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CONTENTS.

Original Articles—	PAGE	Special Selections (Continued)—	PAGE
Vaginal Section	637	Tetanus Antitoxin.—Treatment of the Uncontrollable Vomiting of Pregnancy	624
Reports of Societies—		"The Pharmacologist"	625
The Huron Medical Association	660	The Smallpox Scar	626
Mississippi Valley Medical Association	660	Miscellany—	
Niagara District Medical Association	660	Syphilis of the Heart	627
Special Selections—		Emotional Dyspnoea.—Overstudy in Young Girls	628
Necessity of new Methods of Early Diagnosis in Tubercular Disease	660	Publisher's List—	
Infantile Dyspepsia: Its Prophylaxis, Results and Treatment	669	Canada's Greatest Celebration of the Jubilee Year	638
Gastro-intestinal and Hepatic Relations of Gout	671	The Treatment of Nephritis With Antipyrin	640
Treatment of Gout	673	Glycero-Phosphate in Neurasthenia.—A Remedy for Recurrent Epistaxis	642
The Causation of Chloroform Syncope	675	A Lotion for Tinea Versicolor.—Scarlatina	644
Chloroform and the Heart	678	Gualacol Carbonate in Typhoid Fever.—An Application for Toothache	646
Review of Recent Experiences in Thyroid Treatment	680	For an Acutely Inflamed Rectum.—Laminectomy for Simple Feacture	648
Purulent Ophthalmia	682	Vaginal Suppositories.—Ulcer	650
Immunity to Poisons	684	Voice Lozenges.—Infectious Diseases in St. Louis.—The Presence of Nerves in New Growth	652
Cases of Anæmia Following Diarrhœa	685	Whooping-Cough	654
Steaming the Uterus in Septic Conditions Following Abortion, Etc	686	Vaginitis.—Urticaria	700
The new Psychology	687	The Treatment of Otis Externa Circumscripta with Salicylic Acid Colloidion.—Corns	702
Congenital Transverse Division of the Glans Penis	687	Diseases of the Cornea.—The Corset Habit.—For Burns of the Second Degree	704
Preparations of Iron in the Treatment of Chlorosis and Anæmia	688	Chronic Gouty Affections.—Earache	709
Wrinkles in Through-and-Through Drainage	688	Are You in Pain?—Cough Mixture	708
Suppressing the Dispensary Abuse	689	Burns.—Suppositories for Hemorrhoids	710
Infantile Diarrhœa	690	Ichthyol in the Treatment of Whooping Cough.—Chronic Inflammation	712
Etiology of Asthma	690	Contagious Impetigo	714
On Senile Endometritis	690		
Night Sweats	691		
Puerperal Neuritis	691		
Toxins and Antitoxins	692		

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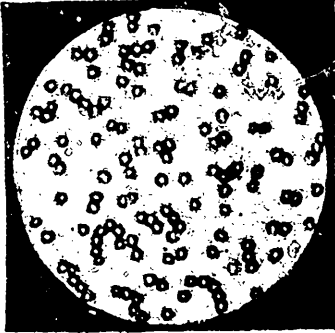
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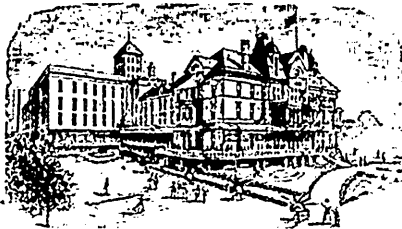
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The management of the Toronto Industrial Exhibition, lasting from Aug. 30th to Sept. 11th, have made preparations for the Exhibition with the view of surpassing anything of the kind ever seen in this country. The number of applications received, the list and value of prizes to be awarded are already far above other years, and there is no doubt that the Victorian Era Exposition will excel in the comprehensiveness and attractiveness of the numerous features. The buildings have been enlarged, the grounds altered all with a view of increasing the facilities and comforts of patrons and exhibitors, and commensurate with the scale upon which the exhibition features have been projected, are the entertainments and amusements provided. A peculiarly appropriate pageant, the replica of the

Queen Jubilee Parade in London will be produced during the Exhibition, and the size and number of the preparations prove that nothing will have ever been seen like it in this country. The agents have returned from across the water with scenery and stage fittings on a scale hitherto unknown here. They have brought with them the exact replica of the costumes worn by the Royal personages and the uniforms worn by the soldiers, Indian princes and marshals. The draperies are in many cases those used on the day of the Jubilee Parade in England. Besides this interesting and natural spectacle the entertainment will include many other features, and at night the effect will be lengthened, the beauty of the scene enhanced by illuminations and fireworks.



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THE TREATMENT OF NEPHRITIS WITH ANTIPYRIN.—Modinos (*Gaz. degli ospedali*, December 20, 1896) says it is not yet determined whether the various forms of nephritis are distinct diseases or variations of the same disease. Though the causes are various, the general conclusion that all cases of true nephritis are due to bacterial infection seems warranted. The multiplicity of remedies employed furnishes the most palpable evidence of the uncertainty that obtains as regards the etiology of the disease. Not one of them—tannin, sodium tannate, gallic acid, salts of lead, potassium iodide, salts of strontium, fuchsin, methylin blue, tincture of cantharides, etc.—has gained the general verdict of possessing any pre-eminent degree of efficaciousness. In the treatment of the various forms of nephritis we must endeavor above everything to stimulate the action of the kidneys, and, furthermore, to

check the development of toxic products, and to neutralize the toxins already evolved. For accomplishing the first two-ends, a milk diet is best suited; for the neutralization of the toxic products contained in the urine, the author recommends antipyrin as the suitable remedy. After many experiments with this drug, he has found it useful in most varieties of nephritis, whether acute or subacute, primary or secondary, and also in nephritis of the postmalarial type. He gives from twelve to twenty grams daily in divided doses. Under this treatment the quantity of albumin in the urine was found to diminish, and, in a remarkably short time, to disappear altogether, together with the symptoms of renal intoxication.

CONSTIPATION and pigmentation is apt to follow large doses of bismuth sub-nitrate.

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The Collegiate Course of the Faculty of Medicine of McGill University, begins in 1897, on Tuesday, September 21st and will continue until the beginning of June, 1898.

The Primary subjects are taught as far as possible practically, by individual instruction in the laboratories, and the final work by Clinical instruction in the wards of the Hospitals. Based on the Edinburgh model, the instruction is chiefly bed-side, and the student personally investigates and reports the cases under the supervision of the Professors of Clinical Medicine and Clinical Surgery. Each Student is required for his degree to have acted as Clinical Clerk in the Medical and Surgical Wards for a period of six months each, and to have presented reports acceptable to the Professors, on at least ten cases in Medicine and ten in Surgery.

About \$100,000 have been expended during the last two years in extending the University buildings and laboratories, and equipping the different departments for practical work.

The Faculty provides a Reading Room for Students in connection with the Medical Library, which contains over 15,000 volumes.

MATRICULATION.—The matriculation examinations for entrance to Arts and Medicine are held in June and September of each year.

The entrance examinations of the various Canadian Medical Boards are accepted.

The **REGULAR COURSE** for the Degree of M.D.C.M. is four sessions of about nine months each.

A **DOUBLE COURSE**, leading to the degrees of B.A. and M.D.C.M., of six years has been arranged.

ADVANCED COURSES are given to graduates and others desiring to pursue special or research work in the Laboratories of the University, and in the Clinical and Pathological Laboratories of the Royal Victoria and Montreal General Hospitals.

A **POST GRADUATE COURSE** is given for Practitioners during May and June of each year. This course consists of daily lectures and clinics as well as demonstrations in the recent advances in Medicine and Surgery, and laboratory courses in Clinical Bacteriology, Clinical Chemistry and Microscopy.

HOSPITALS.—The Royal Victoria, the Montreal General Hospital and the Montreal Maternity Hospital are utilized for purposes of Clinical Instruction. The physicians and surgeons connected with these are the clinical professors of the University.

These two general hospitals have a capacity of 250 beds each, and upwards of 30,000 patients received treatment in the outdoor department of the Montreal General Hospital alone, last year.

For information and the Annual Announcement, apply to

R. F. RUTTAN, B.A., M.D., Registrar, McGill Medical Faculty.

GLYCERO-PHOSPHATES IN NEURASTHENIA.—In the *Bulletin Generale de Therapeutique*, February 8th, 1897, Bardet denies that the glycerophosphates have any specific action in neurasthenia. He attributes the good results which follow their ingestion to the ease with which they are disintegrated and furnish phosphorus in a ready assimilative form. In certain cases of neuralgia success has followed their use by hypodermic injection, a mode of action which is not well understood.

Glycero-phosphates probably represent the form in which phosphorus exists, not only in the nervous system but also in the nutrient fluids from which the bones draw their phosphates. It is probable, also, that the iron in a blood-corpuscle exists in the form of a glyccro-phosphate. The indication for their use exists not only in neurasthenia, but also in diabetes, anæmia,

scrofula, and rickets. Robin recommends the use of a mixture of the glyccro-phosphate of lime 5, soda 1.5, potassium 1.5, magnesium 1.5, and iron .75 grams twice a day.

A REMEDY FOR RECURRENT EPISTAXIS. — Rendu (*Gazette des Hopiteaux Wiener Med. Blat.*), recommends that the following mixture be taken several times a day in obstinate cases of frequently recurring epistaxis occasioned by vascular tumors of the skin or mucous membrane :

R Antipyrin gr. viiss.
Tannin gr. xv.
Sugar ℥ iij.

M. The bleeding is said to be controlled on the first and almost entirely stopped by the third day.—*Ex.*

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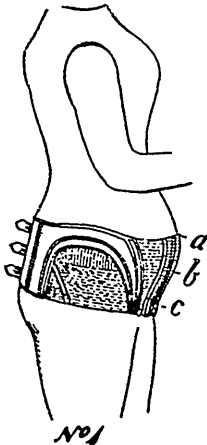
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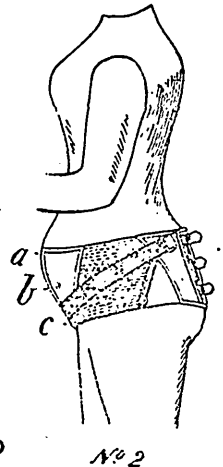
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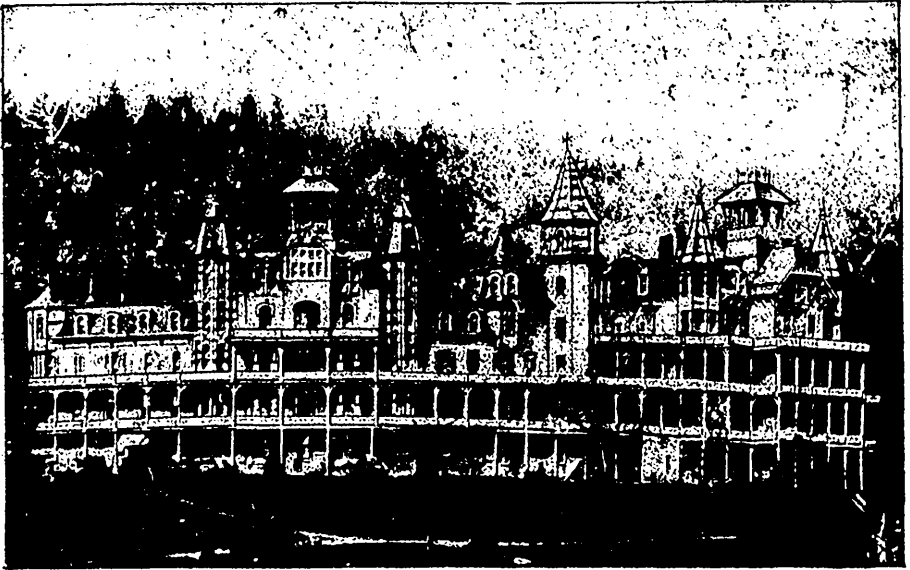
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A LOTION FOR TINEA VERSICOLOR.—The Province *Medical* gives

the following formula for “aristocratic employment”:

℞ Tincture of lavender.. 120 parts.
Corrosive sublimate .. 1 part.
Oil of lavender..... 4 parts.
Green soap..... 80 parts.

M. Sig.: Apply the liquid to the affected part and let it dry; take a full bath at the end of three days.—*New York Medical Journal.*

SCARLATINA.—

℞ Acid. boracic ℥ss.
Potass. chlor..... ℥ij.
Tinct. ferri chlor. ℥ij.
Glycerine,
Syr. simp..... āā ℥j.
Aque..... ℥ij.

M. Sig.: Teaspoonful every two hours for a child of five years.—*Smith, Ex.*

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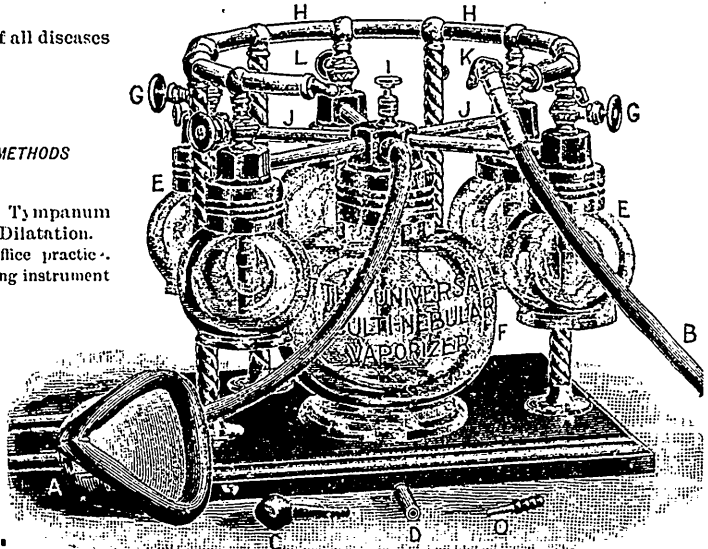
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Aromatics	" 6
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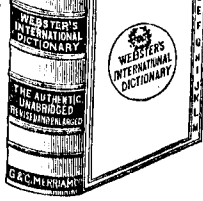
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GUAIACOL CARBONATE IN TYPHOID FEVER.—Recent and exhaustive investigations concerning the conditions governing the absorption and excretion of guaiacol carbonate in typhoid fever show: its perfect indifference to mucous membranes; its absolute non-poisonousness, as much as 6 gm. (90 gr.) being given phthisical patients daily without causing any symptoms of intoxication; that only putrefactive processes decompose and render it absorbable in the gastro-intestinal canal, and directly in proportion to their intensity; that it responds to the necessities of the canal quite independently of the dose; that it appears to be more thoroughly used up, the smaller and more frequent the dose; that it has no influence on the temperature of typhoid fever in the absence of antipyretics, but, given with antipyrin, causes a fall with greater rapidity and certainty than when antipyrin is

given alone, and is of good prognostic significance; and that, when given early, it was frequently unnecessary to treat the fever at all, and the disease ran a mild and rapid course.—*Amer. Med.-Surg. Bulletin.*

—

AN APPLICATION FOR INFLAMMATORY TOOTHACHE.—Dr. S. Wotjoff (*Ther. Monatshefte*) recommends this mixture for toothache depending on inflammation of the dental pulp:

℞ Cocaine hydrochloride.. part j.
Camphor,
Chloral hydrateãã parts 50.

