollar in Canada would go no further in the purchase of on outfit of this kind than sixty cents in New York, and a shilling or mark in Europe. We were paying for poor materials and for patterns that should have been obsolete more than the very finest instruments should have cost. A reduction to 15 per cent., made by the last Finance Minister, improved matters greatly, but even this duty hindered the direct importations, which will now be in order if the equipments demanded by specialized medical practice are not offered here at reasonable rates. The Dingley tariff, now before the United States House of Congress, puts a duty of 45 per cent on instruments. As Germany is now making the great bulk of the world's surgical instruments, it would seem that we in Canada ought to have advantages over our American cousins in this respect if competition is keen enough to give it to us. The Government of the day has been less considerate of

us in the matter of books. Instead of a duty of six cents per pound, we are now to be taxed 20 per cent. on the value of such imports. Osler's Practice is listed at $5.00 and weighs about four pounds. Under the old rate the duty would have been 24 cents, while under the new it will be from 70 cents to $1.00, according to the discount obtained. Books printed and manufactured more than twelve years ago are on the free list. but such books in medicine have historical interest only.

A real injustice, which the Government should be urged to remove, is to be found in the last paragraph of the following section of the free list: "Books not printed or reprinted in Canada, which are included and used as text-books in the curriculum of any university or incorporated college in Canada for the use of students thereof: books specially imported for the bona-fide use of incorporated mechanics' institutes, public free libraries, or any duly organized law association or society, for the use of its members; not more than two copies of each book, under regulations made by the Governor-General-in-Council." By what reasoning can the free importation of books for law associations or societies be justified when similar privileges, though often asked for, are denied to medical libraries, and when law books are published here in large numbers, while medical books never have been and for many years to come cannot be published here.

TRANSACTIONS OF THE CANADIAN MEDICAL ASSOCIATION.—We have received from the Secretary, Dr. F. N. G. Starr, a copy of the transactions of the Canadian Medical Society at its twenty-ninth meeting, August, 1896. A copy will be sent to each member who was present, and there is a limited number of copies, which will be sent to those members who were unable to attend, on the receipt of $1, by the Secretary, Dr. Starr, 471 College Street, Toronto.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.

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Preliminary announcement of the Seventh Annual Meeting.

Office of the President, 284 Franklin St., Buffalo, N.Y., March 15, 1897.

DEAR DOCTOR—

The seventh annual meeting of this Confederation will be held in the small banquet hall of the Hotel Walton, at Philadelphia, Monday, May 31, 1897, at 10 o'clock, a.m. The following programme has been arranged:

I. Address of welcome, by A. H. Hulshizer, of Pennsylvania State Board of Medical Examiners.
II. Response, by Vice-President Reed.
III. Report of the Committee on Minimum Standard of Requirements.
IV. Discussion and action thereon.
V. Report of the secretary and treasurer.
VI. Annual address of the president.
VII. Some practical experience with, and results of, the medical law of Pennsylvania, Wm. S. Foster, Pittsburgh.
VIII. The need for exact information as to the equipment, methods and requirements of our medical schools, J. N. McCormack, Bowling Green, Ky.
IX. Address by Prof. J. W. Holland, M.D., Dean Jefferson Medical College, Philadelphia.
X. Paper.
XI. Miscellaneous business.
XII. Election of officers.
XIII. Adjournment.

The object of the confederation is to consider questions pertaining to State control in medicine and to compare methods in vogue in the several States; the collection and dissemination of information relating to medical education, and to consider propositions that have for their purpose advancement of the standards in the United States. A cordial invitation is extended to all members and ex-members of State Medical Examining Boards, and to physicians, sanitarians and educators who are friendly to the objects named, to attend the meeting and participate in its proceedings. By order of the Executive Council,

WILLIAM WARREN POTTER, President.

A. WALTER SUITER, Secretary.

AN ACROSTIC—LA GRIPPE.

A-ll the nerves gone on a bender,
N-ot an organ is exempt,
T-eeth and scalp and muscle tender,
I-cy chills the bones pre-empt;
K-aleidoscopic are the symptoms legion,
A-s they overrun the system,
M-aking life a weary region,
N-o one able to resist them.
I-s there nothing that will cure?
A-ntikamnia will, I'm sure!

Atlanta, Ga. FREDERICK B. SUTTON, M.D.

ELECTRICAL FACTS FOR THE GENERAL PRACTITIONER.

The following tabulated statement from the *Electro Therapeutist* will be read with interest by many whose education in electricity is not up to date: The farradic or interrupted current cures disease mainly through physiological and mechanical processes, producing no appreciable chemical effect in the tissues.

In each faradic battery there should be two coils—primary and secondary.

The current from the primary coil has greater quantity and produces greater mechanical effects, but lacks penetrating power, and is more useful in superficial troubles, particularly where mechanical efforts are desired.

