

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.
- Additional comments /
Commentaires supplémentaires:

Continuous pagination.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression
- Includes supplementary materials /
Comprend du matériel supplémentaire
- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.

THE CANADA MEDICAL RECORD.

VOL. XVI.

MONTREAL, DECEMBER, 1887.

No. 3.

CONTENTS.

ORIGINAL COMMUNICATIONS.			
Clinical Lecture. On Pityriasis Versicolor.....	49	Local Treatment of Diphtheria.....	64
Therapeutic Clippings from the London (England) Hospital....	50	Infantile Marasmus.....	66
PROGRESS OF SCIENCE.		The Dyspnea of Asthma and its Treatment.....	68
Recent Advances in the Treatment of Pulmonary Consumption....	51	The Terrors of Childhood.....	68
On Diabetes.....	57	The Treatment of Rheumatism.....	69
Antipyrin in Rheumatism; its Value and Mode of Action.....	61	Small Doses.....	69
		The Treatment of Colds.....	70
		Compound Wine of Creosote for Pulmonary Disorders.....	70
		The Use of Indigo as an Emmenagogue.....	71
		Puncture and Injection of Ether and Iodoform in Purulent Abscess of Buttocks.....	71
		On Nasal Vertigo.....	72
		EDITORIAL.	
		Personals.....	72
		The London Illustrated News.....	72
		REVIEW.....	72

Original Communications.

CLINICAL LECTURE.

ON PITYRIASIS VERSICOLOR.

Delivered at the Montreal General Hospital, Oct. 11th, 1887.

By F. WAYLAND CAMPBELL, M.D., L.R.C.P. London, Professor of the Practice of Medicine in the Medical Faculty of the University of Bishop's College.

This disease is characterised by yellowish-brown spots of variable size, slightly, if at all, raised above the surface and scattered over the chest, abdomen, upper extremities and back, and slightly desquamating in the center. We sometimes meet with cases where the patches are very large, scarcely broken by a patch of healthy skin. Fortunately the disease rarely attacks the face. It is seldom, if ever, met with in very young children, is most common in adults, and very rare in advanced life. It is met with among those who perspire freely. The disease is due to a fungus, which seems to require a dry location for the performance of its work. The reason why the disease does not appear on the face and hands is the fact that these parts have soap and water freely applied to them, and thus the uppermost epidermic layers in which the fungus has its seat are worked off. In men it is sometimes met with in the genitals, that is on these portions of the thigh, on which the serolum rests. Here the skin often acquires a brownish red or copper color. In females it is common on the pubic region and on the Labia majora. The spreading of the spots is often slow, though I have seen it attain considerable dimensions in a very short time. In the fall and winter the disease is most

generally met with, on account of less bathing and warmer clothing. The fungus of this disease is called *Microsporon* "*Furfur*." Pityriasis Versicolor may be confounded with macular syphilide, and pigment remnants of other eruptions. Its decided brown color, slight desquamation and easy removal of the upper layer with the finger nails, will readily prevent an error in diagnosis.

Treatment.—The great object should be to cast off the upper layers of the skin in which the "microsporon" has its seat, and for this purpose, I know nothing superior to a lotion of $\frac{3}{4}$ s to $\frac{3}{4}$ j of Hyposulphite of Soda to an Oj of water. This lotion should be freely applied to the spots by means of a fine sponge, several times daily. Yesterday, I had at the out-door clinic, a woman, who on the 3rd of this month presented herself to me, with well marked Pityriasis Versicolor, principally on the chest and shoulders, and for whom I prescribed this lotion; its effects was everything that could be desired, and on her return yesterday she was practically cured. The case before you now you see for the first time to-day. I shall adopt the same treatment and in a week I hope to be able to show her to you perfectly cured. Frictions by green soap—with a copious bath daily, will at times be found useful. Ointment of chrysarobin ten to 20 per cent., pyrogallic acid, five to ten per cent., salicylic acid of like strength and thymol of five per cent. are all useful, but my experience is decidedly in favor of the lotion of the Hyposulphite of Soda.

LUPUS.

The morbid process consists in the fact that the skin is penetrated by a specific virus at present

unknown, but believed by many to be identified with the bacilla of tuberculosis. This virus excites inflammatory action and thus gives rise to small patches of inflammation generally situated along the course of the vessel. On the other hand, it is looked upon as being the cutaneous manifestation of a strumous diathesis. There are several varieties of this disease, but the variety that attacks the nose, as a rule, may be lupus maculosus and exfoliatus, which latter is the form we have in the case before us. There is first an infiltration on the ala or the dorsum of the nose. With the absorption of the infiltration there is shrinking, mutilation and diminution of the nose. Before this occurs, however, there is a small yellowish red papule, which appears near the ala, and these very often coalesce till they assume a prominent and elevated patch or else the volume of the nose is increased. This organ is now brownish red in color, irregular, with knobby elevations, the surface rough, with small ulcers covered with thick crusts. These ulcers continue to eat their way behind these crusts, and when at last they are removed the destruction of the nose has been all but complete. Lupus is much more common in females, than in males. The prognosis is generally favorable, though the disease is, in every case, in danger of recurring.

Treatment.—Has two objects: 1st. To arrest the development and progress of the pathogenetic virus. 2nd. To destroy the morbid products already deposited. To accomplish the first object, it is necessary to destroy locally the virus, and give medicine internally. Iodoform is highly recommended, Pot. Iod. is an old but useful remedy. It must be taken for a lengthened period. Cod liver oil, with or without the addition of pure iodine or creosote, arsenic, iron, quinine, also general diatetic treatment. To remove the virus, we must destroy the morbid products already produced. For this purpose caustics are the best. Do not use Caustic potash or Vienna paste. A combination known as Cosme's paste, modified by Hebra—composed of white arsenic, artificial Cinnabar, and fat is highly recommended, because it does not destroy healthy skin. Nitrate of silver is next to useless, for the action of the silver does not extend beyond the part treated. Pyrogallic acid is perhaps the best local application. It destroys all Lupus tissue, and spares the healthy skin. Moreover its cicatrices are slight—soft and smooth. It is best applied in the form of a 10 per cent.

ointment applied spread on linen. It should be tied firmly to the diseased part, and changed night and morning for three or four days. By this time a black deposit lies upon the surface. The pain during this application is slight, it does not begin usually till the third day, and continues only when the ulcerated surface is uncovered. As an after dressing carbolic acid or thymol or iodoform, either powder or a 10 per cent. ointment or an ointment of v gr. of Biniodide of Mercury to the ounce of lard. On the other hand if the diseased part is small, it is suggested to bring the surgeon's knife into play and excise the part. Dr. George H. Fox, the well-known Dermatologist of New York, says: "much destruction of tissue and consequent disfiguration might have been spared in hundreds of cases by a timely use of the knife," whether the part be removed by the knife or by cauterization—the exposed surface will not as a rule heal up under three weeks.

THERAPEUTIC CLIPPINGS FROM THE LONDON (ENGLAND) HOSPITAL.

(Specially reported for the CANADA MEDICAL RECORD, BY DR. ROLLO CAMPBELL.)

Dr. James Anderson frequently prescribes the following combination in the Dysmemorrhœa of Amœmia.

Mist. Ferri Co., (Griffith's Mixture)	℥ ss.
Decoct. Aloes Co.,	℥ ss M.
Signe Ter in die.	

Chorea is at present very prevalent in London and the plan of treatment which is followed in the London Hospital is rest, good food and Liq. Arsenicalis, either alone or, if the patient be anæmic, in combination with some preparation of Iron (e. g. Ferri et Ammonia Citrate.) If the chorea movements are very severe and prevent sleep, Potass. Bromid. is prescribed with the Arsenic.

Dr. Stephen Mackenzie is at present testing the therapeutic powers of Antipyrin, Antifebrine, Salol and Salicylate of Soda, in the treatment of Acute Articular Rheumatism.

In a case of Eczema Impetigo Dr. Mackenzie directed the following plan of treatment; first soften the scabs with some oily application, then wash it (oil) off with tepid water and lastly apply

Unguentum Zinci Oleatis. (Zinc. Oxid. grs. xxx.
Oleic Acid. $\frac{5}{3}$ ss. Vaseline ad. $\frac{5}{3}$ i.)

In Pediculosis Capitis, Dr. Stephen Mackenzie uses the following test to distinguish the ova found on the hairs, from the small scales found on the hairs in Seborrhoea Eczema and Pityriasis. If it be an ovum, this being attached to the hair by an albuminous substance or collar will allow of its being slipped up and down the hair without falling off; if it only be a dried scale found in Seborrhoea it will at once fall off on attempting to move it.

Mr. Mansell-Moullin, surgeon to the London Hospital, says that as a general rule ulcers situated on the lower extremity (leg) above its middle are syphilitic in origin.

The following is a good rule, laid down by Paget for applying passive movement to stiff joints, "if the affected joint is at any one time of the day, colder than the opposite (healthy) one, then you can use passive motion, and the more frequently the better.

In a case of Lichen planus, with smooth flat lapped, shining papules, accompanied by pigmentation and itching, Dr. Mackenzie advised the use of Liq. Carbonis Detergens, Carbolic Acid, or the Unguentum Zinci Oxidi.

There is at present in the London Hospital a man suffering from that very rare skin affection known as Hyroa. He is being treated at present by daily hot baths, in which he remains for several hours, after which the affected parts are smeared and kept covered by some oleagenous preparation. He was formerly on the Arsenical treatment and improved for a short time, and when Arsenic failed Iodide of Potassium appeared to exert a beneficial effect, but this remedy has lost its power, and warm baths are now alone used.

The following recipe, from the Pharmacopoeia of the London Hospital, is of occasional service

℞. Gallic Acid.	grs. x.
Diluted Sulphuric Acid.	M. x.
Tincture of Opium.	M. v.
Distilled Water.	$\frac{5}{3}$ i. Mix.

For one dose.

The following is a very useful astringent mixture for use in Intestinal Hemorrhages, etc.

℞. Acid Sulph. Aromat.	M. xv.
Spts. Chloroformi.	M. xx.
Tinct. Camph. Comp.	3 i.
Decoct. Hoematoxyli ad.	$\frac{5}{3}$ i, M for a dose

"Mistura Bismuthi Compositor."

℞. Bismuth Subnit.	
Magnes. Carb. aa.	grs. xv.
Pulv. Tragacanth Co.	grs. x.
Tinct. Calumb.	m. x.
Aqua Chloroformi ad.	$\frac{5}{3}$ i. M. For a dose.

Progress of Science.

RECENT ADVANCES IN THE TREATMENT OF PULMONARY CONSUMPTION.*

BY SOLOMON SOKIS COHEN, A. M., M. D.,

Lately Chief of the Medical Clinic, Jefferson Medical College Hospital, Philadelphia.

Whether our efforts be directed toward cure—that is, toward putting our patients in a condition that permits them to recover; or whether we aim at the prevention, which is better than cure; excluding from consideration measures purely palliative, the objective therapeutic point may be summed up in one word—Nutrition. Of those methods intended to promote nutrition, first in importance comes the subject of superalimentation; to which the prominent attention it deserves was directed by Debove's communications upon forced feeding, or gavage, in 1881 and 1882.

Debove being convinced that many consumptive patients, despite loss of appetite, maintained comparatively good powers of digestion and assimilation, determined to resort to mechanical feeding. He therefore passed into the stomach, through the mouth, a flexible rubber tube connected with a funnel (such a tube as had been employed for lavage—washing the stomach—and the method of introducing which will be described in the latter connection); and by this means introduced much larger quantities of food than the patients would voluntarily swallow. The taste of the aliment thus administered becomes a matter of no consequence, and we are, therefore, able to select that which will give the most nutriment in the smallest bulk. Meat powders were adopted as the basis of Debove's nutritive mixtures; but milk, eggs, soups, and farinaceous powders may be used, either separately or in conjunction therewith. When necessary, pepsin, pancreatin, hydrochloric acid, etc., may be added, or peptonized aliments be employed. A mixture that was

Read before the Medical Society of the State of Pennsylvania, June 30, 1887.

used with advantage by Dr. Stern, of Philadelphia, and myself, in the cases of two patients treated at the Philadelphia Polyclinic, consists of a quart of milk, two tablespoonfuls of beef powder, three eggs, fifteen grains of scale pepsin, and thirty drops of dilute hydrochloric acid, warmed, and administered twice a day; the patient eating what he wished in the interval. In hospital service forced feeding is practised three times daily, but in private practice, we must be content with what is possible.

Meat powders may be purchased in the shops, or can be prepared at home by cutting boiled meat into little pieces, drying thoroughly by means of a water bath, and grinding in a coffee mill. Powder so prepared is said by Dujardin-Beaumetz to answer its purpose very well. The farinaceous powders used in France are prepared from cooked lentils, malted lentils, and maize. I have no personal experience with them, but they are said to be highly nutritious. About seven ounces of the alimentary powder, whether meat or farina, or both, are mixed with a quart of milk or water, the milk being added slowly to form a paste, which afterward dissolves readily in the additional liquid. When the long tube of Debove cannot be passed, or when patients will not allow it to be passed, it often suffices simply to pass the entrance of the œsophagus with a shorter tube, as recommended by Stoerk; or to make use of the special apparatus of Dujardin-Beaumetz or Bryson Delavan, which consists of a glass jar with two tubes; one of which, above the level of the fluid, communicates with a hand-bulb for supplying compressed air, the other, below the level of fluid, communicating with a short œsophageal sound of small calibre; an ordinary rubber catheter will answer at a pinch. When the bulb is compressed, fluid food is driven over. Efforts of swallowing on the part of the patient will facilitate the process.