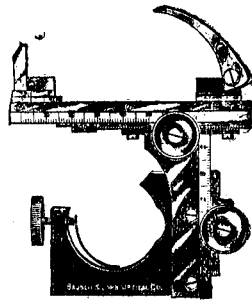
M. Sig.: Rub enough water with the mixture to make a clear solution, rinse the mouth with it, and insert into the cavity of the tooth a bit of cotton wet with the solution, to be retained for twenty-four hours.—*Ex.*

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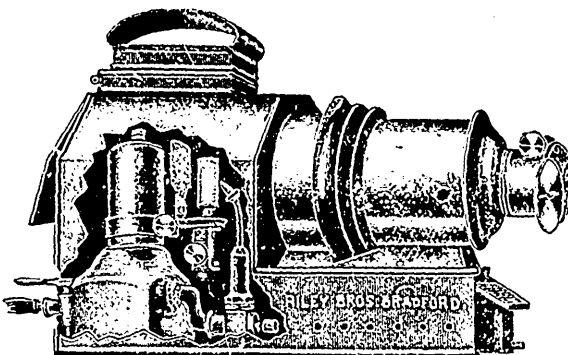
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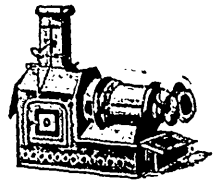


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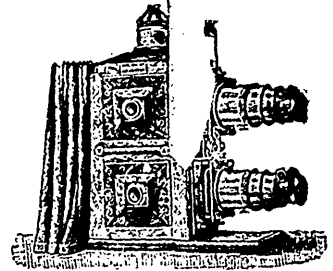
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Tannic acidgrs. xxiv.

Lime waterOj.

Sig. One-fourth to one-third of this quantity is to be mixed with $\frac{3}{4}$ xii. of warm water or thin starch water, and five or six ounces injected into the rectum at a time and retained as long as possible.—*Ewald*.

LAMINECTOMY FOR SIMPLE FRACTURE.—Mortality following this operation has been variously estimated at from thirty to fifty percent. Gallaudet, in the *Annals of Surgery*, January, 1897, says that these percentages are misleading, because the cases are not classified as regards the seat of the

injury. The prognosis, if the injury is in the lumbar region, is very favorable. It grows less so the higher the injury. He reports three cases operated upon by himself, two in the lumbar region and one in the upper dorsal. The lumbar cases recovered from operation, and are living in an improved condition. The dorsal case died of shock six hours after the operation. The writer urges an immediate laminectomy in all cases of fracture of the lumbar laminæ, in which the diagnosis is reasonably clear.

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THE Johns Hopkins Medical School in Baltimore, held its commencement on Tuesday, June 15th, on which occasion the members of the first graduating class of this school received their diplomas. There were fifteen in the class, one being a woman. All of the graduates will remain for a year of graduate work in the hospital. One of the graduates has been appointed to the faculty.

VAGINAL SUPPOSITORIES.—The *Journal de médecine de Paris* gives the following formula :

℞ Acetanilid gr. 75.
Tannin gr. viij.
Ext. of hyoscyamus... gr. iv.
Sugar of milk..... gr. 150.

M. This is for one suppository, to be used for vaginal inflammation.—*Ex.*

ULCER.—

℞ Creasoti..... ℥iv.
Tinc. galbani..... ℥ij.
Aquæ..... ℥ij.

M. Sig.: Use locally. (In indolent ulcers with excessive discharge.—*Neligan.*

℞ Chloral hydrat..... ℥ss-ij.
Aquæ..... ℥vj.

M. Sig.: Use as a wash. (In sluggish ulcers.)—*Keyes.*

℞ Hydrarg. chlor. corros. gr xv.
Acid. carbol. ℥xxx.
Aquæ..... q. s. ad ℥ iv.

M. Sig.: Apply on cotton daily. (Syphilitic ulcers.)—*Fox.*

℞ Pulv. camph.,
Carbonis animal āā ℥j.

M. Sig.: Use as a dusting powder. (In deep chronic ulcers.)—*Barbacci, Ex.*

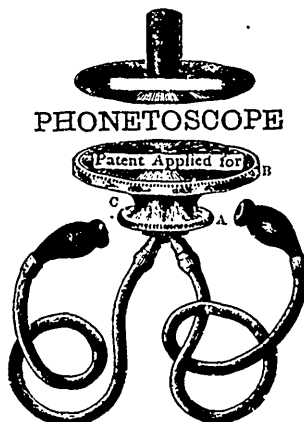
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Intimate by number those you wish details of.

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- No. 143.**—An unopposed practice worth \$2,000 in Parry Sound District worth \$2,000 per year. A fine chance for a young man.
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- No. 138.**—Vienna, Austria. "Dear Dr. Hamill.—I will return home in a short time, and write you to secure me a good practice in a town of not less than 8,000 population." This client can pay cash and means business; but the practice must be large, as he has always had previously a large country practice. Any doctor wishing to sell out who can fill the above order, write this office at once.
- No. 137.**—\$2,500 to \$3,000 pr. ctice. in Michigan town of 6,000 population—nearly all office work, and cash—fully established and easily transferable—price for introduction and good-will \$500. [This offer is very inviting, and I am convinced a good thing.—W. E. H.]
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 Powd. tragacanth... parts xx.
 Ext. licorice..... parts 350.
 Sugar.... parts 900.
 Eucalyptol..... parts xx.
 Ol. anise..... parts iv.
 Black currant paste
 to make..... parts 1400.

Divide into suitably large pieces, one of which is allowed to dissolve in the mouth just before speaking or singing.

- R. Ext. white poppies,
 Ext. licorice,
 Powdered acacia.... āā ȝ iv.
 White sugar..... lb. j.

Make into candies weighing about ten grains each and dry.—*Merck's Market Report.*

INFECTIOUS DISEASES IN ST. LOUIS.—The Board of Health and Health Commissioner of St. Louis have decided to double the number of depots at which physicians may obtain culture tubes, diphtheria antitoxin, etc. Circulars are now being prepared announcing eighteen new stations at which will be found culture tubes, diphtheria antitoxin, sputum bottles for suspected tuberculosis, and sterilized glass slides for collecting blood for typhoid fever tests.

THE PRESENCE OF NERVES IN NEW GROWTHS.—Young (*Journal of Experimental Medicine*, Vol. II., p. 1) has examined a number of malignant and benign tumors, in order to determine the presence therein of nerve fibres. In five of ten cases of carcinoma and sarcoma and myxoma, the presence of nerves was positively

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demonstrated. In sarcoma, at least, the nerves seem to be as much an integral portion of the tumor substance as the sarcomatous blood-vessels. Their origin in carcinoma was not so clear, and it is possible that those seen were nerves of normal structures which were surrounded by the invading cancer tissue. This is an entirely new subject, and as yet no explanation has been given of the function of nerves in new growths, except the suggestion that they may be vasomotor in character.

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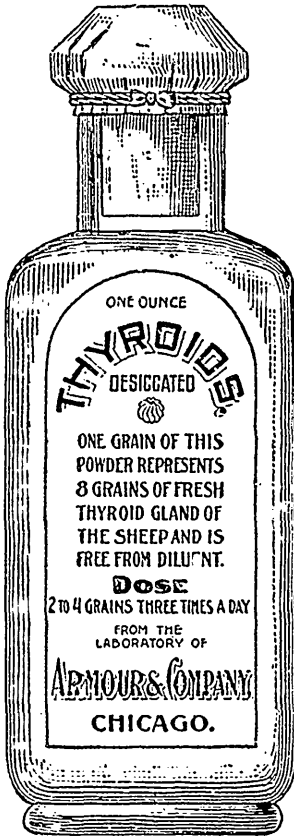
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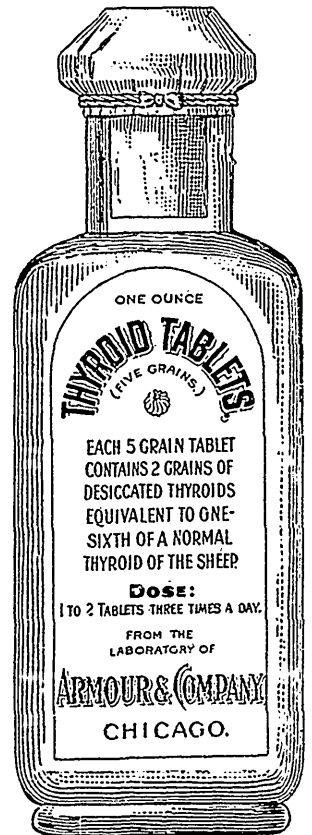
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Vol. VIII.

TORONTO, AUGUST, 1897.

No. 8

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original, will be accepted in this department.

VAGINAL SECTION.

By ERNEST HALL, M.D., L.R.C.P. Edinburgh, Victoria, B.C.
Fellow of British Gynecological Society.

Vaginal hysterectomy has passed through the usual evolution which characterizes every important procedure in pelvic surgery, and now its indications are fairly well recognized, and its limits defined. But after six years of discussion the same unanimity of opinion has not been reached with regard to the vaginal route for other and less radical procedures. In fact the discussions in some societies would indicate that the divergence of opinion is as great as ever, and upon each side do we find some of our strongest men. It may be well that such is the case, for it gives assurance that no consideration will be neglected in the argument. It has been said that all extremes are errors, and in this matter especially the truth lies mid-way, the anatomical plan having afforded us two routes to this cradle of the world and nursery of germs. With due thanks for favors received from the abdominal route, let us consider some of the advantages of the method of attack from the rear.

While with Martin, in Berlin, two years ago, vaginal section was a daily occurrence, not only in his clinic, but in that of other operators. It was there that the writer was first impressed with the advantages which this method offered in selected cases. The comparative ease of performance, absence of shock, and of post-operative sequæ, short confinement and almost no mortality, convinced me that the method was worthy of trial. Returning to London no surgeon was found following the continental lead in this matter, however this is not surprising, for we have no less authority than that of the editor of the *British Gynecological Journal* for the statement that "new" operations are rarely or ever taken up *con amore* by the average London gynecologist until the brethren from Berlin, Paris, New York or Chicago have worked out the problem and shown him what to do. Upon returning to America, several surgeons were busy upon the solution of the problem, and to-day such solution can be read in the reports of Vinberg, Pryor, Kelly and others. Although in Canadian centres much work is being done few reports of the more modern procedures have appeared in our literature.

It is not intended that any claim should be made to the superiority of the vaginal over the abdominal route, for there are disadvantages most serious here as elsewhere. We are yet far from possessing any perfect procedures for the cure of many conditions presented to us, and the unprejudiced wel-

comes the addition of a second means of approach, even though the application be somewhat limited. We must remember that the personal factor is, after all, the most important consideration. The method does not make the man. Again, an operator trained by years of experience and manipulation may excel with the older methods and fail with the new.

In surgery, as in piano playing, there is finger training required, and for those whose habits are yet in the formative condition, familiarity with both habits should be acquired. Ease and rapidity come only by experience, the more expert, the fewer the tools, the simpler the methods, and the mutilation less; and in the newer pelvic surgery it appears that we are approaching an era of greater simplicity and conservatism.

The vaginal route offers the following advantages: Thin walls, dependent drainage, area of probable infection less, non-exposure of the bowels, more rapid operation with the average man, less shock, shorter confinement, rapid convalescence, and little or no mortality. The disadvantages of this route, which may be encountered in virgins and in cases of contracted pelvis are obvious. Catarrhal, septic if you will, endometritis precludes any procedure other than emergency work.

Asepsis of the canal is the *sine qua non* of the best work here. The fact of not being able to see the contents of the cul de sac so well as by the upper route, can hardly be considered as an objection. As the hand is trained in pelvic examination, so that it is rarely necessary to use either sight or instrument, so should the operator's hand in intra-pelvic examination give him the necessary information, without recourse to a ten-inch incision, locomotive or electric search light. In pelvic surgery more than in any other department should, as Sir Charles Bell used to say, the brains be at the ends of the fingers. Another objection urged by a confrere is that the patient not seeing the usual scar upon the abdomen would not be convinced that a major operation had been performed upon them, and consequently would not part with their wealth as freely as if they bore the continual reminder of their misfortune and prolonged stay in the hospital. This may be worth considering.

Vaginal section includes two distinct methods, anterior and posterior calpotomy, as the incision is anterior or posterior to the cervix. In the former the incision vertical, transverse or crucial is made in the anterior vaginal wall. The bladder and cervix are separated, and the utero-visceral fold of peritonæum incised; in the latter the posterior cul de sac is opened.

The conveniences of the vaginal route are apparent under the following conditions: (a) Pelvic exploration (advocated by Martin Dühresson, Gussiero and by several American surgeons); (b) myomata not larger than an orange, ovarian or parovarian cysts of larger size, if free from adhesions (in this class Martin prefers the anterior, while Mackenrodt selects the posterior incision as affording better drainage and less risk of injuring the bladder); (c) hydrosalpinx, pyosalpinx and ovarian abscess, better treated by posterior incision, yet in nullipare, or in a deep pelvis, the abdominal method is easier, as it becomes difficult in such cases to do clean work, unless the parts to be removed lie very low in the pelvis; (d) acute gonorrhœal or puerperal septicæmia and unruptured tubal pregnancy in early months, call for posterior incision and free drainage; (e) adhesions may be broken up through either route, but as they are most frequently the cause of retro-displacements the anterior incision is preferred with vagino-fixation of uterus.

It must not be neglected that in all cases of vaginal section the patient must have the additional preparation of the abdomen, and the part covered with sterilized towels, so that there is no delay in opening from above, should a tare of the bowel or severe hæmorrhage from the ovarian artery occur (branch

of the aorta), which might give some difficulty in ligating from below. These misfortunes I have neither seen nor experienced. As to special preparation the vaginal is douched twice a day with bichloride solution, 1 to 4,000, for two days or more, according as the case presents symptoms of sepsis. Bichloride gauze is inserted fresh after each douche.

The patient is placed in lithotomy position, with the foot of the table slightly raised, so that the intestines may gravitate away from the field of operation. The limbs covered with small aseptic blankets are steadied by assistants on either side, who also manage two lateral and one posterior retractor. If indicated curretting is performed, the uterus is irrigated and the cervix packed with iodoform gauze. If the section is to be posterior, the mucous membrane is taken up with tenaculum forceps, and an opening made with the scissors, and enlarged by separation of the blades, and further increased by stretching or tearing with the fingers. The pelvis can now be explored, adhesions carefully separated, the ovaries brought out and examined, the fundus of uterus turned out, if necessary, small cysts easily ligated off, larger ones evacuated and summarily disposed of, etc. The part is then irrigated with sterilized water, and if neither septic matter nor considerable oozing is present the vaginal incision is closed with continuous catgut. But if either of these conditions be present a gauze drain is pushed to the bottom of the offending cavity, the vagina packed with gauze, and the case managed according to the well-defined rules of surgery.

If anterior section is desired, a tenaculum grasps the anterior surface of vagina half an inch from the meatus, while the cervix is grasped and drawn downwards. A vertical incision, about an inch and a half in length, through the mucous membrane, and muscle is then made, the edges of this incision being held apart, careful dissection with the fingers and knife handle is made, keeping close to the cervix to avoid wounding the bladder. I find it convenient at this stage to keep a large sound in the bladder, so that its limits may be more easily defined. The peritoneum is pierced, and the incision enlarged, as in posterior section, and the pelvis is entered. The lateral retractors are now passed within the pelvis, and the way is open. The contents of the pelvis may be easily examined, the uterus may be turned forward until two-thirds of it be within the vagina, small myomata may be enucleated as was done in my last case; cysts may be removed as in the previous case, and adhesions broken up; in fact, the pelvis, with its contents, is open before the operator.