It is also of service in internal treatments for many vaginal and uterine diseases.

In the primary current there is some difference in polarity, the positive pole producing greater sedation and the negative pole greater stimulation.

The secondary coil produces a current having much greater penetrating power than the primary current.

It will more easily overcome resistance on account of its greater tension, and is to be preferred to the primary current in treating deeply-seated conditions.

There is no appreciable difference in polarity in the current from the secondary coil.

The current from the secondary coil is much more pleasant in its effect, particularly to nervous subjects.

In the direct galvanic current there are no interruptions to the current as in the physiological and mechanical effects.

There is no sensation to the current beyond a feeling of numbness and burning beneath the electrodes.

In general terms, it may be stated that the faradic current is to be preferred in muscular troubles and the galvanic in nervous diseases.

The galvanic current will produce a greater degree of sedation or stimulation.

The galvanic current should be used to stimulate the absorbents, to remove effusions, morbid growths, callosities, tumors, facial blemishes, superfluous hairs, etc. In these conditions the faradic current is practically powerless.

The positive pole of the galvanic current is much more sedative, and the negative pole much more irritating and stimulating.

Electrolysis and cataphoresis can only be used with the galvanic current.

To produce the most pronounced sedative effect and allay irritability make stabile applications of the positive pole, galvanic current.

To produce the most marked irritation, use the negative pole of the galvanic battery, or reverse the polarity frequently.

Electricity has a decidedly refreshing and soothing effect upon the entire nervous system, and is of great service in nearly all nervous diseases.

Either faradic or galvanic current will equalize the circulation, increase the flow of blood to the surface and extremities, and improve nutrition and assimilation.

Book Reviews.

THE YEAR-BOOK OF TREATMENT FOR 1897. A Critical Review for Practitioners of Medicine and Surgery. Crown octavo, 488 pages. Cloth, $1.50. Philadelphia and New York. Lea Brothers & Co., 1897.

No practitioner of medicine, surgery, or of any of the specialties can afford to neglect this work, the value of which far exceeds its very modest price. The Year-Book of Treatment furnishes a critical and authoritative epitome of a year's progress in all branches of practical medicine. That it has performed this service acceptably is evident from the consecutive publication of thirteen annual issues, and it may truly be said that the possessor of the series enjoys the advantage of a connected view of medical advance, always fresh and brought up to the latest date by each new volume. The whole domain of practical medicine is thus annually covered in a series of twenty-five chapters, each being assigned to a recognized authority, who gives in full detail all that is both true and new, with a critical statement of the comparative value and special applicability of the various drugs, prescriptions and methods of treatment. The work is systematically arranged and well indexed, and is an elbow-consultant always ready for instant use.

CLINICAL LESSONS ON NERVOUS DISEASES. By S. Weir Mitchell, M.D., LL D., Edin., Member of the National Academy of Sciences, Honorary Fellow of the Royal Medico-Chirurgical Society of London. Handsome 12mo, 299 pages, with illustrations and two colored plates Cloth, $2.50. Lea Brothers & Co., publishers, Philadelphia and New York, 1897.

Dr. Mitchell stands easily among the foremost of his profession in a country which has largely created modern neurology, and this volume presenting the ripest knowledge drawn from his vast experience will command wide attention. The author has here gathered and enriched the lessons afforded by typical and instructive cases appearing at his clinic, which enjoys the advantages of material from a special hospital, its ward and out-services. Practitioners of general medicine, as well as neurologists, will value its vivid portraiture of disease and the sagacious indications for prevention and treatment, which bear the stamp of the highest authority.

CLOUSTON ON MENTAL DISEASES. New edition. Clinical Lectures on Mental Diseases. by Thomas S. Clouston, M D., F.R C.P.E., Lecturer on Mental Diseases in the University of Edinburgh. Fourth edition, thoroughly revised. Octavo, 736 pages 15 full page plates. Cloth, $4.75. With Fulsom's Laws of the United States on the Custody of the Insane ($1.50) $5.50 for the two works.

The wide dissemination of mental diseases, and the greatly-increased difficulty of treating them successfully in advanced stages, render it advisable for every practitioner to inform himself concerning their first manifestations and appropriate measures for their cure or control. The recognition of these facts is, perhaps, the cause of the demand for four editions of Dr. Clouston's authoritative work. He has skilfully chosen the form of lectures to secure the facility which a narrative style affords in the vivid picturing of this especial class of diseases, but each lecture is arranged on a systematic plan, opening with an exceedingly instructive resume of the special subject and following with the detailed description of the clinical picture, the characteristics, varieties, treatment and prognosis. Typical illustrative cases are aptly introduced. This edition is enriched with fifteen instructive full page plates. In connection with Folsom's "Laws of the United State on Custody of the Insane," prepared to accompany it, Clouston's "Mental Diseases" will furnish the American practitioner all needed assistance in the care of his curable cases and the disposal of the others.