From the reports made by reliable observers in France and elsewhere, as well as from a few cases under my personal observation, I feel no hesitancy in affirming that remarkable gains in weight may be obtained from forced feeding, and that very often there will be concomitant recession in febrile and other phthisical phenomena. Improvement in physical condition of the lungs has been reported, but I have never succeeded in keeping a patient under the treatment long enough to verify this by personal observation. American patients in private or dispensary practice are not as tractable as foreign ones, in these matters, and I have no opportunity of conducting the treatment of phthisis in hospital wards. To secure the benefits of superalimentation with the great run of patients, I have had to employ alimentary mixtures similar to those of the gavage process, by natural methods. The dietary advised is a largely nitrogenous one, of which beef, raw or rare, broiled or roast, forms the principal item; there being added sufficient milk, eggs,

fish, lamb, mutton, leguminous vegetables, and greens; fruits in season, large quantities of butter, with small quantities of bread, potatoes, and starchy foods in general. Alcohol is employed as a food when it is necessary to obtain force with the least expenditure of digestive energy.

Fried foods of all kinds, pastry and other indigestible matters, are of course prohibited. Patients are advised not to allow more than three hours to pass without taking food, except during sleep; to drink a glassful of cream or milk, or cream punch, milk punch, or egg nog, just before going to bed, and to have milk at hand to drink in case of waking during the night or early morning. Not more than three set meals daily are advised, but in the intervals milk, with or without alcohol, chicken soup, bouillon, rich broths, are administered; as a vehicle usually, for the beef-peptonoids of a well known firm of American manufacturing chemists. Of this preparation it is endeavored to give not less than two ounces daily, and the amount may be increased as circumstances require. Various preparations of meat juice purchased in the shops, or prepared at home, may be used in the same manner, according to indications. The aim of the treatment is to supply enough nutriment not alone to counter-balance current waste, but to make up previous excess of waste over repair, and the details must be elaborated in each case with regard to individual condition. Cod liver oil, we well know, is an advantageous addition to the dietary in some cases, but not so many as we have supposed. At least it is not indispensable. Oleaginous inunctions are often of considerable benefit.

When overfeeding by natural methods fails, or when the patient is unwilling or unable to swallow the necessary quantity and quality of food, resort should be had without hesitation to the œsophageal tube and forced feeding.

But having supplied the proper kind and amount of aliment, we must place our patient in a condition to digest and assimilate it. It is true, as already suggested, that we may make use in certain measure of predigested foods, and that we may assist digestion in other instances by the administration of the digestive ferments; but our endeavors must not cease there.

The problem before us naturally divides itself into three parts: First, the preparation of the digestive tract, to elaborate and to absorb the chylous fluids—primary assimilation. Second, the promotion of the complex process of the breaking down and displacement of imperfect tissues and effete products, and replacement by new and vigorous tissues, with evolution of forces required in the economy; *i. e.*, metabolism—secondary assimilation; and third, the promotion of the excretion of waste products.

The first desideratum is endeavored to be secured by methods which cleanse, disinfect, and stimulate the digestive canal; varied in detail according to circumstances. When we have reason to sud-

pose, for example, that a sluggish gastric catarrh interferes with digestion, washing out the stomach may be practised with good effect. The procedure is quite simple. A stomach-tube of similar material to French catheter tubing, about 28 inches long, and from $\frac{1}{4}$ inch to $\frac{7}{16}$ of an inch in diameter, is attached, by a short section of glass tubing, to a soft rubber tube about one yard long, in the extremity of which is inserted a hard rubber funnel of about six-ounce capacity. The stomach-tubes having been dipped into warm water or warm milk, is introduced into the œsophagus and propelled by successive pushes, or swallowed by the patient; and the funnel being sufficiently elevated, from a pint to a quart or more of warm water (100° F.), in which is dissolved a drachm or two of borax, table salt, or baking soda is slowly poured into the funnel. As the last of the fluid is passing out of the funnel, the latter is rapidly inverted over a receptacle on the floor, and the contents of the stomach are thus siphoned out. The manoeuvre is repeated until the returned water is clear. This process, called lavage, which, as already stated, suggested gavage, and is practised in much the same manner, leaves the gastric mucous membrane in excellent condition for digestion and absorption. It may be immediately followed by gavage, as recommended by Du'jardin-Beaumtz. The drinking of half a pint to a pint of hot water, half an hour to an hour before meal time, will sometimes accomplish much the same purpose, and is, of course, less troublesome.

When a condition of septic fermentation is believed to interfere with digestion, a suitable anti-septic agent, such as carbon-disulphide water or solution of hydrogen dioxide, may be introduced into the lavage solution, and a portion allowed to remain a few minutes in the stomach; or creasote, carbolic acid, iodoform, the solutions mentioned, or other agents may be administered in the ordinary way. When the intestinal canal is believed to be the seat of the trouble, we may attempt to wash it, indirectly by lavage, or by potations of hot water, or to medicate it with creasote, bismuth, sulphocarbulates, mercurials, iodoform, sulphides, naphthalin, or other appropriate drugs. I have reason to believe from the effect produced upon some cases of phthisis attended with diarrhœa, that the injection per rectum, of hydrogen sulphide, directly or indirectly arrests septic fermentations, in the small intestine.

To aid digestion, stimulate digestive secretion, and promote absorption, in addition to the measures already referred to, preparations of malt, Hoffmann's anodyne, bitter tonics, nux vomica, arsenic, preferably Fowler's solution, iron, nitro-hydrochloric, nitric and phosphoric acids, trinitrin, and other appropriate medication may be employed when indicated.

Nutritment being administered, digested, and absorbed into the blood, must be converted into vital forces, and into tissue. Exercise and respiration are the natural means to effect this.

"Respiration," said Arbuthnot, "is the second digestion."

When the patient is able to carry out the instructions, and when there is a sufficiency of unimpaired lung tissue, respiratory gymnastics, and voluntary forced respiration may suffice. Ordinarily, however, these measures will not be sufficient and must be replaced or supplemented by a method which affords mechanical assistance to respiration independent of voluntary exertion. This method offers itself in the inhalation of compressed air, a subject which will always be associated with the name of its great promotor, Waldenburg. The air is inspired under an excess pressure, gradually increased from 1-80-1-60 up to 1-40 or 1-30 of an atmosphere. Expiration is ordinarily made into the atmosphere; sometimes into rarefied air. The inhalations are administered once or twice daily. At each period, ten or fifteen, twenty-five or thirty, up to one hundred or more respiratory acts are completed in five to fifteen minutes, and the process is repeated after an interval of about ten minutes.

The value of this procedure as an aid to nutrition, formed the theme of a paper I read before the Pennsylvania State Medical Society last summer, and needs not now to be elaborated. Let me, however, briefly recapitulate the principal points. The inhalation of compressed air, dilating the air-cells as it does, by gentle and equable pressure, aids nutrition by securing the proper exposure of venous blood to the atmosphere, facilitating the disengagement of carbon dioxide and the taking up of oxygen to be carried by the hæmoglobin to the tissues, and assist in force-production and tissue-building. The mechanism by which this is accomplished is complex. The air passages are cleansed from decomposing products of secretion and desquamation, and the alveoli are reopened in unused, blocked, and partially consolidated areas of pulmonary tissue, thus securing efficient pulmonary ventilation. Increase of partial pressure favors dissociation of carbon dioxide and association of oxygen in the pulmonary capillaries. Direct pressure and pressure differentiation tend to promote the relief of congestion in the lungs, the absorption of inflammatory congeries of new cells, and the stimulation of both intra-pulmonary and peripheral circulation. Increase of blood pressure, further, stimulates the production of lymph. Thus is secured not alone the exposure by increased volume and rapidity of pulmonary circulation, of a greater number of corpuscular oxygen carriers to the increased volume and weight of inspired oxygen, under the conditions most favorable to oxidation of hæmoglobin, but also the penetration of the corpuscles with their vitalizing burden in the nutrient lymph-stream, further into the tissues. This latter effect may theoretically be heightened by a measure advocated by Prof. Bartholow in simple anæmia, with sluggish peripheral circulation; namely dilatation of the terminal vessels by means of trinitrin (nitroglycerin). I have as yet no avail-

able experience with nitroglycerine in phthisis.

One circumstance, which had long militated against the popularization among the profession of pneumatic treatment, was the cost and cumbersome clumsiness of the necessary apparatus. In 1883, with the assistance of Charles Richardson, of the house of Queen & Co., Philadelphia, I succeeded in largely obviating these objections by means of an apparatus, which can not only be employed in the physician's office, but may be entrusted to the management of the patient or his friends at home, and is comparatively inexpensive. It is fully as efficient as the apparatus of Waldenburg, upon which it is modelled, and, like its original, is superior to a certain widely advertised and extravagantly costly patented instrument, devised in 1885. It consists simply of a small gasometer and a foot-bellows. The inner cylinder is weighted at the bottom, in order to throw the centre of gravity as low as possible, and preserve its steadiness without pulley or flanges. Air is pumped in by means of the foot-bellows, the supply valve of the latter being connected with a rubber tube of large aperture, which is placed out of the window, to secure pure, fresh air. Without additional weighting the inner cylinder gives the pressure of 1-70 of an atmosphere. By placing additional weights on top, the pressure may be increased to any desired amount up to one-fortieth of an atmosphere. The supply of air is continuous, and the patient may inhale directly from the apparatus, or the stream of inspired air may be made to pass through a Wolff bottle containing terebene or other volatile medicament.

The mouth and nose are covered with a mask to exclude atmospheric air, and the ingress and egress of respired air are regulated by a stopcock. For detailed information as to the use of compressed and rarefied air, time requires me to refer to my previous communications, or to the text-books on inhalation.

To the administration of compressed air inhalations, twice a day, is to be added, when possible, due exercise in the open air; and when this is not advisable or possible, passive exercise by massage, frictions, and similar measures. Three hours after meals, during the culmination of digestion and the activity of absorption is the preferable time for open-air exercise. In the presence of active febrile processes, both active and passive exercise are to be moderated or even interdicted. Compressed-air inhalations, however, need not be abandoned. Inhalations of nitrogen have been recommended to abate fever. I have not tried the measure.

Digestion, absorption, assimilation, metabolism being assisted, it remains to promote the excretion of waste, in order to rid the system of the now well-recognized danger of auto-intoxication by leucaines, ptomaines, etc., and to make room for reconstructive materials. Stimulation of the emunctories by diuretics, cholagogues, cathartics, even diaphoretics are here indicated; but drugs should be avoided as far as possible, and when absolutely

indicated, only the mildest remedies are to be chosen, these being promptly discontinued when the desired effect has been produced.

Our general tonic medication, exercise, forced respiration, etc., will, of course, assist directly, and indirectly, as emunctorial stimulants. The daily sponge bath, which, to the well, is a matter of comfort and cleanliness, becomes to the consumptive a measure of therapeutics. The drinking of water, preferably hot, is again applicable as the best of diuretics and a potent diaphoretic. Lemon juice and sugar may be added to render it more palatable, the former indeed, increasing its value as a diuretic. Nitro-hydrochloric acid is among the best hepatic stimulants in this connection. An enema is ordinarily the best method for emptying the bowels. To overcome intestinal torpor the same measures employed under other circumstances, nux vomica, belladonna, faradism, etc., may be resorted to. Among the preferable cholagogue cathartics, are podophyllin and rhubarb.

The indications thus far considered may be fulfilled in the generality of cases by the following routine:

1. An abundant and proper diet, as already discussed; gavage, if necessary.
2. The drinking of hot water, or hot lemonade; lavage, if necessary.
3. Moderate open-air exercise; respiratory gymnastics; daily inhalations of compressed air.
4. The administration of some such pill as this, three or four times a day: Iodoform, 1 to 2 grains, creasote one-half minim to one minim; to which may sometimes be added: reduced iron, 1 grain, or arsenious acid, 1-60th to 1-20th grain, the pill being made up with glucose, crude petroleum, or extract of licorice, with the addition, if indicated, of some bitter extract, such as gentian, cinchona, or nux vomica, and dispensed in capsule. Among other useful prescriptions may be cited, when iron is indicated: Compound syrup of phosphate of iron (Parrish); tincture of chloride of iron, dilute phosphoric acid, and Churchill's syrup of hypophosphites (J. Solis Cohen); the officinal syrup of hypophosphites and iron, etc. Iron seems to be better borne by the stomach, and to be more readily appropriated by the red blood-globules when inhalation of compressed air is practised. I have noticed this even in non-phthisical anæmia. Cardiac weakness, excessive febrile action, and other conditions may call for appropriate medication.

Although the ordinary administration of drugs is beyond the limits proposed to be discussed in this paper, it may be interpolated, while upon the subject of internal medication, that great improvement is, in many cases, apparently due to the use of iodoform, both singly and in combination, in doses ranging from one to five grains three times daily. Gains in weight are often very gratifying, when sufficient food is furnished. Thus I recall a patient under my care in the medical clinic of Jefferson College Hospital, who, although far gone in the disease, and doubtless, beyond the possibility

of permanent restoration, gained eleven pounds in one month while taking a pill of iodoform, two grains, three times a day, and drinking from one to two quarts of milk daily with the addition of beef peptonoids.

Crude petroleum, like creasote and tar products in general, seems to have a favorable influence upon cough and expectorations. The good effects of iron and arsenic in anæmia and malnutrition generally are well known. Their action in phthisis needs no other explanation. It is due primarily, I believe, to direct influence upon digestion; secondarily, to general stimulation of constructive metamorphosis.

Thus far we have considered, in the main, measures directed to the general system. To the inhalation of compressed air, a measure designed in part mechanically to counteract local pathological conditions, and to the administration of iodoform and creasote, drugs devoted in part to the restriction of morbid histological action, we may add some of the newer devices immediately directed against the local morbid processes, in part or in whole.