If prolapse or retro-displacement has been a prominent feature of the case it is well to fix the body of the uterus to the anterior vaginal wall. This is done by passing two kangaroo tendons, or three chromitized gut sutures, through the vaginal wall, then through the uterine structure, and out through the opposite side of incision. These being drawn tight, force the uterus against the vaginal wall, a running suture of catgut now unites the incision. Gauze is packed into the vagina, and urine is drawn by catheter for five days, and the case managed on same general principles as after perineoplasty. Strange to say, there is no irritation of the bladder attributable to the operation, as has been expected. In non-septic cases two weeks' confinement is ample.

As to the results it is too early to speak, but so far the herniæ, and complications in subsequent pregnancy appear to be about equally divided between this operation and ventro-fixation. In cases where the abdomen is opened for other purposes ventrofixation should be selected, and in cases exposed to subsequent pregnancy, both operation should be rejected and dependence placed in plastic work.

Reports of Societies.

THE HURON MEDICAL ASSOCIATION.

The regular meeting of this Association was held at the House of Refuge, Clinton, on Wednesday, July 14th, 1897. Drs. Bethune and Cunn read some interesting cases in practice. Among other papers was one on "Skin Diseases," by Dr. Stanbury, and another on "Some varieties of Dyspepsia," by Dr. Burrows. A very interesting and instructive meeting was held, and subsequently adjourned to meet at the same place three months hence.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

The next meeting of the Mississippi Valley Medical Association will be held in Louisville on Oct. 5, 6, 7 and 8, 1897. All railroads will offer reduced rates. The President, Dr. Thos. Hunt Stucky, and the Chairman of the Committee of Arrangements, Dr. H. Horace Grant, promise that the meeting will be the most successful in the history of the Association, and this promise is warranted by the well-known hospitality of Louisville and Kentucky doctors. Titles of papers should be sent to the Secretary,

DR. H. W. LOEB,
3559 Olive Street, St. Louis.

NIAGARA DISTRICT MEDICAL ASSOCIATION.

The annual meeting of the Association was held on Wednesday, July 14, 1897, at the Grand Central Hotel, St. Catharines. Among those present were, Drs. King, Abraham, Trimble, Armour, Considine, Sheehan, Merritt, Thompson and Campbell. Dr. King was in the chair. The first business of the meeting was the elec-

tion of officers for the ensuing year. These were elected by acclamation, as follows: President, Dr. Armour; Vice-Presidents, Drs. Merritt, Abraham, Trimble and Howell; Secretary, Dr. Campbell; Treasurer, Dr. Sheehan. Dr. Abraham was then called upon to read a paper on "Inebriety and the Results of the use of Narcotics." The doctor went over the whole ground very thoroughly, and the paper was admitted by all to be a very able one. Much interesting discussion followed, in which most of those present took part.

The next meeting of the Association will be held at Niagara Falls, Ont., on Wednesday, October 13th, 1897.

Special Selections.

NECESSITY OF NEW METHODS OF EARLY DIAGNOSIS IN TUBERCULAR DISEASE.*

BY J. B. RANSOM, M.D., Dannemora
New York.

The most necessary thing to the intelligent treatment of tuberculosis is a means of early diagnosis. The difficulty of treating successfully this disease has arisen chiefly from the inability to make a positive diagnosis early enough in the process; hence the treatment has been so fruitless. It is my own belief that an early diagnosis of tubular conditions, especially general, is seldom made; and one is often brought face to face with an advanced stage of the disease—very often, in fact, with those secondary conditions so difficult of relief or cure. Now, what is most needed is a harmless but sure test, either by way of serum reaction, such as is now being utilized in the diagnosis of typhoid fever (Widal's test), or the introduction of some ele-

* Read before the Medical Society of the State of New York.

ment into the economy that will, by setting up reactive processes, as positively determine the presence of the tubercle bacilli as the use of tuberculin acts in detecting tubercular disease in cattle.† I firmly believe that when such a test can be used, it will be found that tubercle is at the bottom of many conditions now attributed to other causes. The early diagnosis will put the profession in a most favorable position for curative treatment, by both climatic and medical means. If the efforts of pathologists and bacteriologists were directed more towards the perfection of a diagnostic serum test, they would accomplish very much more in the direction of a cure for tuberculosis than by a search for a direct cure; once having determined the presence of the disease in its inception, its cure becomes comparatively a simple matter; when the general system is at a high point of vitality, when its resistance is large, when the tubercular infection is initiatory and feeble in its manifestation, many remedies which are now sometimes curative, and often retardative in the more advanced stages, I have no doubt would work a positive and permanent cure. I am satisfied that we know very little about tubercular infection, and of its early symptoms next to nothing, in fact—if there be any appreciable symptoms. My own experience in autopsies upon criminals, whom I have had the opportunity of observing almost daily prior to death, have simply astonished me, when I found the presence of tubercular deposits in cases where I had not the least suspicion, and where no symptoms were manifest of the same.

Especially do I believe this to be true of deposits in the glandular system; even in the lungs I believe it is

perfectly impossible to detect the presence of tubercle by physical examination until the disease is considerably advanced, for here the microscope is absolutely useless, because no expectoration can be obtained. Early tuberculosis is diagnosed as almost any disease in the calendar, many of my cases in this character having been deemed catarrhal bronchitis, simple pleurisy, or simple indigestion. Here is a prolific field for study and experiment, and the energies of those of the profession interested in this particular work should be directed first towards a means of exact diagnosis, and secondly, to the cure.

In considering the treatment of tuberculosis the profession should disabuse itself of the idea it is an incurable disease. Tuberculosis is, I believe; a largely curable disease, and often self-limited. But it is a deeply rooted belief among the laity, as well as among physicians that tuberculosis is wholly incurable, and that it is costing many lives: consequently one feels he must be very cautious in making a diagnosis, unless the signs are so pronounced he cannot go astray, which latter, of course, implies an advanced stage of the disease. If a physician makes a diagnosis of tuberculosis and the patient recovers, he knows very well that it will be said he made a mistake. The view that tubercular disease is incurable also leads to the neglect of many measures which, if properly adjusted to the needs of the individual patient, would often result in amelioration or cure. In meeting so formidable a disease one must have confidence in his ability to cope with it, and no half-hearted dilatory treatment will ever suffice to head off so tenacious a process. To be sure the public are becoming enlightened, and the profession is taking a more hopeful view of the curability of this disease, but there is still much room for the exercise of more confidence in treatment of the malady. Now that it is known that most infectious diseases are dependent

† I am aware that tuberculin has been suggested as a test for human tuberculosis, but its use is not safe for that purpose; and also diagnosis by microscopic examination of the blood, which does not seem to promise much in a positive way.

upon the presence of a special micro-organism, why should the mere fact of the presence of the tubercle bacillus imply certain death? There is no reason, only that which has grown out of ignorance of the true nature of the malady. While admitting its gravity and the difficulty of its dislodgement, it is not necessary to admit it is necessarily a fatality. Doubtless many thousands have paid the penalty of fright on their part and the part of the physician. Every day of these modern times adds to our knowledge of some feature of tubercular manifestation, which we did not know before, and yet from which the patient has often recovered, as revealed on the autopsy table. Any one who has had extensive experience with this disease knows that he has repeatedly seen cases of acute tuberculosis get well.*

A boy aged fourteen was taken violently ill during the winter of 1894 with what seemed to be typhoid fever. I was soon able, however, to diagnose acute tuberculosis, with involvements of lungs, peritoneum and intestinal glands; temperature very high; pulse rapid; expectoration of bloody purulent sputa swarming with bacilli. For nine weeks this fever raged; he became very much emaciated, and all hope of recovery was given up. At the end, of three months, however, he was a great deal better, and after two years' examination revealed him to be perfectly healthy, rugged and vigorous, with no evidence of pulmonary disease whatever. This was positively one of the most intense cases of tuberculosis I have ever seen, and there seemed no possibility of recovery; there was no doubt as to the diagnosis, for the microscope settled

that conclusively. I have seen several cases somewhat similar to this recover from primary attacks of tuberculosis; and I think if one will carefully go into the history of cases it will be found that many primary attacks are recovered from, and where the patient has died a clear history of reinfection will be obtained. Could one know of the many cases of tuberculosis which have been diagnosed as some other form of disease that have recovered, the belief in its curability would be greatly strengthened. Believe, then, that a large percentage of tubercular patients can be cured and then it will be possible to show results. It should not be expected an advanced case can be cured, where the lungs are riddled with cavities, the lymphatic and glandular systems partially occluded, the heart weakened, the digestive and assimilative powers of the system so abbreviated that nutrition cannot be carried on, any more than can be expected that all cases of typhoid fever should recover, after perforation has taken place.

In speaking of the treatment I divide into climatic, nutritive, and medical.

Climatic treatment may be subdivided into *location* and *environment*. Of all the known treatment for the amelioration or cure of tubercular processes climatic stands first, but there can be no hard and fast rule as to its application in any given case; generally speaking the prime requisites are proper altitude, equableness, dry pure air, with natural timberage of resinous woods, to which should be added sufficient air currents coming over large tracts of unpopulated land (preferably forest lands of balsam, spruce, pine, and hemlock), and of sufficient velocity to sweep away all local impurities arising from low grounds, and also all bacteria from the atmosphere. There is too much tendency to fear winds, when this is really the most important factor in the dryness and purification of the

* Blache in his recent report claims that in the outdoor treatment of consumptive children at Ormission, France, 47.71 per cent. are cured, and the percentage of deaths are only 3.44. He further states consumption is more easily cured than many other diseases—in fact, is eminently a curable disease.

atmosphere. Just what affects climate alone has upon the bacillus of tuberculosis has not received enough of attention from the profession, and so far as I know very few, if any, experiments have been made in this direction. Last summer I began in a crude way the experiment of exposing for several days glass slides smeared with the film of tubercular sputum, preserving check slides of the same sputum with which to compare the results; but for want of an efficient bacteriologist the experiments were not carried to an extent warranting expression of an opinion.

One thing I have determined, however, by ordinary examination of the sputa of patients brought from the low countries to the Dannemora climate, and that is, the bacilli after a short residence here become attenuated, much less in number, and often entirely disappear. In comparing a slide of bacilli mounted from a sputum received from New York and those of the sputa of patients residing in and about Dannemora, the difference in the size of the bacilli was very marked; the specimens received from New York were very much larger than those from Dannemora; this difference I attributed to the unfavorable conditions for the growth of the bacilli in the Dannemora climate. Here also is a wide field for bacteriologists, and when it shall have been more correctly determined just what the effects of different climates have upon the growth and life of the bacillus, then it will be possible to determine the best climate calculated to cure a patient.

Generally speaking, the object of climatic treatment is: To produce an effect upon the nervous system through the agency of change—a very important factor in the treatment of tubercular disease as the mind needs to be taken from the person himself and his ailment, and a suggestive substitution of other subjects calculated to fill his thoughts and occupy his attention pleasantly. For

this reason the grouping of large numbers of tuberculosis patients is not desirable, because the mind is constantly brought to recognize the ravages of the disease and to permit an inward self-consciousness, which is decidedly injurious to the patient: Second, to furnish ample opportunity for safe outdoor living.

Not only should climate afford pure air and pure water, but also opportunity for the location of dwellings on dry ground with sunny exposures, for the latter is absolutely essential to the cure of tubercular processes. House dampness is one of the greatest promoters of tubercular infection, and I have repeatedly noticed in old houses built on rather low ground, with sills practically level with the earth line, that the inmates often suffer from tubercular disease, and had for generations. Darkness and damp are ready servitors of this malady, while dryness and sunshine are its inveterate foes.

Not only should climate tend to promote cure, but it should most decidedly be adjusted to the patient's needs to prevent the probability of reinfection, which is the essential factor in making possible a permanent cure. As before intimated, the initial attack of tuberculosis is often cured, and often seems self-limited; it, however, does not depart without leaving the results of its former presence in the economy, and diseased areas left behind afford rich foci for reinfection. The grouping therefore of large numbers of tubercular patients in the wards of sanitariums and hospitals is opposed to every principle of good treatment. Tuberculous patients should live in small, sunshiny cottages, distinctly isolated from all other buildings, with plenty of air space between them, exposed to the sun, and no shade trees within a goodly distance, and so constructed as to permit of absolute cleansing. With these conditions secured, climate is a wonderful factor in accomplishing a cure, and if the patient could be kept in

the proper atmosphere his life would be practically assured—so far as this disease is concerned. It is, however, when a recovered patient is sent to his former environment that within a short time he is reinfected or auto-infected, and the former process is gone through with, perhaps again and again, until constitutional resistance is destroyed and he succumbs. The tuberculous patient should never return to the environment in which he acquired the disease; this should be a fixed rule in medical practice in the advisement of patients.

Next in importance to the climatic is the nutritive treatment. This may be confidently divided into dietetic and mechanical. While I do not believe with some modern writers on this subject that diet is so large a factor in prevention and treatment, all observers must recognize its absolute importance, especially in preventing a reinfection. In a battle with such a disease every means must be brought to bear which has a tendency to fortify the general system against it, and raise the standard of vitality and resistance. There is, however, I believe, a something in connection with the infection of tubercular disease which is not understood, and this is the predisposition to infection, which is termed the hereditary vice of constitution or tendency. My observations have not led me to believe that it is always those of low vitality who become infected, or that infection always takes place at the lowest point of bodily nutrition, for I have repeatedly seen cases where the subject has become infected when apparently in the best of health, and the bodily nutrition at the highest point; there is, I believe, some general serum condition of the economy, or some localized condition which invites infection, which acts as a culture broth to the bacilli. Infection by the bacilli cannot be explained through a lowered vitality alone; therefore I cannot endorse the statement I have so repeatedly seen made, that the prevention

of tuberculosis depends so entirely upon dietetic measures. Here, again, is another field for the pathologist, to seek to determine what the precise systemic condition is at the time of infection. This, like a test for the presence of the disease itself, can only be determined through a series of serum or tissue tests. The diet in the pre-tubercular and tubercular states should be of mixed character, and adapted to the individual requirement without reference to kind or quantity; should be that which furnishes the greatest amount of nutrition, with the least effort on the part of the digestive organs. As a rule, proteids should predominate, but there is also danger of development of ptomaines, from too prolonged feeding of animal food. The digestive and assimilative functions should be carefully looked after and nutrition kept at the highest point possible, which often requires frequent and forced feeding and absolute rest in bed for a time. There is, however, great danger in overfeeding, by the throwing too much work on the excretory and lymphatic systems—always a grave mistake in the treatment of a disintegrative disease.

The mechanical aspect of nutritive treatment consists in proper exercise of all the muscles of the body, proper care of the skin, and especially in the development of the chest muscles and of lung capacity by breathing exercise through tubes and while in action: all local congestion should be prevented as much as possible, and the circulation kept in equable condition at all times. All sorts of open air exercise, such as horseback riding, cycling, hill-climbing, hunting and fishing should be encouraged within limits, for violent exercise and overdoing of any sort must be strictly prohibited. With the tuberculous patient all changes should be made as gradual as possible, and abrupt innovations as to habit, feeding, etc., are never advisable.

The last feature of treatment is that by medication, and I purposely

pass over most of the remedies which have been heralded. Medical treatment may very properly be divided into local and general. The former, aside from surgical, consists in the employment of inhalations and sprays, and counter-irritants. All of these means are extremely useful in their places, and when exhibited in proper cases have repeatedly seen most beneficial results. Every practitioner is familiar with the benefits that can be obtained and the amelioration that can be afforded to local pain and infiltrations by the use of local stimulation.