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IN HÆMATHERAPY, OR BLOOD TREATMENT.

BLOOD, AND BLOOD ALONE, is physiologically ascertained to be the essential and fundamental Principle of Healing, of Defense, and of Repair, in the human system; and this Principle is now proved, by constant clinical experience, to be practically available to the system in all cases, to any extent, and wherever needed, internally or externally.

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In short, it is now an established fact, that if Nature fails to *make* good blood, *we can introduce it.* Nothing of disease, so far, has seemed to stand before it.

Apart from private considerations, these facts are too momentous to mankind, and now too well established, to allow any further reserve or hesitation in asserting them to the fullest extent.

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Daily Clinical instruction in the spacious Wards and Theatre of the Hospital will be given by members of the Hospital Staff on all interesting cases, Medical and Surgical. ☞ Arrangements have also been made for the delivery of *daily clinics*, out-door, in-door and bedside, in the *Hospital*, by the respective members of the in-door and out-door Hospital Staff, which has been recently largely increased.

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Full information respecting Lectures, Fees, Gold and Silver Medals, Scholarships, Certificates of Honor, Graduation, Diplomas, Fellowship, etc., will be given in the Annual Announcement.

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The **Maryland Medical Journal**:—"The subject is treated in a very thorough and scientific manner. The author has read the literature of the subject with great care. . . . . The book is an excellent one."

Archives of Pediatrics, New York:—"It is thoroughly up-to-date as to the infectiousness of consumption, its *de novo* origin, pos-ible open-air growth of the b.cillus, etc., and thus commends itself to the profession."

Dominion Medical Monthly:—"Chapters 8, 9 and 10 are alone well worth the price of the book."

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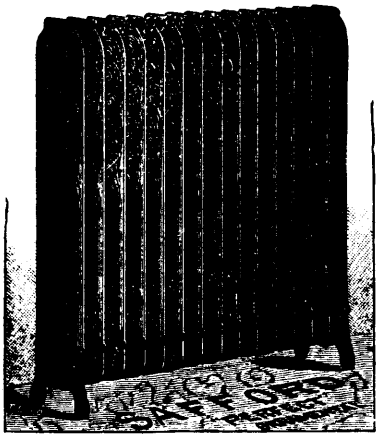

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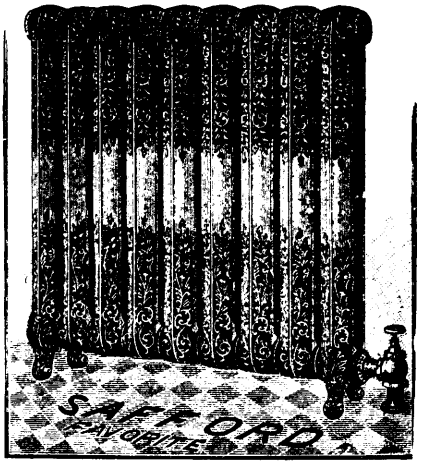

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4th Prize, $50 in cash, Dr. W. R. D. Blackwood, Philadelphia, Pa., "Pr, Vias Rectas."

5th Prize, $25 in cash, Dr. D. S. Maddox Marion, O., "Rob Roy."

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$10 Prize, Dr. C. Fred. Durand, Lockport, N.Y., "Ad astra per aspera."

$10 Prize, Dr. D. W. Dryer, La Grange, Ind., "Roentgen X Rays."

The various essays were, with but few exceptions, of a high order of excellence, both from a scientific and literary standpoint. We have been much gratified to note the interest to which this competition has given rise, and desire to extend our thanks to each and every contestant whether successful or otherwise.

A pamphlet containing the successful essays, with portraits of the authors, is now in press; it is being printed on good paper and in legible type, and will be mailed, together with a handsome fac-simile of Prize Painting in 14 colors, suitable for framing, to every physician sending his request for same to

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Fairchild's Essence of Pepsine, *made direct from the fresh rennet of the nursing calf, is of peculiar value in infantile indigestion, as a stomachic, antiseptic and corrective.*

The Milk-Curdling Ferment *has a distinct physiological action in the infant's digestive economy. It renders the curd more flocculent and digestible.*

WHEY, *prepared with Fairchild's Essence of Pepsine, contains all the soluble constituents of the milk, separated from caseine and fat, and is therefore a valuable "rest" food under conditions so favorable to fermentation that whole milk must, for the time, be avoided.*

JUNKET *(made with Fairchild's Essence of Pepsine), a soft, jelly-like milk curd, is a delicious food for the invalid, giving the sense of substance craved by the convalescent, yet readily diffusible in the stomach, and very digestible.*

MEDICATED JUNKET. *The junket is an admirable, tasteless vehicle also for the mercurials, iodides, chloral, sodium salicylate, etc.*

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