First in this division of our theme, is the subject of medicinal inhalations. This might well be made the subject of an elaborate paper. Time permits but a hasty indication of its value. The general profession has been unaccountably slow to realize the advantage of a method which permits of direct medication of the respiratory tract in greater or less extent. This hesitation may have been produced by the extravagant claims of some unbalanced observers. I will try to avoid that error, but I cannot help speaking with enthusiasm. There are certain volatile medicaments long known to exert favorable influence upon pulmonary diseases, although the method by which they operate is a matter of dispute. From a purely empirical standpoint, then, I will enumerate, in the order of merit, those that appear to me to be the most generally useful. These are, creasote, ethyl iodide, terebene, spirits turpentine, tincture benzoine, spirits thymol, and spirits chloroform. Eucalytol is often useful, but, in the main, has disappointed me. Whatever the reason may be that the atmosphere of pine woods benefits those suffering with chest troubles, is the reason that terebinthinate inhalations at home have sometimes an almost equally good effect; especially so, it seems, if combined with oxygen. Ethyl iodide, besides some specific effect of its own, offers a ready means of local and general iodization without disturbing the stomach; to preserve it, it should be mixed with alcohol, and dispensed in a dark bottle.

In chronic processes, creasote, terebene, and ethyl iodide are employed for general good effect. To control subacute epiphenomene, terebene and ethyl iodide are most frequently resorted to. Benzoine is preferable for acute catarrhal processes. Thymol is sometimes substituted for creasote when the odor is a source of complaint. Chloroform finds indications as a sedative to troublesome cough and

as a mitigant of the sharpness of some specimens of terebene. Burrough and Welcome's terebene is to be preferred for internal use, but the commercial terebene (Merck's) seems better for inhalation, and very often requires the admixture of chloroform or spirits of chloroform. These agents may be inhaled from a wide-mouthed vial, but preferably from the sponge attached to the little perforated zinc respirator, devised by Dr. Burney Yeo, of London, which may be worn almost continuously, with very little inconvenience, thus keeping up a desirable effect. Many patients wear the respirator during sleep, and are perfectly comfortable. Fifteen or twenty drops of a mixture consisting, for example, of equal parts of creasote, terebene or ethyl iodide, and spirits of chloroform or alcohol, may be dropped on the sponge, and renewed two or three times a day. One of the volatile substances enumerated may be floated on the surface of water in a Wolff bottle, connected with the compressed-air apparatus, or with a reservoir of oxygen. Terebene is the one usually chosen for this purpose. Vaporous sprays of various antiseptic, stimulant, or sedative solutions may be administered by means of the Oliver or globe atomizer, or one of the many contrivances depending upon the same principle—a combination, that is, of the Bergsson and Sales-Giron methods of nebulization, giving a very fine mist which apparently penetrates the air-passages for some distance. Messrs. Godman and Shurtleff have, at the suggestion of Dr. J. Solis-Cohen and myself arranged a neat combination of the Oliver atomizer with the stopcock of a compressed-air apparatus. Should this device stand the test of experience, I will describe it in a future paper. Hydrogen dioxide suggests itself as a valuable drug for use in this manner.

Acting upon a recommendation of Prof. Bartholow's, I am making some observations on the inhalation of sulphurous acid gas, an old remedy, by a new method. It has been found that carbon dioxide and sulphur dioxide, both extremely rebellious gases when attempt is made to liquify them separately, may, by a comparatively slight pressure be together brought into a liquid form and confined in an ordinary mineral water siphon bottle. On releasing the pressure, they immediately return to the gaseous state, and the air of an apartment may thus be readily charged with any desired quantity. The diffusion and probably the mixture with carbonic acid robs the sulphurous acid, to some extent, of the suffocating properties it exhibits when inhaled undiluted. The dose is to be regulated in each case by the individual capacity to breathe the sulphurous atmosphere—which varies greatly—and the patient is to pass as much time as may be practicable in the medicated apartment.

Sufficient time has not elapsed since I have been able to obtain the liquid referred to, to venture a positive expression of opinion from my individual experience. I believe that it will prove to be a valuable addition to our resources. This leads,

naturally, to the subject of gaseous injections of carbonic acid and hydrogen sulphide. At the time that I had announced the sub-titles of this paper, the Bergeon method of treating phthisis was a novelty in this country; but as the members of this Society are now beyond doubt thoroughly familiar with it, instead of describing the process in full, I shall simply give a few practical points, the result of personal experience: First, as to the method of preparing and using the gases; and, secondly, as to what may and what may not be expected of it.

The intelligent physician will "prove all things and hold fast to that which is good," even though imperfect experience may decry as utterly useless that for which unbalanced enthusiasm had claimed too much. He will not hold scientific investigators responsible for the vagaries of irresponsible newspaper reporters, nor reject that which palliates, because it does not infallibly cure. In the first place, we must remember that the effect of the Bergeon injections is produced by the elimination of the hydrogen sulphide (or other active agent) through the air tract. Unless we obtain evidence of this elimination by recognition of the odor in the expired air, or the blackening of test paper of plumbic acetate (in case H_2S be employed) by the breath, we are not securing the proper effects, and cannot expect improvement. Failing to secure this evidence in many cases, with most of the natural waters used, I have been well satisfied by the use of the solution recommended by Yeo after Bardet, which is prepared by adding to eight ounces of water three drachms each of the following solutions:

No. 1.—Sodium sulphide (c. p.)	$\frac{3}{4}$ ss.
Distilled water	$f\frac{3}{4}$ vj.—M.
No. 2.—Tartaric acid	$\frac{5}{8}$ j $\frac{3}{4}$ ij
Salicylic acid	$\frac{3}{4}$ ss.
Distilled water	$f\frac{3}{4}$ vj.—M.

Secondly, to avoid colic and griping pains we must be sure no air remains in bag, bottles, tubes, or any part of the apparatus, and must warm the injected gases.

Thirdly, twenty minutes to half an hour must be consumed in the process. From four to six quarts of carbon dioxide should be used at each injection, after the first few to established tolerance. The patient should remain recumbent for half an hour after the cessation of the injection.

Fourthly, the best times for injections are just before breakfast, and just before going to bed—*i. e.*, three hours after supper.

Fifthly, patience and perseverance are necessary, both on the part of patient and physician.

Sixthly, tartaric acid is more easily carried and more neatly handled than sulphuric acid, and will disengage carbonic acid from sodium bicarbonate as quickly. About two parts by measure of tartaric acid to three of sodium bicarbonate is a good working rule.

This method of treatment is not designed to

destroy the bacillus tuberculosis, but to remedy those local conditions, mainly suppurative, which permit this microbe to find a suitable habitat in the lungs. A significant fact lately reported, and, if verified, of vast scientific importance in correcting current errors as to etiology, is that the sputum of patients thus treated, fails to produce tuberculosis in animals.

The effects of the treatment, as I have seen them in many, but not in all cases, are more or less rapid reduction of temperature, diminution of cough, improvement in the character of expectorated matters, promotion of sleep, increase of appetite, cessation of night-sweats. These palliative results, great in themselves, are still greater in the removal of obstacles to nutrition. The physical signs attributable to collateral catarrh and suppurative processes subside. I have seen no cure, but then there has not been time either to permit recovery or to test its reality. I have not noticed any marked recession in physical signs in the lung due to the tuberculous process itself; but in two cases, patients of Dr. J. Solis-Cohen's, I have seen cicatrization of laryngeal ulcerations apparently, tuberculous, with subsidence of pyriform tumefactions. This is a rare occurrence, even with assiduous local treatment, and in these instances local treatment was not instituted. In no case, however, have we abandoned superalimentation, or refrained from medication when it seemed to be indicated. I regard the Bergeon process as a good adjuvant to other treatment; but until I have larger and longer experience therewith, I should hesitate to place sole dependence upon it. To establish its proper value we must employ it in all cases, and find out in what group it seems to be most useful. I should say from my own experience, and from what I learn from my friends in Philadelphia, that the cases in which it appears to be most efficacious are neither those where the lung is hopelessly broken down, and it is powerless; nor those in which softening has not begun, and it is unnecessary; but those in which septicæmic processes, due to pulmonary suppuration, are a source of danger and a cause of depression; yet in which there is still a hope of prolonging life if the suppurative process can be controlled. When this has been accomplished, I should then feel disposed to resort to inhalations of compressed air. The latter are, indeed, the one great dependence in cases of early phthisis, and were I compelled to choose between compressed-air inhalations and all the drugs of the pharmacopœia I should unhesitatingly prefer the former. I know that I have seen consumption cured by its means. I have seen cases, in the practice of my brother, that have remained well for ten years, and know of some still living that have survived the predicted time of death even longer; and I am happy to say in conclusion that the patients of my own, whose cases I reported to this Society last year, are still alive, and to all appearances perfectly well. The treatment adopted in these cases and

carried out at home—obviating the expensive and often futile quest after a health-restoring climate—was superalimentation, compressed air, ethyl iodide and terebene inhalations, iodoform, creasote, and iron internally; measures directed not against a microbe, which is the evidence of disease, but against the malnutrition, which is its cause.—*Phil. Med. News.*

ON DIABETES.*

By F. W. PAVY, M. D., F.R.S.,

Senior Physician to Guy's Hospital, London.

Diabetes has always been regarded as an incurable disease, and although it has elicited much study, there are still many points open for investigation. The nature of the affection may be stated in very precise terms. It is simply a faulty assimilation or a faulty disposal of certain elements of our food. If we look to the food of man, we find that the chief elements of it are nitrogenous matter, fatty matter, and carbohydrates, that is to say, the large group consisting of starch, cane sugar, grape sugar, dextrine, etc., behave in the system, the one exactly the same as the other, so that it would be better to employ this general term.

In diabetes there is no difference in the behavior of the carbohydrates; starch behaves the same as cane sugar, the same as dextrine. It is this group of principles in connection with which there is a faulty disposal or a faulty assimilative action. The disease consists essentially of that. A healthy person, for example, takes one or another of the carbohydrates, and it is lost sight of in the system; we know nothing more with regard to it, and we assume that the processes of life are such as to lead to the transformation of this carbohydrate in such a manner that it shall be susceptible of utilization in the system. That is the case with the carbohydrates. That is the condition of health; but what is the condition of diabetes? In diabetes, one of these carbohydrates may be taken, and in proportion as the carbohydrate is taken so is sugar eliminated in the urine. We may therefore say, and it is merely the expression of a fact, that in the diabetic there is a want of assimilative power, there is a want of the power to dispose of what carbohydrates may be taken into the system as food. Thus far, I think, we have to deal with facts.

In diabetes the sugar reaches the general circulation in a manner that it should not do. In a state of health, analysis shows that only a trace of sugar exists in the contents of the general circulation—in the small proportion of 0.6, 0.7, 0.8 per thousand, so that when a carbohydrate is taken as food, it is stopped before it reaches the general circulation. Not so with diabetes. Here sugar exists to a large extent in the general circulation.

In proportion to the severity of the case will be the quantity of sugar contained in the general circulation. The carbohydrate which is taken as food does not stop before reaching the general circulation, but in proportion as it is taken, so does sugar appear in the urine. The sugar appears in the urine in proportion as it exists in the blood, and, therefore, the urine may be said to be the index of the diabetes.

The amount of sugar in the urine stands in direct relation to the amount of sugar in the blood. You cannot possibly keep sugar in the circulation; it will not remain there, but it will make its appearance in the renal secretion. Now I have at present only given expression to facts that may be observed.

But why does sugar thus get into the general circulation in diabetes? That is the important point. I think it is generally admitted that the liver constitutes the assimilative organ for the carbohydrates. The liver it is that stops the sugar, or the carbohydrate in its passage to the general circulation. The sugar is so changed by the liver that it is not permitted to arrive in the general circulation. Sugar in the organism is transformed into glycogen, and leads on to the production of fat. Its office may be demonstrated in the lower animals. If you want to fatten an animal quickly, feed it on an abundance of sugar. This, I think, demonstrates the use of sugar in the production of fat. The liver, then, I think, is a steatogenic organ, transforming the sugar into glycogen, and afterward into fat.

It seems to me in health that this is what occurs; that the carbohydrate absorbed from the intestine is stopped by the liver, converted into glycogen and then into fat, instead of being passed through the organ and appearing in the general circulation. If, however, it passes through the organ, we have diabetes. But what is at the bottom of this faulty process? It seems to be a wrong condition, apparently arising from a faulty condition of the venous blood. The liver is differently placed from other organs, in its large supply of venous blood and its proportionately small supply of arterial blood; and the blood which reaches it should be in a good venous condition. If it be not in a good venous condition, we have the chemistry of the liver immediately altered, and sugar appears in the urine.

This alteration of the portal blood may be produced in a number of ways, it may be produced by disease or by experiment, in the first place, by the injection of defibrinized arterial blood into the portal circulation. In a very short time after arterial blood from which the fibrin has been removed has been introduced into a vein of the portal system, we find sugar in the urine. The blood may be rendered saccharine by over-oxidizing the systemic blood. Experiments—not only my own, but those of others—have demonstrated this, that the carrying on of respiration in the lower animals more actively than normal, the

*A communication to the Section of General Medicine, of the International Medical Congress. Stenographically reported for *The Medical News*, and revised by the author.

heart's action continuing, will lead to the production of saccharine urine. If oxygen exist in the portal blood to an extent to which it ought not to exist, you will have saccharine urine.