In speaking of general treatment I shall make no reference to serum injections, having had no practical experience therein, but confine myself to the mention of a few of the more prominent remedies. First, good Norwegian cod-liver oil, which occupies a place midway between the nutritive and the medicament, for I believe it possesses both properties in a marked degree. In this medicament, when properly administered, is had a potent factor in the relief and cure of tubercular processes; of this I am thoroughly convinced from close study and observation of many hundred cases. My method of administering is in connection with the syrup of hypophosphites, U. S. P., in the proportion of about one to six; no attempt is made at emulsion, but the patient is instructed to simply shake the mixture, and take it from sixty to ninety minutes after meals. In this way I prescribe from five to ten gallons per month, and I have seen but few cases where it seemed to be ill borne or to in any way interfere with digestion. Its effects have been universally good, and there is usually marked improvement in the condition of the tuberculous patient. If the oil is given in an acid menstruum, while the food is passing out of the stomach, so that the oil can be quickly reached by the pancreatic secretion, there will be found little difficulty in its assimilation. Of course there are cases where

cod-liver oil cannot be taken in any form, but my observations lead me to believe that such are rare. As a heat-producer and tissue-builder, nothing has yet been found equal to cod-liver oil. Creosote in my hands has also been of great service, and I have repeatedly seen apparently hopeless cases of tubercular disease, especially pulmonary tuberculosis, appear to recover under its use. I give this medicament in two ways: either in glycerin or whiskey, or in a mixture containing glycerin, cinchona, gentian, and alcohol—I seldom give in capsules, or in any concentrated form. I also begin with small doses, gradually increased—for I have never seen good results follow the administration of large doses, on the contrary have seen many ill results—for a long time, and the result has been generally good. Some cases I have found could never take creosote with benefit at all, and to some it seems to be rank poison. One hears on all sides the assertion that creosote is a failure in the treatment of tubercular disease; but this I do not believe to be true, and feel that the authors of such statements have not had the opportunity for close daily observation or absolute control of patients.

Guaiacol I have also found useful, but my experience therewith has been much less than with creosote. There are many other useful remedies, such as strychnia, alcohol, hypophosphites, quinine, etc., etc., and many incidental means by which patients can be made comfortable, and at the same time are helpful in promoting cure; but I must advise against the indiscriminate use of opiates and cough mixtures, which are as a rule injurious.

I will here speak of the great injury done to pulmonary tissues by frequent coughing, which I have found is largely a habit. The patients in my tubercular wards seldom cough after having been admitted a few days. One of the first things I instruct them in is to clear the bronchii without coughing; I tell them, when

they feel the impulse of cough, to resist and think of something else, allowing the secretions to accumulate in sufficient quantity to be raised by an expulsive use of the thoracic muscle; it is seldom, indeed, that my wards are disturbed by coughing, and it is astonishing to see how easily the patients learn to repress. The beneficent results of avoiding this strain to the pulmonary tissues and exhaustion of strength of the patient must be apparent.

INFANTILE DYSPEPSIA: ITS PROPHYLAXIS, RESULTS AND TREATMENT.*

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This paper will be neither scientific nor startlingly original. It will deal in a clinical way with a trite subject, but one of enormous importance, and one which will require repeated discussion till our theological knowledge is equaled by practical results.

The term "dyspepsia," though somewhat vague and referring to functional disorders, is purposely chosen, since most digestive disturbances are originally functional, not organic, especially in the case of the young child. With the exception of syphilitic lesions of the liver and congenital anomalies—the latter being almost limited to the lower bowel and the umbilicus—organic abnormality of the digestive organs of the child is usually immediately due to preventable disturbances of function, and most frequently takes the form of an acute inflammation due to causes which would produce only functional disturbance in the adult.

This is an age when the laity are seriously discussing heredity, antenatal influences, respiratory and muscular hygiene in their bearing on the child; but of the digestive organs they remain either ignorant or ignoring. Let us consider the importance of the subject before us. Fifteen per cent. of all children die before their first anniversary, 8 per cent. more before the second, and only 70 per cent. of the total number born survive their third birthday. It is scarcely necessary to remind you that typhoid, the exanthemata, diphtheria, and other acute diseases of a general infectious nature, are relatively infrequent among children so young, while traumatism is not especially frequent. A decided majority of this tremendous death-rate is due directly to summer complaint and other phases of digestive disturbance; a large minority is due to laryngeal and pulmonary diseases, which are frequently accompanied with, predisposed to, or actually caused by, digestive faults.

But infant mortality is not the worst result of gastro-intestinal disturbances. Except in the pioneer period of civilization, a higher birth-rate or a decidedly lower infant mortality would mean overcrowding of territory and a serious burden on the average family. Moreover, to take a philosophic view of the matter, how many of us can honestly say that we are better off than if we had died during infancy or had never been born? The real evil of serious infantile disease is suffered by the survivors, not by those who die early.

For three summers I had the good fortune to spend some weeks at the Natural Science Camp on Canandaigua Lake, meeting both professionally and socially two or three hundred boys of all ages between four and eighteen. It was interesting to note the close correspondence between general physical health, mental and moral normality, and good digestion on the one hand, and on the other the number of dyspeptic among the

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puay, the stupid, and the sneaking. I venture to say that such nervous vices as neurasthenia, hysteria, lack of self control, feeble will power, selfishness, cowardice, meanness, possibly some forms of insanity, are due in many instances to protracted failure of nutrition and to autointoxication arising from dyspeptic conditions early implanted. Later in life the irritation of imperfect gastro-intestinal chemistry certainly favors the development of cancer of the stomach, of sclerosis of the liver and kidneys, of lithemia and gout with their various circulatory and arthritic complications.

I have taxed your patience with this long preamble, because the obstetrician can strike at the root of the trouble, whereas the physician consulted later for the fully developed condition can only lop off the branches. Your duty in this matter begins early. Even before delivery you should know whether the mother has tuberculosis or serious Bright's disease or other condition which will make her milk unfit for the child; or whether, for her own sake, the drain of nursing must be avoided. Remember that it is no kindness to a child to allow a feeble mother to expend her vitality in manufacturing milk. Setting aside the other and later needs which the child has of its mother, milk secreted at the expense of a mother's health can scarcely be nourishing food. All these considerations require deliberate thought and, not infrequently, bacteriological and chemical examinations of milk and other secretions. They must not be left to the inspiration of the moment, but plans for the sustenance of the child must be matured before it is born.

An apparently trivial complication may cause much suffering to the mother, and may actually interfere with the feeding of the child. For several weeks or perhaps months before delivery the peculiar sebaceous secretion about the nipples is in ex-

cess, and many women, even in cleanly habit, may neglect it, thus allowing a combined chemical and bacterial irritation of the nipple, with the formation of septic fissures and perhaps culminating in mastitis. Frequent cleansing of the nipples with borax or boric acid solution should be enjoined. Again, from sexual degeneration or perhaps from pressure atrophy due to corsets, many girls of the present day have rudimentary or inverted nipples which require development by proper manipulation during pregnancy.

In ordinary cases, when the baby can rely on its natural source of nourishment, the routine of feeding should be laid down by the obstetrician before he leaves the house, after the delivery and the perineal and vulvar toilet have been completed. If a good trained nurse is in attendance the directions may be very brief; otherwise, especially if the two lives must be saved from the ministrations of an "experienced nurse," the physician must lay down the law in the most emphatic manner regarding what the baby may and what it may not have. First of all, it is well to explain that the words *food* and *feeding* are not limited to things eaten with a knife and fork, and that the word *food* as applied to a baby means mother's milk unless qualified to the contrary. Secondly, three popular fallacies must be overthrown. While a young child has no language but a cry, it has other emotions than hunger, and it wants other things than the breast. Babies, like older children, are often thirsty as well as hungry, and they then need cool water, which should have been boiled if the supply is at all suspicious. Finally, it is no more possible for an infant to take food at irregular and too frequent intervals without danger than it is for the more resistant organs of an adult to withstand the same mismanagement. All these things seem truisms to you, but they are in direct contradiction to the almost universal popu-

lar belief that a baby should be nursed every time it cries. Catholic families of either kind may be impressed with the idea that our life is destined to begin with a fast; others must be appealed to on the ground of the natural lack of nutritive provision for the child and the necessity of freeing the intestine from the accumulated waste of fetal life. During the interval of two or three days before the secretion of milk is established, the old-fashioned experienced nurse has her opportunity of administering senna (pronounced with a long *e*) or catnep tea, saffron if the normal jaundice is a trifle exaggerated, or at any rate some starchy or saccharine solution, which may be the starting-point of a lifelong dyspepsia with its resultant physical and nervous depravity. During the initial fast the child should be given water occasionally and should be put to the breast to educate both nipples and lips, to stimulate the flow of milk and the reflex contractions of the uterus. An elementary lesson in bacteriology will do no harm; in particular it is wise to enjoin cleansing of the nipples with borax solution before and after nursing.

At the next visit the mother will usually have so far recovered that the physician can deal directly with her. With greater elegance of language, but with equal plainness, she should be made to understand that the difference between the puny, puking, squalling, sleep-destroying brat of the comic papers and the rosy, healthy, smiling, quiet angel of a baby depends almost entirely on regularity of nursing—provided no initial disease exists. Teach the mother that it is murder to use the breast as a hypnotic or as a plaything for the child. Teach her that she must govern her diet and her habits just as conscientiously and reverently for the sake of the nutriment which flows from her breasts as she formerly did for the direct sustenance of the child within her womb. In figures tell her that the child is to be nursed every two

hours during the day, with one double interval during the night. The tendency should always be to lengthen the intervals, so that by the time the child is four or five months old it should be nursed about every three hours during the day and not at all between eleven and five at night. Do not forget to reiterate the usefulness of an occasional teaspoonful of water.

Weaning should occur at about the age of twelve months. It is better to lengthen or shorten the time than to change the diet in summer. I believe that a typical scurvy is not rare in adults, while it has been demonstrated in infants by a number of gentlemen, including Dr. Snow of Buffalo. Thus an occasional spoonful of fruit juice should be given to every baby, and this addition is imperative in the case of those artificially reared. After the first few months babies should be allowed to suck rare beefsteak, crisp salt pork, etc., but should be carefully watched to guard against choking. Starchy foods should be withheld till after the first year, although occasionally a precocious pancreas is evidently present to save the infant from the legitimate effects of such dietetic errors and to allow the manufacturers of patent foods to publish pictures of model babies.

If for the child's or the mother's sake the natural food-supply is not available, the choice must be made between a wet-nurse and an artificial substitute. Theoretically the former is preferable, practically the difficulty of getting a healthy and trustworthy wet-nurse is great. Most women volunteering for such duty are either of bad character or are the victims of misfortune which has lowered their general nervous tone, undermined their physical state, and diminished their secretory power. We must remember several dangers: the possibility of transmission of actual disease, of neglect of the child, of positive maltreatment; and here is to be included what I believe to be a comparatively common crime on the part

of irresponsible nurses—sexual stimulation of the infant. The rule is commonly given that the age of the wet-nurse and of her baby should correspond closely to those of the patient's. The fact that the composition of milk varies with the progress of lactation explains part of the rule. Just why a child whose mother is immature or beyond her prime should not have a wet-nurse of the optimum period is not apparent.

The long rubber-tubed nursing bottle has probably slain more victims than any weapon. Fortunately boards of health are beginning to wage war against it, and it is unnecessary to dwell on the importance of an aseptic nursing bottle. All things considered, the best artificial food for an infant consists of cow's milk with water, cream, and lactose added to imitate the proportions of human milk at any given period of lactation.

For temporary feeding, especially when the child's stomach is disturbed, malted milk is on the whole the most convenient and satisfactory, but it cannot be used continuously. Condensed milk sometimes acts well, though I knew one child to come very near starving on account of a mother's mistake in not giving sufficiently strong dilutions. Egg-water is often well borne. Inunctions of cod-liver or other oil may be used in marasmus, but they are of somewhat doubtful utility. Rectal alimentation can rarely be used to advantage in a young child.

The common type of dyspepsia in infants—as indeed in adults—is subacid; that is, with a deficiency or absolute lack of free hydro-chloric acid. But while resulting organic sourness is merely frequent in adults, it is almost universal in infants. Two other clinical differences exist between the adult and infant type. The adult intestine usually withstands the onslaught of fermenting, irritating, bacteria-laden chyme and accomplishes quite complete digestion, while

the delicate cells of the child have not this power. In the adult the dyspepsia seldom develops into a true gastro-enteritis—that is, so far as we can judge clinically; no one knows just what abnormalities are present in the way of hyperemia, exudation, and cloudy swelling. In the child true inflammation develops so quickly and readily that the functional condition is rather an abstraction than a concrete indication for treatment. Analogously, quite chronic but curable gastric catarrh is much more frequent in infancy than in adult life.

Notwithstanding these clinical differences too great a therapeutic distinction has been made between adult and infantile indigestion. The former is now quite generally treated according to rational indications, the latter is still treated with peppermint water, pepsin, bismuth, soda, rhubarb and paretic. Personally, I have never known a case of true superacid dyspepsia in an infant, nor of one requiring pepsin, though the administration of predigested foods is often advisable. I would insist on the almost universal applicability of the same dictum as holds good in the case of the adult: When the stomach lacks pepsin it is in so serious a condition that the food should be administered predigested or by the bowel. Peppermint water is good as far as it goes, but sufficient antiseptic effect can scarcely be obtained without administering too great bulk or producing too much depression of the nervous system. The insoluble aromatic compounds should be used instead, along with hydrochloric acid. In giving bismuth it should always be remembered that its action is beneficial to mucous membrane in an inflamed and relaxed condition, but that it rather tends to interfere with digestion. It is useless to give it unless the stomach is nearly or quite empty, and we must always consider whether digestion or local treatment of the stomach is the more urgent indica-

tion. A sick baby requires relatively more stimulation than an adult, and heat is a simple and safe stimulant.

Cleanliness is highly desirable. In mild cases, and those so severe as to contraindicate active interference, calomel or salines with plenty of water must content us. In many instances enemata and lavage are of great benefit. A few special considerations apply to lavage of the infant. The esophagus is almost as capacious as in the adult, usually easily admitting a No. 10 tube. Either a rectal tube or a catheter may be employed. The distance to the fundus of the stomach should be carefully estimated and the tube marked accordingly before it is introduced. Tables may be found in text-books, or the distance may be measured externally from the level of the lips to half an inch above the umbilicus—or to such a level as the stomach actually reaches, as shown by auscultatory percussion—adding the horizontal length of the mouth and pharynx. The quantity of water used should be small—never more than 200 cubic centimeters, and usually very much less. Medication of the water should be resorted to with great hesitancy.

Gastric dilation and ptosis are quite common in small children, being due largely to gases of fermentation. Regulation of diet and internal antiseptics are usually sufficient, as the extreme degree is rarely reached.

Excluding syphilis and the extension of catarrh from the duodenum along the biliary ducts, liver diseases in young children are not common. Occasionally, however, congestion due to heart disease is seen, and hypertrophic sclerosis would probably come next in frequency. The relatively excessive functional activity of the liver is marked by its normal large size in children, and without any obvious hepatic disease this organ may be still more prominent in rachitic cases.

I shall mention only two intestinal conditions clinically independent of

gastritis. Rectal prolapse, either of the mucous membrane or of the entire bowel, requires patient and intelligent treatment by the nurse. It must always be repositioned immediately; defecation must always be performed with the buttocks held together and without straining; diarrhoea and constipation must be equally guarded against. Hernia, especially umbilical but also of other forms, is quite common in the infant. Some years ago I saw a case in which an inguinal protrusion was apparently occupied by the uterus or an enlarged ovary. While for adult hernia radical operation is usually to be advised, mechanical treatment can usually cure a rupture in a child. The forms of trusses do not need description, and it is scarcely necessary to remind you that the secret of success is the same as in business—"keeping everlastingly at it."

In both these intestinal extrusions as well as in other conditions abdominal pressure due to fits of temper becomes a very important matter. Moreover, the future moral development of the child and the comfort of its associates demand an early attention to the question of crying. A child should be and—what is of greater practical importance—can be taught to exercise self-control and to cry only for some valid cause. I recall a pitiable instance of the illegitimate child of a domestic servant which was trained not only to keep quiet, but before it was a year old to creep over the floor with a cup picking up crumbs and bits of dirt. Such restraint is certainly extreme and not to be advocated, but the tactful nurse or mother can teach almost any baby the valuable lesson of obedience and self-control; or, on the other hand, the child will soon learn that it can have almost anything it wants if it will only make noise enough. When you recall the instances in which your efforts in behalf of babies or little children have been thwarted by the self-will of the patient, you will pardon me

for dwelling in a medical paper on a subject which at first thought seems to be purely esthetic.—*Medicine.*

GASTRO-INTESTINAL AND HEPATIC RELATIONS OF GOUT.*

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Murchison and Sir Dyce Duckworth, among other students of the subject, have associated the excessive formation of uric acid and the development of gouty attacks with disturbances of the liver. Under the name of lithemia or latent gout, Murchison described a set of symptoms very commonly met with in this country; among the conspicuous symptoms is the appearance of uric acid, urates and calcium oxalate crystals in the urine in abnormal amount.

These cases of lithemia show evidence of disturbed primary digestion, congestion of the liver, headache, lassitude, malaise, but rarely evidences of deposits, arthritic or otherwise, that are characteristic of true gout.

The question has been raised, and I think justly, is lithemia gout or is it the expression of a toxemia resulting from habitual disorder of the digestive organs including the liver? Before answering the question it may be well to turn to some later views regarding the relation of uric acid to gout, and the origin of uric acid in general.

It would appear to have been conclusively shown by Sir Alfred Garrod, Sir William Roberts, and later by Arthur P. Luff in his recent Goulston-

ian lectures, first, that "uric acid is not normally present in the blood of man or other mammals nor in the blood of birds; second that uric is normally produced in the kidneys only, and is formed from urea, probably by the conjunction of that substance with the glycocin of the kidneys,"

Since the glycocin has its origin in the liver, we can readily understand how hepatic disorder might lead to disturbances in the amount and quality of the glycocin formed. We may therefore understand how hepatic diseases, either with or without gout, may be competent to derange urinary secretions. So it will be seen that an excess of uric acid in the urine does not necessarily mean a gouty diathesis. In fact, it has been shown by Pfeiffer that the uric acid output, instead of being increased in gout, is in point of fact diminished, and the kidneys seem to have lost in part their power of elimination; and although we find in the blood of the gouty individual uric acid in the form of quadrates, and also find the deposits in the joints and other parts not in the form of uric acid, but that of the biurate of soda, this takes place not because there is uric acid in the blood, but because of some reason that we do not yet understand.

This proposition, namely, that gouty deposits do not follow merely because there is uric acid in the blood, may be proven by the fact that in leukemia, and several other affections in which there is rapid growth and destruction of leucocytes, there is formed a relatively enormous amount of uric acid from nucleic acid, and yet in these cases we find none of the ordinary symptoms of gout, no deposits of the diurate of soda in the tissues, but we do find the uric acid passing from the body, partly unchanged and partly in the form of urea.

It will thus be seen, 1, that gout does not depend upon the continued presence of the excess of uric acid in

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the blood; 2, that the formation of uric acid in the kidneys is disturbed in case of gout, probably as a result of some disorder of the liver; 3, that disorders of the liver unaccompanied by gout are capable of deranging the normal uric acid output.

Let us now return to the question already propounded. Is lithemia gout, or is it the expression of a toxemia resulting from habitual disorder of the digestive organs, including the liver? From experience gained in the study of functional disorders of the stomach the conclusion has been forced upon me that the great majority of instances of so-called lithemia are in fact cases of toxemia, in no true sense gouty in nature. As there are many causes of functional disturbance in digestion, so there are many causes of lithemia. It is readily admitted that gout is the occasional cause of the disorder of primary digestion, but the proportion of cases in which it is shown as an actual probability is extremely small.

Perhaps the full import of this position will be more clearly shown when it is pointed out that permanent relief of the condition does not follow the treatment directed toward gout, but that it does follow the right ordering of diet and the right management of the disturbed digestion in other ways. Undoubtedly it is true that digestive diseases aggravate gout, and I think that Luff has shown why it is that indiscretion in diet, particularly as regards certain kinds of food, are capable of exciting paroxysms of gout in gouty subjects. I have carefully and repeatedly studied the stomach contents in a few cases of gout, and find that quite uniformly there occur periods of marked hyperchlorhydria with delayed starch digestion and flatulence, followed by enlargement of the liver, which conditions, if not relieved, are likely to be succeeded by characteristic arthritic attacks.

At other times such indiscretions in gouty subjects excite paroxysms of

gastralgia or angina pectoris, the latter usually accompanied by high arterial tension, and sometimes by the discharge of a large amount of pale-colored urine. Again, an acute eczema makes its appearance. I have found that the hyperchlorhydria occurring in the gouty is very intractable to treatment, and those remedies (acting through the nervous system) that generally prove useful in hyperchlorhydria depending upon reflex nervous causes, in gouty patients are of little value. Large and repeated doses of alkalis and potassium iodid give the best result.

Now, such patients may not observe a strict dietary and may habitually lead sedentary lives. Such indiscretions may provoke attacks of auto-intoxication closely resembling those attacks seen in the non-gouty, yet it cannot be too strongly insisted upon that gout is not the most common, but is rather an infrequent cause of such attacks of toxemia. In other words, it is shown that the condition in the gouty patient is distinct and requires a different management from the condition in the non-gouty. This brings us to the consideration of diet in the two classes of cases in question.

To those who have had the widest opportunity for studying gout there is a remarkable uniformity in the belief that all forms of proteids, particularly the dark meats, are objectionable in the paroxysms, and that a diet rich in such substance is likely to precipitate an onset of gout. Fruit juices and the fermented liquors are especially objectionable; on the other hand, farinaceous foods are well borne. In the case of the non-gouty lithemic, albuminoid foods are often the most suitable. Such a patient will find relief from a diet of lean beef, and will suffer if the starchy foods are taken in considerable quantity. It must be acknowledged that individual cases require individual diet and management, and to assume that all cases in which gout is not a

factor, will do best upon a nitrogenous diet, is to make a careless generalization.

The careful study of the stomach contents and the adjusting of the diet according to the knowledge thus obtained, together with the frequent examination of the urine, meantime noting the increase or decrease of the body weight, the muscular activity, the state of the nervous system and the feelings of the patient, should be our guides in reaching a knowledge of the correct dietary. It may be set down as a rule that in all cases of lithemia, whether gouty or non-gouty, the fermented liquors and fruit juices are objectionable and sometimes act as a real poison.

An active life out-of-doors has a most beneficial effect on all cases, and this has been used as an argument to prove the identity of lithemia and gout. A little thought will suffice to answer this argument, for it will be remembered that such habits of life are most favorable for good digestion and proper behavior of the stomach, intestine and liver. This rule applies not only to lithemia, but to all digestive disorders.

These remarks are intended to prepare the way for the following conclusions: 1. That gout is a definite disease to which certain individuals are predisposed, but which depends for its development upon causes largely unknown. 2. Laziness and full nitrogenous diet and the use of fermented liquors predispose to the disease. 3. So-called lithemia, as the term is popularly applied, is not gout, but is an auto-intoxication depending upon gastrointestinal and hepatic derangements. 4. The diet in gout should be largely free from nitrogenous substances. 5. The diet in lithemia must be ascertained by a careful study of the primary digestion, the urine and the general health of the patient, but a nitrogenous diet is often the most satisfactory one.—*Jour. Am. Med. Assn.*

TREATMENT OF GOUT.*

By H. C. WOOD, M.D., PHILADELPHIA.

I am expected to epitomize in fifteen minutes the wisdom of the ages with regard to the most frequent of all the conditions, probably, of the better class of the human race. I want in the first place, however, to clearly develop before you what I myself believe, that all our scientific knowledge of gout at present amounts to little more than a mass of trundling expectation upon which hereafter shall be built some true knowledge. And I think that in the successful treatment of gout the understanding of this is the basis. There are three great manifestations of the same thing which is universally allied to itself. We have rheumatoid arthritis as one type; we have podagra or true gout, as the second type; and we have acute articular rheumatism as a third type. Let me give you just one illustration from family history, that of my own case, which represents the family history of all the better families in this city which have endured here for generations: A great grandfather leaving his descendants the results of high drinking and living in England, a few dollars and much gout, the one disappearing, the other continuing; a second generation whose history I do not know much of; a third generation, nearly the whole of which dying of gouty degeneration of the cerebral arteries or heart; a fourth generation, some of them developing attack after attack of acute rheumatism, half a dozen, eight, nine or ten in the life history of a single individual; one of them having true podagra; all of them plagued with the various manifestations that we know as nervous gout. There is a relation between these

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things, not the same thing, but they have the same basis, and this basis absolutely eludes our grasp scientifically.

Now, when we come to treat gout, if we purge ourselves of the false idea which we think we possess, we can recognize the importance of this great principle, not to attempt to treat gout at all, but attempt to treat the individual who comes before us. Let me take simply the question of diet. You know that we inherit from Sydenham the belief that gout was made worse by red meats and that they should not be used. I have seen gouty patients in whom a single piece of ordinary red roast beef would precipitate a furious attack. I have also seen many gouty patients who would not get well until they were put upon red meat. What is the diet for gout? There is no diet for gout. It is diet for the individual. I have seen gouty patients who, if they took starch or sugars, went right down, and I have seen gouty patients who had to take starch and sugars to be built up. Therefore the first principle in the diet of gout is to adapt it to the individual before us. You judge of the case by the effects of experiment. In a large majority of cases sugars and starches have to be cut off. In spare gouty patients starches often do good; farinaceous diet may be essential. You have to order your diet according to the individual. A milk diet is one which probably suits the large majority of patients. But that which suits the individual, the stomach, the digestion, will suit the gout or kill the gout.

When we come to the treatment of gout by exercise we find the one thing which does more good than anything else in almost every case, provided we direct the right amount of exercise. If we try to put into an ounce bottle, three gallons of exercise, we crack the bottle. Massage is a form of exercise, and it may be all that your patient can endure; fifteen feet of walking may bring on

weariness or it may require some Alpine height. The same story, study your case. Begin with the slightest amount of exercise, but do not let up. Be inexorable. Keep it within the point of causing exhaustion, and each day do an ounce more if necessary. That is the whole secret of exercise in gouty patients. Begin with a small measure and gradually increase the amount, and you will find it does more good than any drug. The bicycle is the great calisthenic of the world.

With regard to drugs, there are a great many people who tell you that salicylates do no good. Men do not get good out of salicylates because they do not use them properly. I do not believe that salicylates cure gout or rheumatism, any more than did bromids cure epilepsy. They simply aid in keeping down the diathesis. If there be any cure, it is exercise. If you use your salicylates properly, and get no response, you have something more than ordinary gout or rheumatism to deal with. There are certain cases which approach typical gout such as we rarely see in America, in which colchicum does good, much more good than salicylates. I have seen two cases of typical English gout corresponding to Sydenham's description, and only two. We do not have it in this country. These cases colchicum suits better than salicylates do. Sometimes, when the cases are on the border line, you will get the best results by a combination of colchicum with salicylates. If you have a strong, robust man, he will stand it. Give him knock-down doses in addition to purging him, and you will bring him through. But that treatment may be worse than the disease, and has to be used with caution.

In using salicylates the profession almost universally choose the worst salt they can find, and that is the sodium salicylate. It is, perhaps, not so bad as salicylic acid, but it is much more apt to turn the stomach,

and is less effective and more depressing than the other salts of salicylic acid. The two salts which are truly useful are the ammonium salt and the strontium salt. The ammonium salt acts immediately and severely; the strontium salt acts slowly. If you have an acute case, use salicylate of strontium, or use the two combined. The strontium salt has this advantage, that it does not derange digestion anything like the other preparations, and many a time have I seen the best effects on the intestinal condition from the use of the strontium salt.

In a large majority of cases you will find that salicylates will produce depression, and perhaps a little nausea, general wretchedness, and the patient refuses them. Nine times out of ten you can overcome these effects by combining your salicylate with digitalis and strychnin in the same prescription.

As to baths, you cannot cure a diathesis by baths. It can not be done. But baths are useful, hot baths, steam baths, Turkish baths. Any man who values his own life, who has had a gouty grandfather, ought to take a Turkish bath once a week. You can not wash out ancestral traces in any other way. The kidney disease and the atheroma will be far less rife if we use the hot bath more than we do. The baths eliminate, give a temporary result, and are very useful when employed with the understanding that they do not cure the disease but relieve the symptoms.

A word about the Tallman-Sheffield apparatus or dry heat, which I have had a good deal of experience with this year. For about three months I had a large clientele using it all day long. In the first place, it is absurd to suppose that this is going to cure the gouty diathesis any more than any other application will. In the second place, it is my experience that it has very little value in the rheumatoid arthritis. In the third place, it is of very little value in

chronic inflammation, even of purely gouty character, in joints. But I had my office crowded with people seeking relief, and it is empty to-day, and that is the best criterion of the result. If the results claimed for the treatment were obtainable, I could soon fill this hall with patients, for they all want relief, but every missionary I sent out converted the people to the wrong faith. On the other hand, when you have deposits in the tendons and outside the joints; when you have traumatic synovitis, whether in baseball men or other persons, the results of this apparatus seem almost marvelous. I have seen a pitcher's hand drawn up and disabled for three or four years, the condition pronounced by a distinguished physician as gout, treated by the dry heat method, and after three or four treatments the hand had become pliable and the use of it came back. So, in acute strains and tendinous inflammations, this dry heat is of great value. In subacute rheumatism it is of value through its sweating and local influence. It has to be used at high temperatures. I carried it up to 330 degrees F. You can scorch the lint wrapped around the limb without scorching the limb. It has no value at all, according to my experience, in old cases of rheumatoid arthritis, and very little use in rheumatism of the joints.—*Jour. Am. Med. Assn.*

THE CAUSATION OF CHLOROFORM SYNCOPE.