How does this apply to diabetes? If you get a vaso-motor paralysis of the arteries of the body you will have that condition. If, as may be witnessed, we have a vaso-motor paralysis of the vessels of one side of the head and neck, we find that the veins of the region become distended, not with venous blood, but with semi arterial blood. As a result of such the blood will arrive at the liver without being fully de-arterialized, in other words, in an imperfectly venous condition. If the arteries of the abdominal organs of the chylopoietic viscera become enlarged so that the blood in them does not become perfectly de-arterialized, you will find the chemical action of the liver becoming changed so as to permit the carbohydrates to pass through it and get into the system, and so charge the general circulation with sugar. The worst forms of diabetes I have met with are those in which there is a dilated condition of the vessels of the mouth. For the production of diabetes, it is only necessary, I consider, for us to have a dilated condition of the vessels of the chylopoietic viscera. But the worst cases of the disease, as I have just said, are those in which this dilated condition of the vessels, due to vaso motor paralysis, has extended from the chylopoietic viscera and visibly involved the mouth. In these cases we have the presence of an exceedingly red tongue.

Again, puncture of the floor of the fourth ventricle, that celebrated experiment of Bernard, leads to the presence of sugar in the urine. Now what did Bernard himself observe in connection with the animals thus experimented upon? A dilated condition of the vessels of the chylopoietic viscera.

One of the first points to attend to in a case of diabetes is to test for sugar. Sometimes discordant opinions are expressed with reference to cases; one physician, for instance, will say that the patient is suffering from diabetes, while another physician will say that he is not suffering from the disease. Sometimes that depends upon the test made, at other times it depends upon its being a mild case of the disease, which presents varying conditions under the influence of food. If the patient has partaken freely of carbohydrates, sugar exists in his urine, and, if examined then, it is to be detected. Then he goes to another physician after he has not partaken so largely of the carbohydrates, or perhaps after a fast, and there is no sugar present.

We want a test that will give us a decided and reliable indication. I believe that the most reliable test for sugar in the urine is the copper test. What is ordinarily used is known as Fehling's solution. But there is this objection to Fehling's solution, namely, that it is apt to get bad after

being kept, because, if kept for a long time, it will throw down a precipitate; and, again, the stopper of the bottle, unless used often, is apt to become fixed, and when you want to use it you cannot get it out. Some time ago I came to the conclusion that it would be well if we could get the Fehling's reagents prepared ready for use in a solid form. I found, however, that when thus prepared the agents rapidly deliquesced and decomposed. Here, however, is a pellet which I have had prepared in which the difficulty has been overcome. It is composed of the copper sulphate, Rochelle salt, and caustic potash. It must be made in a certain way with the materials in an anhydrous state. The sulphate of copper is to be placed in the die first, then some Rochelle salt, next the potash, and finally some more Rochelle salt to complete the mass. If now we dissolve one of these pellets in a little water, we have first produced the greenish color of the copper, but, later, as the potash is reached, it becomes blue, as is characteristic of Fehling's solution. If these pellets are kept in well-stoppered bottles they will keep for any length of time. And there is this advantage about the pellet, that if it does become bad from the absorption of moisture, it becomes so bad that it cannot be used, and therefore there is no danger of its leading to error. It will, if exposed to the atmosphere, become altered, but it then turns black, so that the change is readily recognized, and it cannot be used. If I now add to this solution a little liquid containing sugar, and boil the mixture, the oxide of copper becomes reduced to the state of suboxide, just as in the ordinary testing with Fehling's solution. These pellets are now considerably used in England.

I do not think that a case of diabetes can be satisfactorily managed unless a quantitative analysis of the urine is made, and the amount of sugar contained in it is determined. I do not consider that a person can get along satisfactorily without knowing the amount of sugar that is being eliminated by the kidneys any more than he can get along in a case of thoracic disease without knowing, by the aid of the stethoscope, exactly the amount of disease existing there. In my own practice, I desire that two specimens be brought to me, one passed in the evening and the other upon rising in the morning. By an examination of this kind you can discover errors of diet in your patient that would otherwise escape you. You do not need to ask the patient at all what he has been eating, you can tell him. Errors of diet can be detected at once. You can not only detect that the patient is not following your instructions, but you can tell at what meal the error has been committed. Under ordinary circumstances, if the person is passing sugar (of course, if he is not passing sugar you cannot tell anything about it) you may find in the night urine a considerable quantity of sugar, and in the morning urine none at all. The sugar in the night urine has been derived from the carbohydrates

taken during the day. The morning urine has been derived from the blood during the night, and therefore in the interval of digestion, and thus may contain no sugar.

The urine of food may be quite different from the urine of fasting.

I remember once a patient whom I had treated for some time, coming to me with a bottle of night urine containing an unexpectedly large amount of sugar. I could not account for this sudden increase of the amount of sugar in it. I got him to enumerate the articles of food he had taken the evening before. Among the articles enumerated he named blanc mange, but he had frequently taken that before without injury. I told him to inquire, and that in all probability he would find that it had not been made in the usual manner; and upon doing so, he learned that it had been made with corn flour (corn-starch) instead of in the manner that had formerly been done, viz., with isinglass and cream. In another instance, I was able to tell a patient that she had taken her breakfast in bed. I found in this case that the night urine contained no sugar, while the morning urine was loaded with it. She had arisen late, and the only way of accounting for these conditions observed was on the supposition that she had eaten before arising, and this I found was actually the case.

Now we want some means of easily and precisely determining the amount of sugar contained in the urine. This can be done as follows: As we know and have just seen, in testing in the ordinary manner with the copper solution, the suboxide of copper is precipitated. In the method that I shall show you, instead of this, the solution remains clear, and becomes colorless, and the sugar is estimated from the amount of liquid being examined, that is required to decolorize a given quantity of the solution. The solution is made with the sulphate of copper, Rochelle salt, caustic potash, and water of ammonia. Into a given quantity of this the liquid containing sugar is dropped. It is best in testing urine to dilute it with twenty or thirty parts of water in order to make the test more delicate. The diluted urine is placed in a graduated curette, from which it is dropped into the ammoniated copper solution after the latter has been heated to the boiling point, letting it flow drop by drop until the color has just entirely disappeared. The dropping of the liquid into the test solution is guided by means of a screw adjustment affixed to the tube, which can be set so as to permit the escape of forty, fifty, eighty, or one hundred drops per minute. The beauty of the test is that the exact terminal point of the reduction can with the greatest surety be determined, for there is no precipitate to obscure the view of the reduction. You observe now in the apparatus before me that as the saccharine liquid drops into the boiling test solution the color is gradually disappearing and the liquid remains perfectly clear.

Sometimes, albumen is found in addition to sugar in the urine of the diabetic. Not infrequently you will find that when the patient first comes under your observation he has a considerable quantity of albumen in his urine, and that after he has been under treatment for the disease for a while the albumen disappears. This will permit me to bring to your notice a convenient test for albumen. This consists of citric acid and the ferrocyanide of sodium, the ferrocyanide of sodium being used because it makes a looser pellet than the ferrocyanide of potassium, and therefore more quickly dissolves. There is this advantage about it, that as a clinical test you require nothing more. If albumen is present, you are sure to get a precipitate; and if you get a precipitate, you are sure that albumen is present. It is also a test of an exceedingly delicate nature. It is a test that requires nothing to check and nothing to corroborate. You can carry it with you in your pocket like a pencil-case or pocket-knife. No matter whether I need it or not, I always have my albumen test in my pocket with me. I have here, as you see, a very compact tube containing all that is required. I will show you the method of using the test with this liquid, which contains albumen. The citric acid pellet must be used first. It very speedily dissolves. Sometimes citric acid will bring down a precipitate of uric acid, or it may be of oleo-resinous matter; but, as it is not the citric acid which is the test, we do not rely upon that. If the citric acid brings down a precipitate of uric acid, a dilution of the urine will redissolve it. On the addition now of the other pellet, consisting of ferrocyanide of sodium, you have a definite and reliable precipitate of albumen produced. This test has now been out several years, and, so far as is known up to the present time, nothing under the circumstances will occasion a precipitate with the pellet of ferrocyanide of sodium besides albumen, so that it is a test upon which you may rely alone.

I will speak now of considerations bearing more particularly upon the disease itself. There are different grades of intensity probably as marked in diabetes as in any disease we have to deal with. Let us start with a healthy person. Even a healthy person has not an unlimited power of assimilating the carbohydrates, but the first step toward disease is where the assimilative power is below the normal. This kind of person will not, under ordinary circumstances, pass sugar in his urine. If, however, he partake freely of preserves, or other articles of food containing large quantities of sugar, he will pass saccharine urine. Then you come to persons who, when partaking moderately of food containing carbohydrates, will pass sugar. They may take carbohydrates to a certain extent without showing evidence of abnormality, but as soon as the limit is passed sugar will appear.

Age influences largely this complaint. Severe cases are in young subjects, mild cases are in old

subjects, and the more advanced the age the better the prognosis. I know of no disease in young subjects that is more grave. The ordinary length of life in young subjects afflicted with diabetes may be said to be about two years. In middle-aged or elderly persons the prospects, happily, are of a different nature. If they follow proper management they can keep the disease under. The unsatisfactory cases are in the young, the satisfactory cases in the elderly.

The age at which the disease is most common ranges between forty and sixty years. Preparatory to the meeting of the British Medical Association, a few years ago, I went through my case book and tabulated 1360 cases, and I found that the cases occurring between forty and sixty years of age made up fifty-six per cent. of the whole.

Sometimes the disease commences in mild form, and may run along for several years before it is recognized. You may say, What authority have you for making such an assertion? How do you know that the disease has run for some time without having been recognized? There is this way of knowing it: saccharine urine leaves white spots on articles of clothing, and in micturition the trousers are apt to get splashed. The "boots" at hotels are able to recognize diabetic guests. They find the spots on the legs of their trousers very difficult to brush out. I have had patients come to me who were able, when asked, to hunt up old trousers on which these spots were found, and could remember the annoyance occasioned by them for a long time before. Such are the grounds for being able to say that the disease may have existed for some time without having been recognized.

It runs in families to a considerable degree. I do not say that it is hereditary in the same way as gout and phthisis are, but it runs in some families in a striking manner. I was asked to see a patient suffering from diabetes, who belonged to a family of five, the eldest of whom was not more than eighteen or nineteen. The mother had died of diabetes and the grandmother had died also of the disease. One of the children was brought to me, as I have said, and sugar existed in the urine. I desired to have a specimen from each of the remaining children. In four of the five the urine was saccharine.

There is one point with reference to the disease to which I would like to call your especial attention, and ask you to give it the benefit of your own observation. It is only somewhat recently that my own attention has been fixed upon the matter, and the number of cases I find to be affected in the manner I am going to mention is striking. The remark does not apply to young subjects, but to persons beyond the middle period of life. I used to come across persons who complained of pain in the legs, put down as cases of gout or rheumatism; and I took it as simply coincidental to the diabetes, without anything important in it. But I so frequently met with it

that my attention became aroused, and now I find many subjects of diabetes beyond the middle period of life thus affected. There is also more or less ataxia. It is not exactly the pure form of ataxia that it is seen in locomotor ataxia, because I have noticed that these persons can stand, maintaining their balance fairly well with their eyes shut. Yet they walk with some difficulty. They cannot properly maintain their balance. They feel often compelled in walking to pull themselves together and make an effort to walk steadier, lest persons behind them may think they have been taking too much. This is what has occurred to me over and over again to hear.

Then, again, with this, there are usually associated some anæsthesia, and hyperæsthesia, and various forms of paræsthesia. Persons feel as though they were walking on pebbles. The flesh is tender, so that when the leg is grasped it gives pain. This comes oftener in the legs than in the upper extremity; sometimes, however, it affects the upper also. Then there is an aching of the bones. The patient complains of it especially at night, in bed. The condition appears to be due to peripheral neuritis.

Treatment.—In young subjects, all we can do is to endeavor to stay the disease for a time. You cannot possibly cure it. At an early stage of the disease in the young subject, you diet the patient—the sugar is removed, and the patient thinks he is cured. Sometimes you are called upon to treat a patient who has been brought to an extreme state of emaciation and weakness, by a sudden and severe invasion of the disease. Placed under proper treatment, the change appears like a resuscitation. He goes on getting better, his hopes are raised, and he thinks he is well. Unfortunately this is not the case. It is a progressive disease. It is a disease which seems to progress in the same way as progressive muscular atrophy or locomotor ataxia, but its advance is uneven. As it advances, the diet and other methods of treatment which succeeded in removing the sugar at first no longer do so; the patient now loses ground and becomes weaker and weaker. You are able at first to keep down the symptoms and the excessive flow of urine; but soon you lose your power to keep them down, and finally something occurs to throw your patient off his balance, and to lead up to diabetic coma, which is the ordinary mode of death in these cases.

It would be a hard and oppressive life to devote one's self only to the treatment of diabetes occurring in subjects. But the successes obtained in treating the disease in patients of a more advanced age compensate in a measure at least for the failure in young persons.

We first avoid feeding the disease, and whilst doing this endeavor to convert the wrong action of assimilation into a right one. I lay the greatest stress on diet. I do not think that we can get along in the management of these cases without strict attention to diet. There must, then, be the

proper articles of food provided. It is easy enough for the patient to avoid taking some articles of food, as sweets, pastry, puddings, potatoes, etc., but it not so easy in the case of bread. What he may take may be summed up as consisting of any kind of meat, fish, poultry and game, with eggs, butter, cheese, the various forms of green vegetable food, and a prepared substitute for bread. Milk should only be taken to a limited extent. Some authorities have recommended the free use of milk. But milk contains sugar, and milk-sugar behaves in the system exactly as any other form of sugar. I have found that where milk has been taken in large quantity, the sugar has been kept up in the urine; whilst when the quantity of milk was reduced, the state of the urine improved. Certainly it is a hardship for a patient to abstain from bread, and you want to make it as easy as possible for him, by substituting something else of a palatable nature for the article prepared from wheaten flour. I do not think bran, which is often used, is a good substitute, because it contains from 40 to 50 per cent. of carbohydrates and very little else that can be digested and applied. Gluten is better, but it contains a considerable amount of starch. If the gluten is good, it contains only from 30 to 33 per cent; but I have found some specimens containing 70 to 80 per cent. Perhaps there is no article of food better suited to the diabetic than the almond. There is nothing which seems to supply him better with what is wanted. The almond, rich as it is in nitrogenous material, rich as it is in oily material, is just the article of food to meet his requirements, and palatable products, as a substitute for bread, may be prepared from it.