In the *British Medical Journal* of April 17th, 1897, Leonard Hill, of London, concludes a valuable paper supporting that of Hare in the *Gazette* for February, 1897. He says from the previous experimental discussions in this paper it is conclusively proved that chloroform may paralyze the heart, the vaso-motor mechanism, and the respiratory centre. If it happened that we simply had to deal with the

failure of the respiration this would be no matter of grave danger to the patient. Artificial respiration will remove the danger. If simple vasomotor paralysis occur concomitantly with failure of respiration, as is always the case, artificial respiration combined with slight elevation of the abdomen to a level above that of the heart would immediately restore the patient to safety. It is when the clinician has to deal with the paralytic dilatation of the heart that the gravest danger has to be faced. As it is impossible to diagnose whether this condition may exist or not, every case of chloroform syncope should be treated as if it did exist. Recovery can be brought about, and, so far as the writer's own experience goes, practically in almost all cases, by following this simple procedure: At the moment syncope occurs, the patient must be placed in the horizontal position, and artificial respiration applied. The chest must be rhythmically compressed by placing the hands on each side of the thorax, so that the heart may share in the compression, and the circulation through that organ may by artificial means be maintained to a certain extent. If this is not quickly successful in restoring the pulse and natural breathing, the patient should be turned into the vertical feet-down position. By this means the dilated right heart will be emptied into the abdominal veins. Whilst this is taking place, artificial respiration must be maintained. The writer states he has frequently seen the paralyzed heart start beating again on thus emptying it of the blood. After a few seconds the patient should be returned to the horizontal position, and the right heart will thus be refilled with a fresh supply of venous blood. By means of the artificial respiration this blood is driven on through the lungs to the left heart, and thence into the coronary arteries. If this manœuvre does not prove successful at the first attempt, it must be repeated. Since he has adopted

this method he has scarcely failed to recover a single case of chloroform syncope. The success enormously depends on the swiftness with which the condition of syncope is recognized. Nelaton's inversion, or the feet-up position, is only a safe measure in cases of syncope arising from vasomotor paralysis. Either inversion or compression of the abdomen are fatal mistakes in cases of cardiac failure. A poisoned heart is with greatest ease thrown into paralytic dilatation by compressing the abdomen, as shown by a number of experiments.

By rhythmically or artificially compressing the thorax or the heart he has found it possible to maintain an arterial tension of twenty to thirty millimeters Hg. This causes the coronary arteries to be flushed with fresh blood, and the heart to be excited to spontaneous contraction. After the circulation has thus been renewed, the respiration frequently remains in abeyance because the arterial tension is too low to excite the centre to activity. In this condition the best plan is to cease artificial respiration, and carefully observe the pulse. The arterial tension, on account of the asphyxia, will rise, and when it has reached a certain level spontaneous respiration will start once more. If by any chance the pulse should show signs of again flagging artificial respiration must be immediately resumed for another period.

As to the danger of administering chloroform, the author entirely agrees with the Hyderabad Commission that the inhaler should only be applied when the respiration is quiet, and should be removed entirely if the patient shows any signs of struggling. If this precaution be always taken, deaths from chloroform would become far more rare; nevertheless, it must always be looked upon by the inexperienced as a most dangerous drug, and one, the use of which should be avoided whenever ether can be appropriately substituted. Pure chloroform, he has found, kills in exactly

the same way as impure chloroform. The A. C. E. mixture, on the other hand, is safer than pure chloroform, simply because the latter drug is diluted, and therefore is not given in a concentrated form. Chloroform is the predominant partner in the mixture, and when A. C. E. is pushed the animal dies with all the symptoms of chloroform syncope.

Towards the close of his paper Hill says chloroform produces a primary failure of the circulating mechanism and a secondary failure of the respiratory centre. The respiratory centre fails to act not only because it is damaged by the drug, but because of the anæmia of the spinal bulb produced by the fall of arterial tension. This is proved by the fact that the action of the respiratory centre can be renewed by raising the arterial tension. The depth of anæsthesia depends, as does the paralysis of the respiratory centre, on the primary fall of the arterial tension.

Chloroform, more than any other known agent, rapidly abolishes the vascular mechanisms which compensate for the hydrostatic effect of gravity.

Chloroform abolishes these mechanisms by paralyzing the splanchnic vaso-motor tone, and by weakening the action of the respiratory pump. When these mechanisms are totally abolished, the circulation is impossible if the subject be in the feet-down position.

Chloroform also produces paralytic dilatation of the heart. It acts directly like amyl nitrite on the musculature of the whole vascular system.

There are two forms of chloroform syncope: (a) During the primary anæsthetization the patient struggles, holds his breath, raises the intrathoracic pressure, congests his venous system, lowers his arterial tension, and finally takes deep inspirations and surcharges his lungs with chloroform. In the first stage the left heart becomes impoverished; in the second stage it is suddenly filled with blood.

This is drawn from the lungs, and is full of chloroform. The chloroform passes into the coronary arteries, and the heart is thrown into paralytic dilatation. Respiration and the pulse either cease simultaneously or the pulse before respiration. (b) During prolonged anæsthetization this arises from gradually giving chloroform to too great an extent. The arterial pressure falls lower and lower, and secondarily the respiration ceases because of the anæmia of the spinal bulb. The heart is not in this case paralysed by chloroform, because the drug is taken in gradually by the shallow respirations, and distributed slowly by the feeble circulation.

Artificial respiration and the assumption of the horizontal position, if applied in time, will always resuscitate a patient from the second form of syncope.

Artificial respiration, established with the patient in the horizontal posture, is also the treatment indicated in the first form of syncope; the heart should be rhythmically compressed by squeezing the thorax. If this does not quickly renew the pulse, the patient should be put into the vertical feet-down posture. The dilated right heart is thereby completely and easily emptied of blood. Artificial respiration is maintained during this manœuvre, and the patient is brought once more into the horizontal posture. By rhythmic compression of the chest an efficient circulation is maintained through the coronary arteries; by first emptying and then filling the heart a fresh supply of blood is brought into that organ. If this does not prove successful on the first trial it can be repeated.

Inversion—that is, placing the subject in the feet up position—or compression of the abdomen will increase the paralytic dilatation of the heart. In this kind of syncope both these forms of treatment are worse than useless.

In the condition of shock of emotional fear the compensatory mechan-

ism for the effect of gravity is almost abolished, and chloroform may easily be the last straw to completely paralyze the circulation.

Vagus inhibition of the heart is of no importance as an agent in the production of chloroform syncope.

Ether is in every respect a far safer anæsthetic than chloroform. According to Ringer's experiments on the heart, ether is fifty times less dangerous than chloroform.

With the practical conclusion of the Hyderabad Commission that the chloroform inhaler should be removed during the struggling of the patient or when the respiration is of irregular depth the writer is in absolute agreement, but he considers their interpretation of their own experiments and tracings concerning the origin of chloroform syncope to be mistaken.

Not only the work of all physiologists, but also the tracings of the Commission, when rightly interpreted, prove that paralysis of the circulatory mechanism, and not of the respiratory centre, is to be dreaded by the anæsthetist.—*The Therapeutic Gazette*.

CHLOROFORM AND THE HEART.

In an address delivered before the Society of Anæsthetics on February 18, which was published in the *British Medical Journal* of April 17, Mr. Leonard Hill brought forward additional evidence of the incorrectness of the doctrine, promulgated by the Hyderabad Chloroform Commission, that chloroform has no direct action on the heart. This new evidence is the outcome of his researches into the influence of the force of gravity on the circulation of the blood, which were communicated to the Royal Society in November, 1894, and published in detail in the *Journal of Physiology* in the following year. When an animal is turned from the horizontal to the feet-down position, the cannula in the artery being in-

genuously placed in the axis of rotation, there is a fall of blood-pressure in the carotid, and a fall of intracranial pressure. The fall of blood-pressure is not great, and in a normal animal under morphine it soon rises to but a little short of the pressure recorded in the horizontal position. The mechanism of this recovery or compensation has been carefully investigated by Mr. Leonard Hill, and he has shown that it depends upon the integrity of the vaso-motor and respiratory systems, together with the efficiency of the heart. In the feet-down position the blood accumulates in the vessels of the abdominal viscera, and is 'lifted' on to the heart by an increase of tonic constriction of the splanchnic vessels, aided by an increase of abdominal pressure brought about by contraction of the muscles of the abdominal wall. Previous section of the splanchnic nerves, or division of the dorsal spinal cord, by removing the tone of the splanchnic vessels, leads to a much greater fall, and does away with the power of compensation, although the animal endeavors to drive on the blood by powerful contractions of the expiratory abdominal muscles. When these are also divided the blood-pressure falls still lower. If the chest is opened the heart is seen to be bloodless and empty, but can be immediately filled by pressure on the abdomen. Increased activity of the vaso-motor center is the main factor in bringing about the recovery of pressure.

It is interesting to note that in an "upright" animal, such as the monkey, the compensating mechanism is very efficient and prompt, and in fact there is frequently over-compensation, so that the carotid blood-pressure is higher in the upright than in the horizontal position. The same is the case in man, and this has been clearly shown by Dr. George Oliver with his ingenious instrument, the arteriometer. This instrument gives an indication of the pressure in an artery by

measurement of its diameter, and shows that the diameter of the radial artery of a healthy man is greater in the sitting than in the recumbent position. In the upright position the heart beats faster, for it has more work to do in sending the same quantity of blood through the brain and through the abdominal viscera back to the heart again. The increased work of the heart is the third factor in bringing about compensation on change of position. As long as the heart is able to do this very small increased amount of work the pressure recovers; but if it is not able to do it, only an incomplete and poorly sustained compensation is brought about.

Now, Mr. Leonard Hill finds that chloroform is a most powerful agent in doing away with the power of compensation. With moderate anæsthetization the fall of blood-pressure on turning the animal into the feet-down position is very considerable, and that the blood largely accumulates in the splanchnic vessels is shown by the considerable recovery of pressure, though short of normal compensation, brought about by compression of the abdomen. This compression drives blood on to the heart, and the heart forces some of it on into the arterial system. Very different is the result when the anæsthetic is pushed; a very great fall of pressure is produced, and compression of the abdomen, or even turning the animal feet up, leads to no adequate rise of pressure. The feet-up position does not restore the pressure to as high a level as that which was maintained in the feet-down position before the chloroform was pushed. It is no use squeezing blood on to the heart, for it is incapable of dealing with it. A heart under the influence of chloroform is not able to do the small additional work required to maintain anything like the same pressure when the animal is turned from the horizontal to the vertical position.

The experiments show the essential difference between a low pressure

produced by vaso-motor paralysis and one produced by chloroform, and leave no doubt whatever that the dangerous fall produced by the drug is due to direct action of the heart. So that from an entirely different standpoint the work of MacWilliam, Ringer, and others, and the results obtained by the elaborate cross-circulation method of Gaskell and Shore, are completely confirmed. Mr. Leonard Hill points out that the tracings of the Hyderabad Commission also show that failure of the circulation is really the cause of death: for the respiration stops, not because the center is paralyzed, but because the blood-pressure has fallen to a certain amount, and it recommences when this is by any means raised to that amount again, although the center is thereby supplied with as much chloroform as before. In fact the tracings of the Commission, as Dr. Gaskell and Dr. Shore have pointed out, are, so far as they go, as good as any others; they are infallible records made by the animals themselves, and when read by competent physiologists tell the same tale as all others do.

Mr. Leonard Hill has not omitted to point out the practical bearing of his experiments on the treatment of that commonest cause of death from chloroform—syncope in the early stage. In one year, out of forty-one deaths from chloroform syncope, thirty-nine occurred in the primary stage before the patient had been touched by the knife. The sudden application of concentrated chloroform vapor causes struggling and holding of the breath, the glottis is closed, and intrathoracic pressure is raised; the lungs are thereby compressed and largely emptied of blood; this leads to engorgement of the right heart and congestion of the venous system, until at last two or three very deep respirations are taken, and there is a sudden rush to the left heart of a mass of blood surcharged with chloroform. The heart, already dilated, is

then paralyzed. Holding strong chloroform vapor to the nostrils of a struggling patient is to court disaster.

When syncope has occurred, the chief thing to do is to relieve the heart of blood and not to drive blood to it, as is so often done by inversion or flagellation. Artificial respiration is to be applied in the horizontal position by forcibly compressing the chest rhythmically, with the object of bringing pressure to bear on the heart. If this is not immediately successful, the same manœuvre must be carried out in the vertical feet-down position, and under no circumstances must the abdomen be compressed or the patient inverted. If only a little blood can be forced through the heart and the pressure on the right side be sufficiently relieved spontaneous contraction will soon occur, and as the blood-pressure rises respiration will begin again. Mr. Leonard Hill's experiments afford additional proof of the difference in action of ether and chloroform. With ether the fall of pressure is much more gradual, and when the animal is placed in the feet-down position, the drop of pressure is comparatively small; but even when the ether is pushed and a low pressure produced, it can be at once raised by compression of the abdomen or by the resumption of the horizontal position. The heart is comparatively little affected, and, as the blood is brought to it, it can pass it on, but the chloroform heart cannot. As to the physiological action of chloroform, and the comparative safety of ether, recent experiments on animals are, we are glad to see, in complete accord with clinical experience.—*Brit. Med. Jour.*

REVIEW OF RECENT EXPERIENCES IN THYROID TREATMENT.

There are very few drugs in the Pharmacopœia for which it can be claimed that they cure the diseases they are given for in the same sense

that thyroid preparations cure myxedema. When the cretin, for example, is subjected to thyroid treatment we find that every one of his functions and tissues is the better for it. Thus his appetite, his digestive powers, and his general tissue-metamorphosis are greatly increased, and he grows amazingly. He generally becomes reduced in bulk at first from losing some of his unhealthy fat, but afterwards he gains weight again, his muscular and connective tissues become healthier and more compact, and his skin softer and moister. His brain tissue also gradually improves in quality, and his mind works more freely and assumes a markedly healthier attitude towards both himself and its surroundings.

It was to be expected that the marvellous efficacy of the remedy in these cases would lead to its being tried in other morbid conditions, and we find that this has been so. Indeed, it would seem as if by this time there was scarcely a disease with any symptoms at all like any of those of myxedema which has not been subjected by some one to thyroid treatment.

It may, perhaps, be of interest to pass shortly in review a few of the more recent papers which deal with the effect of thyroid in some of the diseases of childhood and youth, and to see what measure of success they are able to record.

One of the most interesting and seemingly most successful applications of the remedy is in dwarfing of various kinds. F. Boullenger and Julius Schmidt, following Hertoghe of Antwerp, have been studying its effects on the growth of non-cretinous children who had not reached the height proper to their age.

Boullenger records nine cases from Bourneville's department in the Bicêtre. Of these, four were idiots or imbeciles suffering also from obesity. They were given large doses of sheep's thyroid (half a lobe every day or every second day), and although the effect in diminishing their weight

was only temporary, the way most of them gained in height was most remarkable. In one the gain amounted to 2 2-5 inches in five months. The other five children were also mostly of defective intellect, besides being much dwarfed in stature. In them the treatment caused some increased growth, but not so much as in the others. This may possibly have been partly due to the fact that those of the latter group were older.

Schmidt's cases were four in number, and were children who, apart from their backward growth, were normal both in body and mind. The administration of thyroid tablets was followed by remarkable increase in height. One case gained nearly 4 3/4 inches (12 centimeters) in a year.

Hertoghe has recently published a number of skiagraphs of the hands of dwarfs of various kinds, and he has pointed out that the state of the epiphysial cartilages seen in these enables one to give a very confident prognosis as to the possibility or impossibility of renewal of growth under thyroid treatment in any individual case.

There are every year taken into the children's wards of the Charity Hospital, Berlin, a large number of very severe cases of rickets. In spite of every care and all manner of treatment (including phosphorus) nearly half of these children die, generally from broncho-pneumonia or enteritis. It occurred to Professor Heubner, after reading Lanz's paper on the connection between the thyroid and the growth of bone, that thyroid extract might influence these cases favorably, and during nine months he gave this a careful trial in sixteen cases.