Medicinal Treatment.—As far as my experience goes, nothing contributes so much to arrest the disease as opium, morphia, and codeia. It is difficult, of course, to say, when you are treating a case with one of these remedies in conjunction with diet, whether the good result you get is not solely the dieting. But my own experience is to the effect that my practice, ever since I have been giving these, has been much more satisfactory than it was before I gave them. Clearly these agents appear to exert some power in controlling the disease. It is my custom when I get a patient of forty-five to fifty years of age to put him at once on small doses of opium, morphia, or codeia, and gradually increase. The sugar in the urine diminishes and usually disappears. After a while I permit the patient to take a little bread—say, two ounces a day. If he takes this without a return of sugar I let him gradually increase the quantity until he takes four or six ounces per day. Then I say to him you had better let well alone and stop at this, knowing how readily harm may be done by going beyond what can be taken without occasioning the passage of sugar. As long as sugar does not exist in the urine there is nothing to interfere with a healthy state being maintained. The patient is, on all intents and purposes, in a natural condition as regards his general state. It

is only with the voidance of sugar that we get the symptoms of the disease and untoward results.—*Med. News.*

ANTIPYRIN IN RHEUMATISM; ITS VALUE AND MODE OF ACTION.

By N. S. DAVIS, JR., A. M., M. D.,

PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE
IN THE CHICAGO MEDICAL COLLEGE.

Read before the Section of Practice of Medicine, Materia Medica and Physiology, at the Thirty-Eight Annual Meeting of the American Medical Association, June 8, 1887.

During the last few months numerous writers in Germany and France have described the good effects of antipyrin in acute rheumatism. It has been said of it that it relieves the pain, and allays the fever as quickly as does the salicylate of soda, and that under its influence the cutaneous redness over the affected joints, and their swelling, gradually but soon disappears.

All of these statements I can confirm by my experience during the last four months in some twenty cases.

I have used antipyrin in acute cases, also in those that were subacute and in the acute exacerbations of those that were chronic. I noticed early that the greatest and most rapid improvement was obtained in cases in which there was a rise of temperature above the normal.

The first case in which I used antipyrin was one of chronic rheumatism in which there was, at the time, an acute exacerbation. The patient's stomach was so irritable that very little was retained by it. Enough of salicylic acid or of the salicylates could not be given to produce an impression on the disease. I therefore tried as an experiment a single dose of antipyrin, of twenty grains, at bed time. Soon after taking the medicine the pains, which were uniformly much more severe at night than during the day, were eased. The patient breaking into a profuse perspiration, fell asleep and passed the first restful night for some weeks. After a few days under this treatment her fever disappeared, and she was almost free from pain. When the fever was wholly wanting it was noticed that the antipyrin ceased to ease the pain that remained, and did not relieve the chronic stiffness and swelling of the joints. As often, however, as the temperature rose the antipyrin acted well. I have met with similar results in the treatment of three other cases of chronic rheumatism. No relief to the pain, swelling and other symptoms of inflammation was obtained in a case of gonorrhœal rheumatism, in which one ankle, one knee and the joints of the fingers were much swollen and exceedingly painful. There was in this case at the time no fever.

As an illustration of the action of antipyrin in acute cases, I will cite the history of a young man recently dismissed from Mercy Hospital, apparently cured. He had been sick with a sharply

acute and quite severe attack of rheumatism for ten days, when he entered the hospital. During that time most of the large joints had been in turn affected. When first seen by me his temperature 103° ; his pulse quick, bounding, full, but compressible; his skin moist, with moderate perspiration; his countenance indicated pain and distress. At the time the pain was almost wholly limited to the left knee and right shoulder and elbow. All these joints were considerably swollen, and the skin over the knee was very slightly reddened. There were no evidences of endo- or pericarditis. Appetite was completely wanting but thirst was much increased. The bowels were constipated. The urine was somewhat scant and highly colored. Sleep of more than momentary duration had been impossible for many days. In a word, the patient at the moment presented the symptoms characteristic of a typical case of acute rheumatism. As it was one of the earliest cases of acute rheumatism that I treated wholly with antipyrin, I ordered at first the administration of a powder containing twenty grains of the drug only night and morning. The following afternoon he reported that soon after taking the medicine he slept, and for three or four hours was free from pain, but as the influence of the drug wore off the pain returned. His temperature had then lowered, but was still considerably above normal. I now ordered the antipyrin powders given three times daily instead of twice. Two days later the patient looked much better, and described himself as almost free from pain; the cutaneous redness over the knee was gone, and all the joints were less swollen, but still stiff and somewhat painful on attempted motion. The temperature for the most part during the preceding twenty-four hours was normal; twice it rose slightly. The frequency of the administration of the antipyrin was left to the judgment of the house physician; the directions being to administer the drug whenever the temperature rose or an access of pain occurred. Following this plan, he received during the next two days two powders daily. He was entirely comfortable so long as quick and violent movements were not attempted. For eighteen hours there had been no abnormal temperature. The swelling of the joints was much less, and freedom of motion much greater. The case progressed steadily in a favorable manner, and all stiffness and pain disappeared during the next week. The antipyrin was continued for several days after all fever was gone. No other medicine was administered after its discontinuance, the patient simply being guarded against adverse atmospheric influences.

In the other acute cases in which I have tried antipyrin, I have been most pleased with the readiness with which it relieved pain and lessened fever. In some instances the improvement was more marked and more rapid than in the case I have just sketched; in others it was somewhat slower, but always decided. I feel confident that, so far as

a limited number of cases will permit one to determine, antipyrin can be said to be as efficacious as the salicylates. Being at first impressed with the thought that the relief obtained in rheumatism was due to the antipyretic effects of the drug, I substituted for it salicylic acid as soon as the temperature became normal; as, however, experience showed that the efficacy of antipyrin did not depend upon this property, I continued its use, as improvement took place, in lessened doses and less frequently, until a cure was established.

In the hospital cases most recently treated the drug has been used in fifteen grain doses, administered at the height of the disease every four hours, diminishing the frequency of its repetition as improvement occurred. It has seemed to me that I obtained more satisfactory results in my private patients to whom I gave it in larger, twenty grain, doses, four times daily, when the disease was at its height, and to whom, during the period of improvement, it was given in smaller doses, but not at first less frequently. From sixty to ninety grains (four to six grams) daily are recommended usually by those who have employed antipyrin in rheumatism.

The advantage of antipyrin over the salicylates consists chiefly in its less nauseating properties, its less liability to provoke vomiting, headache, and noises in the ears. Not unfrequently a patient is found who can not take the salicylates in efficient doses. While trying antipyrin, both in rheumatism and in other febrile diseases, I have found only one or two persons who rejected it; and a few others whose stomachs were irritable, who complained, of slight nausea immediately after taking it. These effects are, however, much less frequently produced by it than by the salicylates. It can also be given efficiently, when necessary, by the rectum or subcutaneously.

The only ill effect that is likely to result from the use of antipyrin is the so called "antipyrin rash." This is seen only in a very small proportion of the cases treated with it. Two or three cases of fatal collapse have been reported occurring in typhoid patients, after taking antipyrin. At the most, however, this is an exceedingly rare accident, and it is questionable even if, in the cases referred to, the accident was due to the antipyrin. Ringing in the ears has been reported as occurring, but so seldom that it need not be looked for when the usual doses are used.

Others have found, very rarely, a case of acute rheumatism in which no relief could be obtained from the antipyrin treatment. The same can be said, however, of the usual salicylate treatment.

The use of the drug does not appear to influence the frequency of the occurrence of heart complications, and their existence is not a contra indication to its employment.

It is impossible, from what we yet know of the nature of rheumatism and of the physiological action of antipyrin to explain thoroughly its therapeutic action. The perspiration which very uniformly

follow its administration, and in rheumatism seems to accompany the diminution of pain, is probably due to relaxation of the cutaneous vessels, such as has been observed by Beyer (1) and others, and which naturally would feed and stimulate the cutaneous glands. It has been shown that the peripheral vessels dilate under the influence of antipyrin, the arteries dilating when large doses are administered. Whether this change of calibre is due to vaso motor influence or not is undecided, some claiming that the change is brought about by the direct action of the drug upon the vessels, since similar changes take place in isolated organs, (2) others claiming the reverse to be true. (3)

Antipyrin, when mixed with blood, does not cause a change of color or destruction of the corpuscles, as does kairin, thallin, resorcin, (4) and probably antifebrin.

Possibly its antipyretic properties are to be explained by the vascular changes which it produces, since they would contribute to increase the radiation of bodily heat. This is the explanation offered by Bettelheim, (5) Auseroff and Beyer. Arduin thinks the diminution in temperature is due to an influence exerted upon the thermogenic nerve-centres. During the last month P. J. Martin (7) has published the results of experiments which show that, almost uniformly, heat production is diminished by antipyrin, and heat dissipation is very much increased. It thus would seem to be an ideal antipyretic. In the small proportion of cases in which heat production was not diminished heat dissipation was so far in excess that the bodily temperature was lowered. Several observers have noted that under the influence of antipyrin the surface temperature rises while the internal temperature of the body falls. (8)

Its power of allaying pain in rheumatism is probably not dependent upon these vascular changes or the pyrexia produced by it, but upon a direct action on the nervous structure of the body. Antipyrin, though apparently most efficacious in rheumatic fever and least in muscular rheumatism; still, even in the latter, often acts beneficially. In many painful disorders purely neuralgic in character it gives the most prompt relief; for example, to the sharp neuralgic pains of locomotor ataxia. Ungar, (9) T. B. S. Robertson, (10) and

others, say it is efficacious in migraine. Germain Sée (11) has witnessed its power of relieving pain in other forms of neuralgic, and in gout, lumbago and sciatica.

The fact that there was in these diseases no common pathological effect except that of pain led the last writer to study particularly its action upon the nervous system. The results of his experiments he reported to the French Academy of Sciences on the 18th of April of last year. When injected subcutaneously in dogs three kinds of phenomena were observed: In the first place, a notable diminution of sensibility was observed, a true analgesia of the limb injected; sometimes, also, of the opposite one. In the second place, electric excitation of the sciatic nerve produced in the muscles of the opposite side only very feeble contractions, which points to diminished sensibility and reflex power in the spinal cord. In the third place, when antipyrin was introduced into the circulation of an animal except into one limb, the vessels of which were ligated, it was found that throughout the body the muscles contracted slowly and with difficulty, while those of the ligated limb contracted with their wonted vigor. It is evident, therefore, that antipyrin also affects the muscles; or more properly, perhaps, the nerve-endings in the muscles. Analgesic effects have been frequently noted by others. Large doses administered to animals cause convulsions, both clonic and tonic. Lessening of the reflexes, also, has been observed by others, as, for instance, by Arduin. (12) This last author, as well as Coppola, (13) thinks that the brain is influenced by the drug, since, when convulsions are produced by it, their severity is much diminished if the brain is separated from the cord.

Antipyrin does not affect the respiratory movements, although the frequency of respiration in fever diminishes as the temperature falls under its influence. As ordinarily administered, the rhythm and strength of the heart's action are not influenced. Beyer has shown by physiological experiments that when it exists in small amounts in the circulatory fluids, it causes an increase of work performed by the heart, while in large doses the contrary effect is produced. Some have also noted increased force in the heart's action, while others have observed a diminution in it. This discrepancy is probably due to the size of the dose administered.

The drug is eliminated by the urine, and can be found in it two hours after administration, and usually for thirty-six to forty eight hours afterwards. (14)

The following conclusions are, I think, justified by our present knowledge of antipyrin in the

1 "The Influence of Kairin, Thallin, Hydrochinon, Resorcin and Antipyrin on the Blood and Blood vessels." By H. G. Beyer, *Am. Journ. Men. Sci.*, April, 1886.

2 Quireilo and Coppola. See article by Beyer, *Am. Jour. Med. Sci.*

3 Auseroff, *Therapeutic Gazette* May, 15, 1886.

4 "De l'antipyrin contre la douleur." Par Germain Sée, *Le Bulletin Médical*, April 20, 1887.

5 Bettelheim, *Med. Jahr. K. K. Ges. d. Aerzt.*, ii, iii, 1886.

6 "Modern Antipyretics." By P. J. Martin, *Therapeutic Gazette*, May 16, 1887.

7 See Beyer, *Am. Journ. Med. Sci.*

8 Ungar. *Centralblatt f. d. Gesamte Therapie*, January, 1887.

9 "Antipyrin in Migraine, Pyrexia, etc." T. S. Robertson, *N. Y. Med. Record*, May 7, 1887.