The result of this experiment, however, was almost completely negative, as he records in a recent paper. No change of any kind could be detected in the morbid condition of the bones. Nevertheless, the mortality of the cases under thyroid was distinctly less than that of those on former methods of treatment (one-third instead of

one-half). This is regarded by Professor Heubner as probably due to an improvement being brought about in the general health of the children, which increased their powers of resisting those complications to which they are generally prone. The complications occurred, but the children seemed to get over them more easily. He thinks that although the thyroid treatment of such cases cannot be claimed as a great therapeutic advance, and has certainly no specific effect on the rickety process, further trial may prove it to be of decided use in suitable cases.

A number of skin diseases have been treated with thyroid with very varying results. One of those in which it seems to have been most successful is prurigo (Hebra). Dobrowsky treated eight cases of this affection with very good results. The children were given no other treatment, and they improved rapidly and very greatly. Within a few days the itching was relieved, the secondary eczema subsided, and the child's general health benefited markedly from the recovered night's rest. The parents were all agreed that no previous form of treatment which they had tried had acted so speedily and so thoroughly. The disease relapsed, however, when the thyroid was discontinued. In 1895 cases were published by Gottstein and by Byrom Bramwell, which seemed to indicate that thyroid preparations exerted a specific effect on tetany. The hopes raised by these communications have not, however, been realized. Many cases of the ordinary infantile form, which occur in rachitic children, and are so commonly associated with laryngismus and convulsions, have since been treated with thyroid by a number of observers. In these there was either no improvement whatever, or it was so slight and so long delayed that one could not but doubt whether it was due to the thyroid at all.

Wolfstein writes an interesting if not very conclusive paper on the case

of a girl of twelve, with chorea and very scanty urine, who improved remarkably after being given thyroid tablets (one to three daily). The urine increased in amount at once, and the choreic movements rapidly subsided.

Cases of idiocy of various kinds have been frequently treated with this remedy; but the universal experience seems to have been that practically no improvement of the intellectual powers has resulted. In some instances, however, considerable benefit in the way of bodily growth and lessened obesity has been observed by Boullenger, Dobrowsky, and others. In those cases which are accompanied by convulsions these are not, as a rule favourably influenced by the treatment.

Two children with exophthalmic goitre were treated by Steiner with thyroid, without any effect whatever. In nine cases of parenchymatous goitre, however, Dobrowsky found considerable benefit.

From these few abstracts we may gather that if the thyroid substance is not a panacea for all sorts of disease, it is at least a remedy of considerable power, quite apart from its action in myxedemia. Its effects are certainly worthy of further careful clinical investigation, and we may hope that a more intimate knowledge of them may lead to its being found a very useful addition to our therapeutic resources.—*Pediatrics, March 15, 1897.*

PURULENT OPHTHALMIA.

By S. R. MCKELVEY, M.D., Spencer,
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The theory maintaining that a common virus excites constitutional syphilis, gonorrhœa and local contagious ulcers, has been abandoned since Benjamin Bell and Ricord demonstrated gonorrhœa to be dis-

tinct from syphilis. Gonorrhœa or purulent urethritis in man is generally conceded to be due to a special micro-organism, called by Neisser, its discoverer, the gonococcus. Whether the theory of the gonococcus is positively proven or not, it is sufficient here to state that the specific virus or gonococcus causing purulent urethritis in man is the same micro-organism that causes purulent ophthalmia.

Dunghlison tells us that a purulent disease is one in which there is more or less discharge of pus, and we are therefore reminded that we have muco-purulent or pus-discharging disease of the conjunctiva, known as muco-purulent conjunctivitis or epidemic conjunctivitis, which is also due to a specific cause differing from the gonococcus. In this form of conjunctivitis we have a redness and swelling of the conjunctiva, accompanied by a secretion which contains numerous pus corpuscles mixed with mucus. There is more or less lachrymation and puffiness of the lids. It is very contagious, is not inclined to affect the cornea, and runs a natural course in from ten days to six weeks. Traumatic ophthalmia and mild forms of purulent ophthalmia are often classified as muco-purulent, and in the beginning, and even for many days, it is very difficult, if not impossible to be certain whether we have a simple muco-purulent ophthalmia or a genuine purulent ophthalmia due to the gonococcus. There is also a rheumatoid form of conjunctivitis which may at times puzzle the physician.

In the newborn purulent ophthalmia receives the name of ophthalmia neonatorum and manifests itself in from two to three days after birth. Purulent ophthalmia is one of the severest forms of conjunctivitis, the period of incubation being about thirty-six to forty-eight hours, and the disease usually runs a long and tedious course. It frequently affects the cornea, and may cause its destruction, together with loss of aqueous

humor and lens and total loss of vision. In ophthalmia neonatorum, the parents notice the lids are slightly swollen, somewhat red, glued together in the morning, and when the lids are separated there is discharged a rather thick purulent secretion. There seems to be but little pain at the onset, but as the disease advances the lids become much swollen, the purulent discharge becomes more plentiful and thinner, and the child is restless, seeming to suffer pain. Secretion gradually becomes less in quantity, the lids become of normal thickness, the conjunctiva returns to a normal condition, and if the cornea has not been injured the normal state is regained. There may, if the cornea is injured, be simply a haziness of the cornea, or when it is destroyed, the aqueous humor is lost, the ball shrinks and the vision is lost. In the adult, after the inception of the contagious principle, slight irritation referable to the conjunctiva and redness of the membrane are noticed by the patients. Lachrymation and mucoid secretion follow in about twenty-four hours. At the end of about forty-eight hours photophobic swelling of the lids, hypertrophy of the conjunctiva and a purulent secretion are present. The height of inflammatory action is generally reached from the third to the fifth day, the amount of secretion is very great, and well-pronounced hypertrophy of the lids and conjunctiva is present. The secretion escapes and runs down the cheeks in thin yellowish masses in a typical case. Destruction of the cornea may take place here in the same manner and with the same results as in ophthalmia neonatorum, but the disease is usually more rapid in its action. There is always pain, depending more or less upon the severity of the case. Total destruction of the cornea with complete loss of vision is said to occur in about one-third of all cases where treatment is not begun in an early stage of the disease, and not carefully and judi-

ously carried out. The treatment of this disease is prophylactic and curative. In the new-born, prophylaxis consists in the thorough cleansing of the eye of the infant at birth with weak solutions of boric acid, nitrate of silver or mercury. The cleansing process seems to have reduced the disease to a relatively small percentage, where it has been practised in hospitals. In the adult the prophylaxis consists in trying to prevent the disease from being conveyed from one eye to the other. Of course, every thoughtful physician will caution his gonorrhœal patients as to the danger of getting the urethral discharge into the eyes.

I have treated some cases by hermetically sealing the well eye, and some without. In most cases I seal up the well eye as a matter of policy, as there will at least be no harm done, but for numerous reasons I have but little faith in this method. The treatment, when once begun, is simple, but must be persistent. During the acute stage, cold application will afford the most comfort, but later I would use warm water for cleansing purposes.

In my experience, the most suitable instrument for cleansing is a small soft rubber-bulb syringe. The nurse should be taught to lift the lids by grasping the lashes, and by the aid of the syringe the cleansing wash may be thrown back to the very bottom of the sac, and every particle of pus removed. Immediately following the cleansing process, the remedy in solution can be applied also by the syringe. A weak solution of nitrate of silver may be employed; and sometimes, after the acute stage, the lids may be painted with a solution of nitrate of silver, 20 grains to the ounce, once a week. In most cases a two or three per cent. solution of boric acid can be freely used, and with perhaps as good results as any other remedy. Should ulceration of the cornea occur, atrophine may be used with advantage. If there is much

pain, use cocaine. Careful nursing and cleanliness will, perhaps, do as much or more than any medication.
—*Pediatrics.*

IMMUNITY TO POISONS.

In Martial's "Epigrams" we read that "Mithridates, by frequently drinking poisons, rendered it impossible for any poison to hurt him." That the body has the power to adjust itself to the effect of poisons has been known for ages, and it is known to savages to-day. It is said that snake-charmers gain immunity from the venom of snakes by gradually allowing themselves to be inoculated with the virus. Their ability to handle the most dangerous species and to permit themselves to be stung by them is explained in this way. We are all familiar with the tolerance that the habit of chewing and smoking tobacco establishes to nicotine. The boy who tries his first chew of plug tobacco and the one who smokes his first cigar usually have to pay dearly for the honor. After several attempts they gain immunity from the sickness at first produced, and in time they derive pleasure instead of discomfort from the practice. Inveterate smokers and chewers become so accustomed to the "weed" that they dispose of enormous quantities daily, and some of them feel no discomfort from swallowing large amounts of their tobacco-soaked saliva. In administering opium and morphine to patients for a protracted period, we find that they must have larger and larger quantities the longer they use them, or they will not produce the desired results. After the habit is fully established, such patients are able to tolerate doses so large that a small fraction of the amount would certainly have been fatal had they begun with it. Infants that have had opium administered to them by nurses for long periods of time have been known to take as much as twenty drops of laudanum at a dose without

serious results, when five drops would prove fatal to other infants of the same age. What is true of morphine has been proven equally true of strychnine and other deadly alkaloids. Nor is this ability to acquire tolerance confined to alkaloids or alkaloidal drugs. We see the same thing in a habitual use of alcohol, as whisky, brandy, wine, or beer. The old toper can "put away" more "grog" at a single sitting than would kill any ordinary man. While a small amount will make a temperate man or a total abstainer drunk, the same quantity will have no perceptible effect on a hard drinker. Of late years a new form of tipping has arisen, and instead of alcoholic beverages ether is consumed. It is found that this also establishes tolerance by continued use. With mineral substances the degree to which tolerance can be carried is very narrow as compared with vegetable. The body does not seem to be able to adjust itself to the former with anything like the same degree of facility that it can to the latter. Every physician has heard of the Styrian and Hungarian arsenic-eaters and their immunity from injury after taking large doses of arsenic. Toxicologists believe that these reports are exaggerated, because no such marked tolerance is ever produced in this country. Besides the acquired ability to resist poisons that has been brought about by habit, there is a hereditary tolerance.

Some plants poisonous to man are quite innocuous to certain kinds of animals, while on the other hand some that have no deleterious effect on man are injurious to animals. Many kinds of insects are quite at home among poisonous drugs, and can subsist for an indefinite time upon them.

The flinty seeds of *nux vomica* are pierced and eaten by an *Acarus* native to the home of that tree. There are a number of species of moths that feed on such poisonous plants as oleanders, euphorbias, tobacco, staves-acre, econite, belladonna, etc. The hereditary tolerance of sea-fish for

sodium chloride, and the absence of that tolerance among fresh-water fish, is another illustration of the same. With the advent of bacteriological pathology and our new therapeutics, these facts of poison immunity have taken on a high degree of importance, as they give us the means of understanding some of the most recent and most important advances in medical science.—*American Medico-Surgical Bulletin.*

GASES OF ANÆMIA FOLLOWING DIARRHŒA.

By HENRY A. JOHNSTON, M.D.,
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The anæmia which sometimes follows the diarrhœal diseases is often very difficult to cure. After the diarrhœa has ceased the digestion seems to be weakened and the child does not gain, but remains thin and very pale and anæmic. Its appetite is poor and capricious. Digestion is imperfect, and the child does not seem to assimilate what little it does take. Such children are sometimes given cod-liver oil and iron, but still fail to gain, and the treatment seems useless. They clearly need iron, but most preparations of iron either disagree with the stomach, or seem to do no good. In many cases of this kind no tonic will accomplish much unless the state of the digestion is, also, looked after. By observing two points in these cases I have been successful in relieving anæmia that had before proved obstinate. These two points are to aid the digestion and give a form of iron that is active but also easily digested and assimilated. The three following cases were unusually anæmic, but the results of treatment were so good as to lead me to report them:

The first case was a girl thirteen months old, who had diarrhœa for five weeks in July and August, 1869.

Later in September, when I saw her first, she was very pale and anæmic; the appetite was poor, and she would take nothing but milk and very little of that. The stools were green and often hard. The child was restless and very cross and slept poorly. I ordered syrup of rhubarb for several nights to move the bowels freely, and also five drops of rhubarb and soda mixture after each feeding. As a tonic, I ordered one-half teaspoonful of peptomangan, to be given in the milk three times a day. At the end of a week there was a clear improvement to be seen in the child's condition. She began to gain in weight, and the color improved rapidly. At the end of a month she was apparently as well as any child except that she had not quite gained her full normal weight. The treatment was continued for a short time longer, and she was gradually given a mixed diet.

The second case was a boy two years old, who had a long attack of diarrhœa in August. At first, according to the history, it was dysenteric in character, the stools being composed mostly of mucus and blood. The diarrhœa stopped gradually and the child became constipated and grew paler and paler, the mother said. Iron had been given, but caused vomiting and was stopped. The anæmia was very extreme. I ordered treatment similar to that given to the first case. Ten drops of rhubarb and soda mixture were given after each feeding. This after a little was sufficient to render the bowels rather too loose and the dose was stopped after a part of the feedings. The peptomangan was not as well taken in the milk, and was given in water with a few drops of wine added. In that form it was well taken, and caused no trouble with the stomach. The improvement in the anæmia was very rapid. The appetite improved at the same time, and the child was lost sight of.

The third case was a baby of seven

months, who had a short attack of diarrhoea three months before I saw it. It was not very sick at that time, but had suffered from constant indigestion since, and had gained very little in weight, and had become very pale. Iron and cod-liver oil had been given, and both had been persistently vomited. When I first saw it, it was very much emaciated and very anæmic. It was fed irregularly and too often. I put it on a strictly milk diet, and reduced the number of feedings, and ordered the same treatment of peptomangan and rhubarb and soda. Improvement was soon marked and continued until the child had completely regained its normal weight and color, and was perfectly well.

Several other cases of similar nature have resulted equally well by correcting the constipation and indigestion, regulating the diet, and at the same time giving iron in this effective and very easily assimilated form.—*Archives of Pediatrics*.

STEAMING THE UTERUS IN SEPTIC CONDITIONS FOLLOWING ABORTION, ETC.

Some months ago I presented the substance of an article on this subject by Dr. Ludwig Pincus, of Dantzig. In the *Centralblatt für Gynäkologie* of February 20 that gentleman has a further communication on the matter. He reports the results in ten additional cases of sepsis following abortion. In five of them the fever disappeared speedily by crisis, in two lysis occurred, and in three there was no notable fever to begin with. The occurrence of lysis, he thinks, indicates infection of a moderate grade. In almost all the cases the odor ceased at once or became so slight as to be hardly noticeable. In one case the steaming had to be repeated on the third day, and then lysis set in. At the time of the appearance of the lochia, on the third

or fourth day, he began the use of vaginal injections of sterilized physiological salt solution, and in one case he used injections of potassium permanganate.

The treatment he regards as still in the experimental stage, and he acknowledges that thus far he has employed it with the feeling that there was a certain amount of risk, especially of inoculating fresh wounds with infectious germs. But he adds that it seems to him a very plausible procedure for reducing the risk to the minimum, particularly in neglected cases, for it not only destroys the germs and covers fresh wounds with a protective coagulum, but induces energetic uterine contraction, whereby the traumatic surfaces are decidedly reduced in size, and involution, which generally means convalescence, is remarkably promoted. He thinks the treatment is especially suitable in cases of so-called habitual abortion, which so commonly depends on a diseased state of the endometrium, that may be overcome by two minutes' steaming at 212° F., followed for six or eight days with applications of tincture of iodine.

Dr. Pincus makes it a *conditio sine qua non* that the steaming shall be employed only when there is no complication affecting the adnexa, although incipient inflammatory phenomena—but without suppuration—with irritation of the peritoneum (quoting from Kahn) may be favorably affected by the steam. In the treatment of abortion he does not resort to active interference unless the indication of hemorrhage, fetor, or fever is present. Whatever remnants of the ovum there may be in the uterus he removes with the finger oftener than with the curette, and then irrigates the uterine cavity with an antiseptic solution, using Playfair's tube, and repeating the irrigation daily for several days if necessary. In addition he applies cold compresses or ice-bags to the abdomen, and always gives *ergotin subcutaneously*.