11 Sée above, *Le Bulletin Médical*.

12 Arduin, *Therap. Gazette*, October 15, 1885.

13 Coppola, *Therapeutic Gazette*, October 15, 1885.

14 Marigliano Roberts. *Jahresbericht* p 313; *Therapeutic Gazette*, October 15, 1885.

treatment of rheumatism: 1. It is as efficacious as the salicylate of soda, producing similar therapeutic results, and is less nauseous than the latter, and does not produce headache or ringing of the ears. 2. Usually it acts most efficiently in the most frankly acute cases. 3. Besides reducing, by its antipyretic properties, the fever, and also the pain, it reduces the pain by acting directly upon the nervous system.—*Med. Progress.*

65 Randolph St. Chicago.

LOCAL TREATMENT OF DIPHThERIA.

REMARKS SUGGESTED BY THE DISCUSSION IN THE SECTION ON PRACTICE OF THE ACADEMY OF MEDICINE, MARCH 15TH,

By C. E. BILLINGTON, M.D., New York.

The conclusion of the important and valuable discussion which followed the reading of my paper on "Local Treatment in Diphtheria," before the Section on Practice of the Academy, on March 15th, was reached at so late an hour that I abstained from inflicting further remarks on an audience which had been both patient and kind. On reading over the report of that discussion, however, it seems to me to present an occasion for bringing out distinctly certain difference in the practical details of treatment which are worthy of the careful consideration of the profession, and this may now be done with more brevity and clearness than it could have been by me in extemporaneous speech.

First, as to the remarks of Dr. Jacobi. The fact that we agree so fully in general principles makes our differences in the mode of their application the more liable to be overlooked; although we have been explicit in the statement of our methods.

As to the internal administration of the tincture of iron, we agree that this drug is "among the most reliable antiseptic and astringent agents." Dr. Jacobi says: "A child a year old must take at least four grammes daily; a child of three or four years, from eight to fifteen grammes. The chloride is to be mixed with water and glycerine in various proportions, so that a dose is taken every hour, every half-hour, every ten minutes. *Thus other local applications to the throat become most superfluous.*" (The italics are mine.) "Potassium or sodium chlorate, from one to four grammes daily, may be added with advantage."

A comparison of these remarks and the formulæ given by Dr. Jacobi, in his published works, with mine on this point will show that there are differences of detail to which my experiences has, rightly or wrongly, taught me to attach no little importance. But the most notable difference is in the sentence which I have italicized. I have from the first of my publications insisted on the importance of also frequently spraying the throat with the mixture of carbolic acid and lime water in all cases of any gravity in which it can possibly be done, and have considered this so valuable as to mate-

rially modify the prognosis, it being, unfortunately, impracticable in very young children, in whose cases I have recommended the occasional syringing of the throat, when indicated, for cleansing purposes.

Dr. Jacobi says: "The usefulness of lime water has been greatly over-estimated." Believing, as I do, that lime-water is one of the most valuable medicinal agents in our possession for combating diphtheria, I cannot, of course, regard this difference as otherwise than important.

Again, while there is complete concurrence between us as to the importance of nasal syringing, there is an equally marked difference between our methods in this procedure. Dr. Jacobi says, "The tendency to sepsis forbids a long intermission of them." "I again insist on their frequent repetition." (In his book, page 218, Dr. Jacobi says, "They must be made at least every hour.") "The whole procedure need not take more than half a minute for the two nostrils; the children may be raised in bed, a towel under their chins. One person holds the hands, the other sits behind and injects gently, in order not to injure the ears."

The salient points of the procedure as recommended by me may be recapitulated as follows: The patient, if too young to submit voluntarily to the operation, should be firmly held by a method described. The syringing should, if possible, always be performed by the physician himself. It should be continued on each occasion until, if it be possible, the passages are thoroughly cleansed. This should not usually be repeated oftener than two or three times in the twenty-four hours, for reasons stated. The first syringeful or two will often not go through at all. Then will come masses and strings of thick mucus, then, not infrequently, larger or smaller pieces of membrane. The syringing should be persevered with until the injected fluid comes through (by the throat and other nostril) clear and clean. The patient should have time to get his breath between the successive syringefuls. I commonly use half a pint, sometimes more, of the tepid salt-water, and the time required for a thorough cleansing is always several minutes.

By this method the physician, who should certainly in every grave case of diphtheria visit his patient, if possible, two or three times a day, and who is or should be an expert in such procedures, and better able than anyone else to judge just how much or how little is requisite, performs it once for all—the patient during the intervals having a complete respite from the one measure in the whole treatment which is really unpleasant and fatiguing, and the nurse having quite enough left to her in the half hourly giving of medicine and spraying, and the frequent giving of nourishment. By the other method a less thorough and complete cleansing (in "half a minute") is to be accomplished "every hour at least," and that, too, often by nurses who lack dexterity and judgment,

and in many cases being possible only by force and with a renewed struggle. What more striking illustration of the danger of intrusting such delicate operations to average parents and nurses could possibly be imagined than the instances so graphically related by Dr. Jacobi of the performances of some "trained nurses?"

It must be admitted that, theoretically, the frequency required in the method described by Dr. Jacobi is apparently in more logical agreement with the principles of local treatment, which require frequent medication and spraying of the throat, but it should be remembered that this medication and spraying do not or should not, cause local irritation or undue fatigue, either of which would be a contra-indication to them. Moreover it may be added that two or three times a day is the limit of frequency, beyond which the washing out of an empyemic cavity or a septic uterus is not usually found useful, and while the analogy between the two is not perfect it may yet be sufficient to be suggestive. But the real question is, which of the two methods is the more efficient in accomplishing the object for which it is employed?—and this can, of course, be answered only by experience. My own experience I have stated, but my present object is far from dogmatic assertion, and still further from controversy, but is to place both methods clearly and fairly before the profession, so that each may be tested on its merits, and neither suffer discredit from any faults or failures of the other. Dr. Jacobi, who agrees with me as to the importance of details in the treatment of diphtheria, will, I am certain, concur with me in this wish.

The device mentioned by Dr. Jacobi, of protecting the tip of the syringe with a rubber mounting, is an excellent one, and so is that of drawing a short bit of small soft rubber tubing over the tip of a syringe, which was first mentioned by Dr. J. H. Douglas in the discussion of my paper in 1880, and again referred to by Dr. Delavan in this discussion; but any tip whatever may cause irritation and epistaxis in awkward hands, and even in expert ones, if the sudden movements of a young patient's head are not properly restrained.

The importance of the method which I have described, of holding a young child's head for nasal syringing, may be better enforced by a single illustrative case than by a great deal of argument. I was recently called in daily consultation in a case of nasal diphtheria, by a physician whose combat and muscular frame leaves no room to doubt that he is one of the strongest men in the profession in this city. The patient was a babe four months old. On the second day it was decided to syringe the nose, the syringing to be done by me. The babe was accordingly seated across its nurse's lap, its hands secured by her, and the basin in place. To show the doctor my way of holding a child's head, I stood behind it, and, leaning forward, placed my breast against

it, holding it with a hand on both side, saying, You "see in that way the head is held as firmly as in a vise." The doctor then took his place behind the patient, and, standing erect, held the head between his hands, and with the smile of conscious strength said, "That head is in a vise." I accordingly placed the syringe in position for injection, not actually touching the mucous membrane; but at the first entrance of the fluid into the nostril, the babe made a sudden downward movement of its head, in spite of the doctor's hand, sufficient to cause, from contract with the smooth tip of the syringe, a very slight hemorrhage. After that this exceptionally strong doctor, in holding that four-months-old baby, did not scorn to bend forward and place himself in the position which experience long ago taught me is necessary for really holding a child's head motionless.

Dr. Winters very truly stated that tact is of great importance in such procedures as nasal syringing; but the kind of tact which is most valuable is that which thoroughly accomplishes necessary objects with the least wear and tear to the patient.

The treatment of nasal diphtheria, by means of any medicament applied by a medicine-dropper, as recommended by Dr. J. Lewis Smith, I cannot but regard as an error in the direction of dangerous inefficiency. The object of local treatment in diphtheria was well summed up by Dr. Loomis in the words, "cleanliness and disinfection," and these in this relation, as elsewhere, are usually attainable only by thorough, well-directed measures.

That spraying is a valuable method of cleansing and medicating the nasal passages in the treatment of catarrh is well known, and that it may sometimes be so in that of diphtheria in such expert hands as those of Drs. Bosworth and Delavan cannot be doubted; but the question remains, can any method of cleansing them be in general at once as thorough and as unirritating and as well adapted to cause dilution and removal of poison and transudative interchange through diphtheritic membrane *in situ* as the flowing through them of a stream of antiseptic fluid from a syringe or douche? That these objects cannot commonly be effected with the ordinary throat-atomizer I am positive, as I have seen too many melancholy instances of fatal toxæmia in nasal diphtheria, the result of valuable time having been lost in relying on this inefficient substitute for syringing. It may be added that by no atomizer whatever can spray be made to enter one nostril and come out of the other as spray.

Finally, on the very interesting case related by Dr. William H. Thomson, which is typical of an important class, I will make the following remarks: Can Dr. Thomson assert that at the time of the first chill there was not the commencement of a local diphtheritic process in the posterior nares—or, possibly, in the trachea? It will, of course, be replied that there was no evidence of that condition. It is astonishing how little evidence is sometimes manifested of the presence of con-

siderable amounts of diphtheritic membrane in concealed situations. I have seen quite a number of cases in which there was no evidence of it anywhere, except constitutional symptoms, in which I have, by syringing, washed pieces of membrane from the posterior nares several times in the presence of other physicians. In another case of an adult patient who had previously been frequently subject to grave catarrhal and bronchial attacks, another attack of a week's duration, similar in all its physical signs to the previous ones, under most competent and vigilant medical attendance, terminated fatally—no nasal obstruction, no croupy symptoms of respiration of voice, no visible membrane anywhere. There had been exposure to diphtheritic contagion two weeks before the attack. There were symptoms of toxæmia. The autopsy showed the trachea and bronchial tubes completely lined with diphtheritic membrane; none in the larynx; the posterior nares not examined.

I have no disposition to be "wise above what is written," and am far from asserting that there is never a case of "primarily constitutional" diphtheria; but, according to my experience, the more thoroughly such apparent cases of diphtheria without a *diphthera* are investigated, the fewer do they become.—*New York Medical Record*.

INFANTILE MARASMUS.

By DR. I. N. LOVE, St. Louis, Mo.

Read in this Section on Diseases of Children of the Ninth International Medical Congress.

In presenting a paper for your consideration with many misgivings, I select the subject of Infantile Marasmus. I am aware that many other subjects are more alluring, and such as this are, as a rule, unattractive, yet we must remember that nothing in the form of disease is trivial, for a human life is always involved, and all that influences and affects life for good or ill is of the greatest import.

A series of interesting cases met with in private practice during the past few years, compared with other cases occurring in hospital and dispensary practice, have impressed upon my mind the importance of this condition, and the means of antagonizing it.

The term marasmus, like malaria, is a misnomer, and expresses but little as regards the pathology of the disease; it declares simply that our patient is wasting away, repair on the part of the tissues having surrendered partially or completely to decay.

A condition of "Marasmus," wasting or consumption occurs in all forms of exhausting disease, but the name is only applied in cases of wasting unaccompanied with fever or symptoms pointing to any well defined disease.

It is more frequently met with among the young and the aged, but whether infantile or senile, it is usually dependent upon similar causes and conditions. Among infants we meet cases which can

clearly be referred to congenital syphilis, which at once takes them off the list of marasmus cases, and places them under the specific classification. Others again have been so classified when they would probably have been more correctly diagnosed as tuberculosis, tabes mesenterica, etc. Care in eliciting the family history and examining the cases will generally avoid these errors of diagnosis.

Many cases of so called marasmus, if closely investigated, will present a history and general indications of intestinal catarrh.

Niemeyer, in writing upon the subject of chronic intestinal catarrh of children, refers to the fact that the imperfect diagnosis of "marasmus" is frequently assigned to such cases, and he is undoubtedly correct.

Eliminating all cases clearly belonging to other classifications, there remain those cases of wasting or general atrophy, in which no fever or local lesion can be discovered. Pronounced pictures they are too, after a prolonged period of progression; muscles shrunken and flabby, osseous prominences everywhere visible, with the pale, shriveled, dry skin hanging in broad folds and wrinkles about them, like a pair of loose and baggy trousers upon calfless legs; face withered, wrinkled and worn, suggesting the miniature daguerreotype of some emaciated, toothless hag, the most pronounced features in the case being loss of flesh, loss of strength, loss of color, the complexion being of a dull leaden color.

Having excluded all cases of wasting dependent upon tangible conditions, such as tuberculosis, congenital syphilis, intestinal or gastric catarrh, etc., I shall devote my attention to the consideration of the cases which can properly be called marasmus.

They present all the symptoms above referred to, and in marked degree we have inactivity of the secretory glands.

In life there is dryness of everything, skin, alimentary canal and the emunctory organs in general; and after death, upon examination, we find further evidences of lack of fluidity or proper moisture of the tissues, confirming the thought that there has been a lack of secretion and excretion, exosmosis and endosmosis.

Primarily, then, I take the position that inactivity of the glandular system is at fault. In the very outstart of every infantile career we have more or less inactivity of the glands, the liver, with other glands, is larger (being more engorged) at birth relatively than at any later period of life. Attention to the proper establishment of the equilibrium of the circulatory, secretory and excretory system of the infant is of vital importance.

Given this torpid, glandular condition, coupled with improper or insufficient food, and other hygienic errors, we have the factors favorable to the furnishing of a full-fledged case of typical marasmus. The five digestive juices upon which depends the proper preparation of pabulum, for prompt appropriation on the part of the absor-

bents, are the products of parts of the secretory glands; and the proper elimination of effete matter, the ashes of combustion if you please, depends upon the zealous work of the excretory glands.

To illustrate my position I herewith report, in a concentrated form, the notes of one of a series of cases under my care during the past year.

A. D., born August 1st, 1886, of healthy, wealthy parents who have been under my observation constantly for over ten years (three other strong, hearty, robust children having been previously born), no hereditary taint whatsoever. At birth well formed; fairly well developed (the labor was, in common parlance, a dry one, but there were no complications, and nothing to indicate but what the child would be as healthy as his predecessors).

After a few days, bowels being slow in moving, olive oil was ordered, and nothing more was heard from the child until it was two months old. At this time aid was sought, for the reason that the child was constipated, uncomfortable, and evidently not thriving. Inquiry developed the fact that from birth there had been habitual constipation, but little urination, and continual restlessness and discomfort. The mouth and tongue were dry, the skin inactive, dirty and yellow-looking, the child smaller than at birth, with shrunken and flabby limbs, distended, overfilled and protruding abdomen, with the blue and close crowded veins standing out like whip cords over its surface.

There were evidently lack of proper secretion, excretion and assimilation; the baby was starving though apparently furnished with sufficient and proper nourishment by the mother. I at once ordered one grain of calomel and twenty grains of sugar of milk triturated thoroughly for a full half hour, and divided into twenty powders, one powder to be given every ten hours dry on the tongue, and followed at frequent intervals with liberal quantities of water. After twenty-four hours had passed, the bowels began to move freely, the aid of several warm water injections being given, and enormous quantities of hard, undigested, cheesy masses were passed, followed for several days by numerous large, loose, offensive dejections. More than likely on account of this great accumulation an acute intestinal catarrh would have soon been developed. During this time when the inactivity of the glandular system was becoming aroused and the outlook better, the mother was taken very seriously ill with malarial fever, and it was soon apparent that a substitute was demanded. A strong, full habited wet nurse (with a baby of the same age as our little starving patient, about three times as large, and almost hoggishly fat) was secured, and to her credit, she refused to serve unless permitted to bring her child with her, promising to artificially feed him, and reserve her breasts for our patient. At this juncture the family removed some distance from the city and beyond my observation, until about six months had elapsed, when I was summoned and found my little patient in a condition every

way aggravated. Investigation developed the fact that the motherly instinct of the wet nurse had prompted her to permit her own lusty boy to empty her breasts before giving them to the little starving under her care. Not to go too much into detail, suffice it to say that inability to secure a proper wet nurse soon necessitated artificial feeding. Various foods in the market were tried without avail, a fermentative dyspepsia and gastro-intestinal catarrh presented, and the beginning of the end seemed near. All milk and malty foods were now relinquished by the stomach, and a raw meat liquid food, ten drops in a teaspoonful of water and two drops of brandy, were given every hour, and the child ordered to be given a bath every ten hours in either warm, fully digested milk, warm cod liver oil, or warm water with a teaspoonful of alcohol to the pint.

The intestinal medication was the infinitesimal dose of calomel triturate (previously referred to) every two hours, given for the purpose of stimulating secretion and excretion, antagonizing fermentation, antiseptics in the rendering inert of the ptomaines and other poisonous products of decomposition in the alimentary canal. The course was followed uninterrupted, except by the gradual increase of the food, with gradual improvement for one week. Artificially digested milk was then cautiously added to the diet list, and the amount of the liquid raw meat food doubled. From this time on, the progress toward perfect nutrition, growth and development was more and more rapid, and within one month he was becoming a well nourished baby, and possessed of a ravenous appetite, taking goodly quantities of water, and his secretory organs doing good service.

The one-twentieth grain of calomel was continued three times daily, for two months, and after that resumed whenever indicated. The nutritious baths with gentle massage and friction were diminished in frequency, but not thoroughness, to three times daily, and later were given only morning and night.

From the observation and study of a series of twelve cases (the case which I have presented being typical of the twelve), where well defined causes of innutrition, such as syphilis, tuberculosis, etc., did not enter, I feel that I am justified in deducing the following:

1st. Infantile marasmus, so called, is dependent primarily upon torpidity and inactivity of the glandular system, and aggravated by unsuitable, over-abundant or insufficient food and unsanitary surroundings.

2nd. That which is of first importance in the treatment is the arousement of secretion and excretion, and the most valuable remedy we have for this purpose is minute doses of calomel given in conjunction with as much water as can conveniently be administered; the two agents, calomel and water, both being ardent accelerators of glandular action, stimulators of the secretion of the digestive juices, true aiders and decided openers of the

dammed up organs of diuresis, and awakers of defecation, cleansers of the vital sewerage system.

3rd. In the matter of diet, the mother's milk is best, and some other mother's milk next best.

Whether mother's milk or artificial food be given, the quantity and quality should be most carefully guarded.

In many instances, the liquid, raw meat foods in small quantities, well diluted and frequently given, will be of great service. All artificial foods should be predigested.

4th. In extreme cases the administration of soluble foods in the form of baths, and by gentle friction, will be of value, and in all cases gentle massage and frequent bathing (sometimes adding diffusible stimulants to the water) are of great service, much of the water being directly absorbed by the hungry and thirsty tissues.—*St. Louis Med. Review.*

THE DYSPNEA OF ASTHMA AND ITS TREATMENT.

The causation of the asthmatic paroxysm is still in dispute, and at least three theories have advocated more or less zealously. The demonstration of the bronchial muscle gave a firm anatomical basis to the view that the attack was due to its spasmodic contraction. Wintrich and Bamberger hold that such a condition is inconceivable with the enlarged and hyper-resonant state of the lungs during the paroxysm, and they support a theory of tonic spasm of the diaphragm, either alone, or with the other muscles of respiration. A third view, that of Traube and Weber, attributes the attack to swelling and hyperemia of the bronchial mucosa—through vaso-motor agency—similar to that which occurs in the nasal mucous membrane in the early stage of catarrh. At present a majority of the observers are divided in opinion between the theory of spasm and that of hyperemia with tumefaction.

In the American Journal of the Medical Sciences for October, 1887, Fraser, of Edinburgh, relates some interesting observations which support the spasm theory, and have a very practical bearing on the treatment of the attack. It occurred to him to study the auscultatory phenomena during the asthmatic paroxysm, in order to ascertain if they could be modified by the action of any agent known to control the contractility of unstriped muscle. Now, it is well known that the most constant and striking physical signs accompany asthma, viz., the dry whistling *râles* (without any moist sounds) produced in the tubes, either by spasm of the muscle or swelling of the mucosa. If it could be shown that the administration of a remedy known to relax unstriped muscle was followed by a disappearance of the *râles* and relief of the dyspnea, a strong point would be made in favor of the spasm theory. This Fraser has done, using the nitrites

whose capabilities of relaxing non-striped muscle in the case of arteries is well known. Eight observations are recorded in which either nitrite of amyl, nitrite of ethyl, nitrite of sodium, or nitro-glycerine was given, and the chest carefully auscultated before and after every administration. In each instance, improvement more or less positive followed, and the dyspnea and sounds disappeared simultaneously. From the well recognized action of these bodies in reducing the contractility of non striped muscle, it seems reasonable to attribute the relief to the relaxation of the spasm of the bronchial muscles.

The nitrite of amyl was given in solution, five minims in two drams of water, or inhaled, ten minims on blotting paper at the bottom of a small glass tumbler. The nitrite of ethyl (nitrous ether) acts well in ten minim doses of a twenty-five-per cent. alcoholic solution. Of the nitrite of sodium ten minims of a ten-per-cent solution, and of the nitro-glycerine five minims of a one-per-cent solution were employed. The administration of nitrite of amyl in the asthma paroxysm has long been practiced, but the accurate determination of the coincidence of the relief of the symptoms with the disappearance of the physical signs has not before been so closely followed. We believe a combination of the nitrite of amyl, given during the paroxysm, and the nitrite of sodium given continuously, will act more surely than either remedy alone, as the latter gives that permanence which we miss in the action of the nitrite of amyl.—*Phil. Medical News.*

THE TERRORS OF CHILDHOOD.

How often do we hear mothers, soothing very young children to whom it has been found necessary to give a dose of medicine, console them with such talk as this: "Did the nasty old doctor give muzzer's precious d-a-a-r-ling nasty old medicine? Muzzer'll whip nasty old doctor!" or "Ugly old doctor cut baby's arm—muzzer'll beat him for it!" Or, when a young one is refractory we hear them say "You'd better behave yourself! I'll send for the doctor and make him vaccinate you again!" These and a thousand other foolish things are said until to the young mind the doctor becomes the very embodiment of terror—a buggaboo from whom the child shrinks in fright and aversion. And yet how often the infant's life depends upon its love of and confidence in the physician! The wise mother, realizing this fact, should teach her children to love and trust the family physician. These thoughts were suggested to us recently in reading a most entertaining work by Professor Mosso, of Turin, entitled *La Paura* (Fear or Fright). Among other anecdotes he says: "An old soldier, whom I once asked what had been his greatest fright—what had caused him the most suffering from terror, answered "One thing alone,—a terror that has pursued me through life and which yet affects me. I have looked death in the face I know not how many

times, and surrounded by the greatest carnage and danger, I have never lost my courage. But when I pass a little church in the depths of the forest, or near a deserted chapel on the mountain, I instantly think of an abandoned oratory that was in the outskirts of my native village, and I become frightened. I look around me and see in imagination the corpse of an assassinated wayfarer, just as I saw it when a little child, and with whose wandering spirit an old servant would threaten me." These terrors, these buggaboos of childhood, continues our author, remain through life, a fatal legacy, a chain enthralling reason. We remember them almost every day of our lives. A subterranean vault, the sombre arch of some bridge, the ruins of some abandoned dwelling with its mysterious darkness and silence—all bring back the atmosphere of infantine timidity. It is exactly as though the eye of the child again rested upon the very scenes. It is not the individual mother, nurse or servants who produce this effect—but the result of generations of wrong training, that have warped the human mind into fantastic shapes exactly as barbaric races have gradually changed the shape of the generic skull by ages of artificial compression. The children of Greece and Rome were frightened by tales of vampyres which sucked the blood of sleepers, of cyclops and chimæras. This detestable mode of education has not vanished and our babies of to-day are still terrified by ogres and dwarfs, giants and griffins, dragons and demons, magicians and sorcerers. Every day we hear a mother or nurse say to a naughty child "Look out! Old bouger-man will catch you! Old bear will eat you up!" or some such blood-curdling threat, the effects of which will never die, and which in many instances render the child the father of the timid, nervous man.

THE TREATMENT OF RHEUMATISM.

Dr. George L. Peabody treats his cases of acute rheumatism with a combination of salicylic acid and iron, the formula for which was obtained in the following way:

About a year ago a nurse was pouring into a common receptacle some remnants of different medicines, when she noticed that a black precipitate formed by iron was turned into a transparent solution of a rich red hue as soon as she poured the fluid contents of another bottle. Being a young woman of an inquiring turn of mind, she asked the house physician the cause of this phenomenon. The house staff, to help her in her desire for information, experimented with the drugs that she had been throwing out, and ascertained that her manipulation of chemicals had been this: She had first poured into the receptacle a salicylic acid. Into this she had poured a solution of iron, with the result of producing a black precipitate. To this she added some sodium phosphate, with the result of producing a clear red solution.

This at once gave a clue to the means of combining iron and salicylic acid without forming a precipitate. The facts were submitted to the apothecary of the hospital, and from them he produced the following formula, which has been in constant use nearly a year: \mathcal{R} . Acidi salicylici, gr. xx; ferri pyrophosphatis, gr. v; sodii phosphatis, gr. i; aquæ, $\bar{\text{z}}$ ss.

This method of giving this drug in rheumatism has now been fairly tested. It may be said to agree as well with the stomach as any other, and it has the great advantage of not being followed, even if its use be long continued, by the severe anæmia that so often follows the use of salicylic acid, if it be given without iron.

The dose which is described in this formula is given every two hours until improvement justifies a diminution in the frequency, or until constitutional effects are pronounced.—*Medical News*.

SMALL DOSES.

BY JOHN AULDE, M.D., PHILADELPHIA, PA.

That there is a tendency on the part of physicians to discontinue polypharmacy, and depend more and more on single remedies (specific medication), and prescribe smaller doses, no one will contradict. The innovation is commendable, and is one of the most promising features of the times. As a compliment, then, to the paper on "Large Doses," which appeared in the *Reporter*, Nov. 5, 1887, * I beg leave to submit the following remarks:

In certain heart affections, such as cardiac dilatation, one or two drops of the tincture of digitalis may be given three times daily with great benefit. Cardiac hypertrophy, on the other hand, may be materially overcome by the exhibition of one-drop doses of aconite tincture three times daily. Acute inflammatory conditions, like tonsillitis, bronchial catarrh, and threatened pulmonary congestion, as well as headache due to arterial tension, are immediately and favorably affected by drop or half-drop doses of tincture of aconite every hour, or half-hour, for a few hours. Frequently, headache of the congestive variety, with a band-like feeling around the forehead, may be quickly relieved by drop doses of nitro-glycerine, at intervals of five or ten minutes, until five or six drops are taken. The form known as "sick headache," dependent on a bad condition of the stomach, will often disappear in half an hour, under the influence of two grains of potassium iodide dissolved in water, and taken in divided doses at from three to five minutes. Like aconite and nitro-glycerine, gelsemium occupies an important position in cases of this class, but its uses are not so well recognized as that of the other drugs named.

Belladonna, or its active principle, atropine, in doses of one two-hundredth of a grain, is a valu-

* Also *Peoria Medical Monthly*, November, 1887.

able remedy in the incontinence of urine in children, a single tablet of that amount dissolved in water and taken at bedtime being often all that is required. Quinine, in doses of one-tenth of a grain, may be given to those who are unable, on account of idiosyncrasy, to take larger doses, and it will often be found that these small doses are sufficient. The tincture of hyosyamus, in doses of from three to five drops, or one drop of the fluid extract, in combination with triticum repens, made up in the form of a hot tea, is an admirable remedy in cases of irritability of the bladder, with fugitive neuralgic pains about the abdomen and in the lumbar region.

In the treatment of certain classes of dysentery, a modification of Hope's camphor mixture will be found of signal service. The dose may be limited to two or three drops of the deodorized tincture of opium, with an equal amount of dilute nitric acid, or aromatic sulphuric acid, with sufficient camphor water to make a teaspoonful, and taken hourly or half hourly, as the circumstances seem to demand. In similar cases, where it is desired to produce an effect on the alimentary canal with a view of getting rid of objectionable matter, a single grain each of opium and ipecac may be combined with four grains of blue mass, and divided into eight parts, one part to be taken every hour, or half hour, with the happiest effect.

The malate of iron in minute doses is an excellent remedy as a tonic, and Bland's pill, one three times daily, is often sufficient in cases of anemia, although it is usually stated that the dose should be from four to six pills. Small doses of nuxvomica, one drop of the tincture, or one-twentieth grain of the extract, are frequently as serviceable as a tonic as the larger doses; while strychnine, in doses of one-sixtieth or one one-hundredth of a grain, will accomplish all that is desired, when the stomach is in a suitable condition and is much better, as it is much safer, than larger doses. In some cases of diarrhoea, five grains of bismuth, with an equal quantity of saccharated pepsin, every two hours, acts like magic.

Dysmenorrhœa, the congestive kind, with belly-ache and excruciating headache and pain in the back, which is often seen in young girls, and women with displacements, can often be relieved by a single dose of ten drops of chloroform on a lump of sugar. Certain cases of this nature seem to do better with cannabis indica, and I have seen cases, which had resisted ordinary treatment for days, wholly relieved in an hour by the use of half-drop doses, at intervals of five minutes. Cannabis indica is a favorite remedy in trifacial neuralgia, and given in the manner indicated above, the pain will shortly disappear. Profuse diaphoresis may be produced by the frequent administration of half-minim doses of extract of pilocarpus. Phosphorus, in doses of one one-hundredth-and-fiftieth of a grain, given three times daily, will produce such an effect that it may be tasted by a susceptible patient for several days afterwards.

Morphine, in tablets containing one-fiftieth of a grain, can be given in many instances with marked benefit. One drop of a one per cent. solution of the fluid extract of rhus toxicodendron is often an efficient remedy in stubborn attacks of sciatica and other affections of a like character. One tenth of a grain of calomel, given every hour, it is well known, will produce an effect on the bowels equal to ten grains given at one time. Corrosive sublimate, one-fiftieth of a grain three times daily, is an excellent remedy in disease of the stomach with fermentation and eructation of gas. It is doubtful if we have any better remedy for the treatment of boils and carbuncles than small doses of calcium sulphide, one-tenth of a grain every two hours. Last, but not least, is strophanthus, the heart tonic *par excellence*; two to five drops of the tincture should be given three times daily, in all cardiac affections where there is aortic or mitral insufficiency.—*Med. and Surg. Rep.*

THE TREATMENT OF COLDS.

Dr. J. H. Whelan, in the *London Practitioner* for March, gives the following sure cure for colds. The formula used is as follows:

℞ Quininæ sulphatis.....grs xviii
Liquoris arsenicalis.....m xii
Liquoris atropinæ.....m i
Extracti gentianæ.....grs xx
Pulveris gummi acaciæ.....q. s.
Ft. pilulæ.....xxii. sig.

Pulveris gummi acaciæ, q. s., in fant pilulæ xii Sig. One every three, four or six hours, according to circumstances.

If these pills be commenced to the early stage of a common cold—*i. e.*, when the affection is as yet confined to the nose and pharynx—the affection will be nipped in the bud. At starting one pill should be taken every three or four hours, and later on every six. If a catarrhal subject has a box of these pills always at hand he has a weapon wherewith to meet and defeat his enemy. The longest time the author has seen a cold last whilst the patient has fairly taken these pills was three days. How the remedy acts he does not know, except it be as a powerful nervine and tonic, bracing the patient's tissues up to resist the attacks of the exciting cause of the affection.

COMPOUND WINE OF CREASOTE FOR PULMONARY DISORDERS.

The following is prescribed for incipient pulmonary tuberculosis where the temperature is not much above normal:

℞ Creasoti, 13 G. ;
Tr. gentianæ, 30 G. ;
Spt. vini, 250 G. ;
Vini Xerici, q. s. ad fiat 1000 G.

M.

Sig.—Two or three tablespoonfuls to be taken during the day.—*Revue Générale de Clinique et de Thérapeutique.*

THE USE OF INDIGO AS AN EMMENAGOGUE.

Dr. S. T. YOUNT, of La Fayette, Ind, in a paper read before the Tippecanoe County Medical Society, recommends very highly the employment of indigo as an emmenagogue. He writes: "It is perfectly safe, thoroughly reliable, and painless in its action. It is insoluble in water or alcohol, but readily dissolves in strong sulphuric acid. This so changes its character that it is then readily soluble in water without changing its color.

"It is odorless and tasteless, and may be given in doses of 3 j. to ʒ ss. The great difficulty is the nausea and vomiting which the crude drug produces when given in very large doses. There are three varieties of the crude drug: Bengal, Turkey, and Chinese.

"The Bengal is richest in coloring matter, containing about fifty per cent., and inasmuch as the virtue resides in the coloring matter, the best effects are obtained from this variety. As an emmenagogue it has been used in my practice about a year and a half. My attention was first directed to it on one occasion when I was called to remove a retained placenta in a case of abortion at the third month. Naturally inquiring what had been taken to produce the abortion, I was told that the lady had taken indigo in teaspoonful doses three times a day, that she had taken it several times, and always with a most satisfactory result to her.

"She informed me at the time that it always produced great nausea and watery discharges from the bowels. Acting on the suggestion offered by this case, I tried it in many and various cases. In one case, where a young lady, aged eighteen, had missed for thirteen months, the menses returned after taking the crude indigo for two weeks; but the disgust and nausea produced by the bulky powder rendered her unable to continue it longer, and she menstruated three more months; then they stopped again. After using the remedy for eight or nine months in this crude state, I set about to find some way of condensing it, or rendering it less bulky, for it is the bulk of the dose, not the remedy, that disturbs the stomach and disgusts the patient. About a month later Mr. O. G. Zerse, an apothecary of La Fayette, turned over to me a concentrated extract, as he called it, five grains of the extract equalling twenty-six grains of the crude drug. I have since then used it in forty-eight cases of amenorrhœa, of all kinds and causes, with but three failures, and a colleague has used it in six cases without any failure. To test its effect I have given the remedy in the amenorrhœa of phthisis, and have always had a definite result, namely, the appearance of the menses, the menses stopping again when the remedy was stopped. The effects with the crude drug and the concentrated preparation are identical, except that the nausea does not occur when

the extract is used. The menses come on painlessly and very suddenly. There is no warning given. In thirty cases the effects occurred about two days after the last dose, the menses coming on without any warning, gushing out and running often to flow. The hemorrhage in none of the cases was dangerous or alarming. During the administration of the drug the os uteri becomes soft and patulous, admitting the end of index finger. There is often a serous discharge from the vagina. The urine becomes of a brownish-green color and offensive odor. The stools are of a bluish color. The passages are watery and offensive.

"To summarize, indigo is an emmenagogue of decided value in any case. It should not be given to pregnant women. It should not be given where there is an irritable stomach. It should not be given in cases where there is a history of a previous pelvic inflammation. It should not be given in cases where there is marked cerebral anæmia. It may be given in doses of ʒ j. to ʒ ss., two or three times a day, of the crude drug, or in five-grain doses of the concentrated extract. The powder of the crude should be given mixed with a little subnitrate of bismuth, and the patient should drink a little whiskey afterward. In cases where given continuously for a long period, give tr. gentian comp. after each dose. Give the concentrated extract in capsules mixed with extract of gentian and subnitrate of bismuth."
—*N. Y. Med. Record.*

PUNCTURE AND INJECTION OF ETHER AND IODOFORM IN PURULENT ABSCESS OF THE BUTTOCKS.

At a recent meeting of the Paris Surgical Society, M. Trélat reported a case of purulent abscess, successfully treated by puncture and injection of ether and iodoform. The patient, a girl aged 17, had been attacked with typhoid fever eighteen months previously, and the abscess was diagnosed as necrobiotic, consecutive to vitreous alternation of the muscular fibres. A puncture was made, which gave issue to .45 grammes of pus, and 90 grammes of ether and iodoform were injected into the cavity. M. Trélat asked whether simple abscesses might not be treated in the same way. M. Terrier thought that in cases like that cited by M. Trélat simple puncture was sufficient. M. Championnière has found iodoform very irregular in its effects, and objected that the injection of this substance in ether constituted a long and painful treatment. M. Dentu had obtained better results with alcohol and chloride of zinc. M. Trélat, in his reply to these objections, stated that it was important, in an æsthetic point of view, to avoid the cicatrix which always remained after an incision, and this was practically accomplished by puncture and the injection of iodoform.—*London Medical Record*, May 16, 1887.

ON NASAL VERTIGO.

Dr. Joal, of Mont Doré, read a paper on this subject before the French Congress of Laryngology, in April, 1887, in which he stated the following conclusions:

1. There exists a nasal vertigo, a true *vertigo a naso laeso*.

2. It belongs to the group of reflex vertigos, such as gastric, laryngeal, uterine vertigo.

3. Irritation of the trigeminal filaments innervating the mucosa of the turbinated bodies, and the septum, is the starting point of the condition.

4. This irritation is transmitted to the vasomotor nerves through the sphenopalatine ganglion, whence arises circumscribed anæmia of the brain and vertigo.

5. The affections which give origin to vertigo are (1) nasal fluxions (odors, irritant vapors, snuff, flowering grasses); (2) acute coryzas; (3) chronic catarrh, especially the hypertrophic form; (4) mucous polypi; (5) post-nasal catarrh.

6. Vertigo is especially provoked by nasal affections of little importance.

7. The nasal reflexes are principally developed in arthritic individuals.

8. Vertigo can occur alone or be accompanied by other nervous phenomena—troubles of vision, *muscæ volitantes*, hemicrania, nausea, vomitings, great excitability, hypochondria, intellectual disability, nightmares, spasmodic cough, dyspnoëic cases, exaggerated secretions, syncope, feeble pulse, pallor of the face.

9. In order to establish a diagnosis, the nasal fossæ should be examined in every individual suffering from vertigo.

10. The recognition of nasal vertigo will sensibly diminish the number of cases of gouty, rheumatic, anæmic, congestive vertigos, as well as cerebro-cardiac neuropathy.

11. Vertigo ceases with the cure of the nasal affection to which it owes its origin. The condition has no connection whatever with Meniere's disease, and is independent of any affection of the ear. The author cites nine cases, on which, together with cases recorded by Massei, Guye, Gnuaro, Hering, Hack, and others, his essay is founded.—*Journal of Laryngology and Rhinology*.

THE CANADA MEDICAL RECORD.

A Monthly Journal of Medicine and Surgery.

EDITORS:

FRANCIS W. GAMPBELL, M.A., M.D., L.R.C.P. LOND.
Editor and Proprietor.

R. A. KENNEDY, M.A., M.D., Managing Editor.

ASSISTANT EDITOR:

GEORGE E. ARMSTRONG, C.M., M.D.

SUBSCRIPTION TWO DOLLARS PER ANNUM.

All communications and Exchanges must be addressed to the Editors, Drawer 356, Post Office, Montreal.

MONTREAL, DECEMBER, 1887.

PERSONAL.

Dr. Caswell (M.D. Bishops College, 1883), is practising in Gageville, N. S.

Dr. C. D. Ball (M.D. Bishops College 1884), is settled in St. Auna, California.

Dr. Wallace Clarke (M.D. McGill 1871), of Utica, N. Y., was in Montreal on a brief visit this month.

Dr. Leprohon (M.D. Bishops College 1879) has returned to Montreal from the Western States. He has commenced practice in his native city.

Dr. Hingston has been elected President of the Montreal School of Medicine and Surgery (Victoria College), in place of Dr. D'Oisonnens, whose term of office has expired.

THE LONDON ILLUSTRATED NEWS.

This is the best illustrated paper in the world; and should have the entry into every household able to afford it. Its high subscription price (which is still retained in England) prevented many from subscribing. It is now republished in New York at \$4 per annum, which places it within the reach of nearly every one. A single copy can be purchased from any newsdealer at ten cents. We strongly recommend it to our subscribers.

REVIEW.

Lessons in Gynecology, by WILLIAM GOODELL, A.M., M.D., Professor of Clinical Gynecology in the University of Pennsylvania, etc. Third Edition, thoroughly revised and greatly enlarged, with one hundred and twelve Illustrations. Philadelphia, Pa., D. G. Brinton, 115 South Seventh Street, 1887.

This book is not a complete treatise upon the Diseases of Women, but is mainly the outcome of Clinical and Didactic lectures delivered in the Medical Department of the University of Pennsylvania. This is a most interesting and instructive addition to the many late works on the above subject; but the manner in which the component parts of this volume are put together, viz., being Clinical histories in book form, make the reading very interesting and not nearly so wearying as the ordinary form of works on gynecology. The style of this book is very similar to Sayre's work on Orthopædic Surgery, and like this volume Goodell's Gynecology will, we predict, have a wide spread fame, and should be in the possession of every practitioner. The volume is beautifully bound and the letter press is large, clear and very distinct and the quality of the paper is of the very best.