He maintains that the steam treatment is a specific for septic abortion, and probably also for uncomplicated puerperal endometritis, but he closes with the qualifying remark, "*specifica non sunt, nisi in manu periti.*"—*New York Medical Journal*, Mar. 20 1897.

THE NEW PSYCHOLOGY.

Prof. Elmer Gates, of Washington, is one of the most active and brilliant of the new school of psychologists. The occasional insight he gives us into his work, the new world it opens to us, makes us impatient for the time when he shall be ready to give the results of his investigations in a more complete form to the public. In his recent experiments he shows that the ether which fills all the interstellar universe really consists of distinct particles, but these particles are as much smaller than a chemical atom as a chemical atom is smaller than the sun. In carrying out his experiment it became necessary to produce an absolute vacuum which had never been accomplished before. To produce this result the professor takes a tube of potash glass, which is so hard that it requires a much greater heat than any other kind to melt. He fills the tube with another sort of glass which has a melting point 500° lower than that of the potash glass. The tube and its contents are then subjected to slow heating until the soft glass is sufficiently melted to enable it to be pulled out bodily part way from the tube of hard glass containing it. The space thus left is an absolute vacuum. There is not one particle of air or any other gas, and yet here is a quantity of absolutely pure ether composed, as he proceeds to show, of distinct particles. In this experiment a metal ball on the end of a platinum wire is fixed in place incidental to the process of creating a vacuum. A glass lens focuses the sun's rays at a point near the ball. At the point of focus, owing to the sun's energy, the par-

ticles of ether move about more rapidly and are farthest apart. Then the ball swings toward the point of less density. This it does every time. This the professor regards as proof that the ether which fills all space, and whose wave motions make light and transmit electrical energy from the sun, is a material substance and composed of particles thickly crowded together, but so minute that they penetrate through everything.

Prof. Gates' laboratory, in which he is working out these problems of psycho-physical research, is filled with the most delicate instruments the human mind can conceive to accomplish his purpose. Fortunately for science there is no lack of money at his disposal, a wealthy friend having appropriated \$25,000 a year to further the professor's work, of which he is now only at the beginning.—*Medical Times*.

CONGENITAL TRANSVERSE DIVISION OF THE GLANS PENIS.

Hofmohl figures and describes (*Archiv. fur Klin. Chir.*, liv, heft 1, 1897) a rare case of congenital transverse division of the glans penis into two parts, a dorsal larger and a lower smaller part. The urethra opened into the middle of the dividing furrow, and was surrounded by a frenulum which passed on to the upper part of the glans, while on the lower part was seen the orifice of a blindly ending duct about two millimeters long. The patient was a man sixty-eight years old who had been twice married and had eight children. He suffered from congenital phimosis, and it was during operation, when the prepuce was turned back, that the anomaly of the glans was for the first time revealed. Hofmohl is unable to find in embryology a clear explanation of the origin of this defect.—*British Medical Journal*, March 27, 1897.

PREPARATIONS OF IRON IN THE TREATMENT OF CHLOROSIS AND ANÆMIA.

At a recent meeting of the Société de Thérapeutique, a report of which appears in *Le Progrès Médical* of April 3, a discussion on this subject was opened by M. Bardet, who said that the majority of authors regretted that it had been generalized by including in it the treatment of various forms of anæmia, instead of limiting it to chlorosis. M. Bardet, however, was of the opinion that when it was necessary to employ iron preparations the special treatment became the same in chlorosis as in simple anæmia. He considered it difficult, in a discussion on therapeutics, to separate chlorosis, properly so-called, and the various forms of anæmia. It has been well said that in the treatment of anæmia the principal indication was to suppress the cause and then the anæmia would disappear. But, he said, it was none the less true that the iron treatment of anæmia played a great part in therapeutical intervention, and consequently it would be prejudicial to leave out anæmia in a discussion on iron treatment. Moreover, he questioned whether it was correct to profess to be able to remove the causes, which were more frequently connected so closely with the effects that it was impossible to make out the precise limits between the cause and effects.

The value of different preparations of iron had been the subject of much discussion. Some authors had advocated the use of the free metal; others had recommended the iron salts; others, again, had given the preference to organic preparations, and among these several authors had adopted exclusively the albuminates. M. Bardet was convinced that all these discussions were useless, and that all iron preparations were good or bad according to the particular cases, not forgetting that everything depended

on the absorption, and that this was itself dependent exclusively upon the digestion; and as this was a most complex phenomenon, varying according to the individual, certain preparations might prove good for some persons and bad for others. All iron preparations might be tried, and the one that was tolerated by the patient would be the right one.

With regard to the different preparations of iron, M. Bardet preferred hemoglobin, although there was another preparation which he thought should not be forgotten in a discussion on this subject. This was glycerophosphate of iron, which he thought was destined to take an important place in therapeutics. Up to the present time it had not been easy of employment, owing to the difficulty in keeping it. M. Bardet, however, had made use of this salt in anæmic persons by combining an organic iron preparation with the glycerophosphate of iron and particularly with the phosphoglycerate of lime. He had employed these combinations for the past three months with the best results.—*New York Medical Journal*, May 1, 1897.

WRINKLES IN THROUGH-AND-THROUGH DRAINAGE.

The following is applicable in any part where a through-and-through drainage tube is to be used.

The procedures were suggested and are particularly effective in overcoming certain difficulties in the maintenance of drainage in an empyema.

The first has reference to keeping the tube patulous by removing collections of pus and cutting off the granulations which grow down into the fenestra of the tube. It consists of an ordinary drainage tube with the requisite number of fenestræ, through the full length of which (previous to insertion) a strong silk ligature has been passed. This silk is of a length about four times that of the tube, and has fastened at about a tube's length

from one end of it either a splint shot, the size of the caliber of the tube, or a section of rubber tubing. If a section of tubing is used (and this is more satisfactory) it should be of pure gum and just large enough to pass through the tube with some friction. The tube is inserted in the wound in the usual way and both ends are held with safety pins inserted in such a manner as not to infringe on the lumen. The two ends of the silk are knotted to form an endless string with the knot on the outside. When the tube becomes occluded, it is first moved in the sinus to cut off the granulations, and then the drag is pulled through the tube and everything in the form of pus is completely removed.

The second refers to the secondary or horsehair drainage. This consists of a strand of horsehair of the required thickness which has, at the proper distance from each other, two silk threads tied tightly around the strand with one end of each cut short and the other left the length of the drain. The strand is then cut squarely off at each end, one-fourth of an inch beyond the knotted silk. Then the knot and end of the strand are covered with sealing-wax which is shaped into a round probe and with the silk cord protruding from the tip. To insert the horsehair, the silk is attached to the silk of the drag, and the probe end is brought up snugly into the end of the tube. Then, as the tube is removed, the drain follows without giving extra pain. In case there is no cord in the tube, the silk of the drain can be threaded through a curved needle and the needle passed through the wall of the tube from within out. Then the end of the drain can be drawn up into the tube as before. After the drain is in place the two silk cords can be knotted. This will be found especially advantageous with children and nervous people; one quick jerk will remove the tube and locate the drain.—*Medical Record*, March 20, 1897.

SUPPRESSING THE DISPENSARY ABUSE.

Dr. F. T. Rogers (*Atlantic Medical Weekly*) describes an effective method which has received a year's trial in the Rhode Island Hospital at Providence.

Prominently displayed in the main entrance of the out-patient building is a large placard stating that the services of the attending physicians are given gratuitously and are extended only for such patients as are too poor to pay for the needed attention, and that no others will be treated. A similar statement is printed upon each admission card. No patients are admitted to the clinic without a card or letter of recommendation from some medical man, agent of a charitable association, or some person well known to the authorities of the hospital, unless they sign a statement that they are unable to pay for such service and desire charitable aid — save under these exceptions:

1. Emergency cases, recent accident, or sudden illness.
2. The illiterate, evident pauper class and foreigners who would not be likely to know of such a rule or understand it.
3. Any patient concerning whose ability to pay there is a doubt, yet who would possibly suffer by failure to receive immediate attention.

Publicity to these rules has been given by the public press, notices to the physicians of the State, and co-operation with the other medical charities of the city. The clinic has been made more nearly self-supporting by making a small charge for medicines and surgical dressings.

Statistics cited by Dr. Rogers go to show that while the number of deserving patients is nearly the same, the number of unworthy applicants diminished in the second half of the year almost fifty per cent., and this but bears out the claim that there has been a moral effect, that the knowledge that an attempt has been made to discover those abusing the charity

of the hospital has prevented many from applying.

The abuse of medical philanthropy is not alone an evil in its effect on medical practice—it robs the pharmacist of many a prescription fee. The latter has accordingly a substantial motive for welcoming any measure that promises, to wipe out the habitual sponging of people who can well afford to pay for advice and medicine.—*Bulletin of Pharmacy.*

INFANTILE DIARRHŒA.

By STANLEY M. WARD, M.D.,
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Unless there be some positive contra-indication, it is good practice to administer, early in the treatment of the case, a laxative, either small doses of calomel or dram doses of castor oil, laxol, etc. After free evacuation of the bowels, if the case be one of simple diarrhœa, in which the stools contain neither blood nor mucus, I gave to a child ten or twenty months old, one of the following powders every three or four hours:

℞ Bismuth salicylat. . . . ℥i.
Pulv. ipecac. et opii . . . gr. x.
Pulv. aromat. ℥i.
Mix. Ft. chart. No. xii. (12) div

When the stools are "jelly-like," containing little fecal matter and much mucus and blood, I give with almost invariable success, fifteen to twenty drops of the following:

℞ Hydrarg. bichloridi. . gr. ¼.
Liq. potas. arsenitis. . gtt xxxii.
Syrupi rhei.
Syrupi rubi aa ℥ii.
Listerine q.s. ad ℥ii.

Mix. Sig.—Fifteen to twenty drops every one or two hours. If there is much pain, add one-half dram of deodorized tincture of opium to this mixture.—*Pediatrics.*

ETIOLOGY OF ASTHMA.

Kuss (*Thèse de Paris*) maintains that among the various causes of true asthmatic dyspnœa, the principal is a defective evaporation caused by a want of sufficient fluid in the epithelial cells of the pulmonary vesicles. This insufficiency of fluid must be attributed to the reflex affection, from various causes, of the vasomotor nerves governing the nutrition of the cells, and produces the same effect as a sudden and considerable reduction in area of the active pulmonary surface. The convulsive action of the respiratory muscles might easily be a consequence of this dyspnœic condition. In the treatment of asthma (1) increased activity must be given to the secretory powers of the epithelial cells by acting on the secretory (vasomotor) nerves; (2) the determining cause of the harmful reflexes must be obviated by various recognized methods; (3) the physiological and anatomical soundness of the alveolar walls should be maintained by appropriate nutritior.—*Brit. Med. Jour.*

ON SENILE ENDOMETRITIS.

Hermann, in a new English journal call *Treatment* tells us that when consulted by an old woman about a copious purulent vaginal discharge the vagina should be first treated. Swab the vagina out with strong (!) carbolic acid, and prescribe frequent astringent injections, such as zinc chloride, five to ten grains to the pint. Begin with the weaker and increase the strength if necessary. Repeat the application of strong carbolic acid two or three times, if necessary, with weekly intervals. Take care that none goes on the vulva. If discharge comes from the uterus, there may be so little of it as not to trouble the patient when the vaginal discharge has been stopped. If treatment of

the vagina does not abolish the discharge the cervix should be dilated with laminaria tents (1), and the interior of the uterus explored. If growths are felt they should be scraped away and examined with the microscope. If there are no outgrowths the endometrium should be scraped with a blunt curette, any bits detached reserved for the microscope, and then the interior of the uterus swabbed with strong carbolic acid. This will almost move the symptoms for a time. If after a short interval they return, and become as bad as before, the best treatment is to remove the uterus.

Matthews Duncan advised the injection of mild astringents into the uterine cavity through a hollow sound. His great authority makes the writer think this worth trying in the case of a patient averse to operation. Duncan says it often fails; and the writer expects little from it.

NIGHT SWEATS.

Many remedies have been suggested for night sweats, among the most prominent of which are atropine and agaricus. The former is often objectionable on account of the excessive dryness of the mouth and fancies it produces in those susceptible to the drug, and the latter, although sometimes very effective, often fails entirely. The use of camphoric acid in this trouble is strongly emphasized by Dr. Hare and many others within the past few years. Dr. Hare used the drug extensively in 1890-1 in St. Agnes's Hospital, where he found it controlled the large majority of sweats in tuberculosis with which some of the wards were filled without any unpleasant after results. About twenty grains given an hour or two before the expected attack in whiskey or brandy, or placed in a dry powder on the tongue, will usually be sufficient to produce the desired result. Small

doses of the acid he has also found of great benefit in idiopathic phytism or druling of little children, as it controls the salivation without disabling digestion.—*Medical Times.*

PUERPERAL NEURITIS.—Bayle has made some observations (*Jouan de Med.*) on this hitherto unknown subject. Puerperal neuritis, may be divided into two groups: the first characterized by general neuritis, the second by localized neuritis. Of this latter are two types, superior and inferior. The first form manifests itself particularly during pregnancy, being preceded by uncontrollable vomiting which seems to be closely connected with the condition. It may happen that the prodromata appear during pregnancy, but paralysis only after parturition. The affection runs a rapid course, being preceded by pyrexia and then symptoms of alteration in the peripheral nerves, subjective alteration in sensation, such as tingling, shooting pains, feeling of cold, heat, itching, etc. There may even be lightning pains analogous to those of tabes, though less intense in character. These sensory alterations persist more or less during the whole of the disease, but there does not seem to be either rachialgia or girdle pain. Shortly after these somewhat vague symptoms numbness of the limbs appears, to be followed by the somewhat rapid onset of paralysis, which may effect the lower or upper limbs, the abdominal or the laryngeal any pharyngeal muscles. Most frequently the paralysis appears in the lower limbs, one being affected after the other, and thence passing to the upper, while in certain cases all four are affected at once. In the lower limbs the antero-external group, and in the upper the extensors of the wrist are most affected. The respiratory muscles and the cardiac nerves seem to escape. The bladder and rectum do not show any marked symptoms. Motor effects are in access of the sensory. Mental altera-

tion has also been observed in these cases, and the author lays stress on more or less modification of the mental character in every case. The patients become capricious, irritable and restless, objecting to be left alone and lamenting their fate. They also express fear as to the unhappy termination of the condition. In other cases they fall into a kind of apathetic torpor from which it is impossible to arouse them. Towards night they may manifest violent delirium, strange hallucinations, crying and moaning all the time. The following day they may be quiet oblivious of all these facts. Sometimes hallucinations persist during the day-time, and the patients may lose knowledge of their surroundings with more or less loss of memory. This latter condition may at times be the only mental symptom, and may only extend to recent events. These psychic symptoms remain, as a rule, for a considerable time, but disappear before the sensory and motor derangement. This generalized form of puerperal neuritis is particularly slow in its course when once developed, requiring, it may be, years for recovery, the most favorable cases extend over several months, and even when cured are liable to relapse. The condition being one chiefly of motor paralysis, the sensory derangements are first to subside. The prognosis is, as a rule, favorable for recovery, though four out of eighteen published cases ended fatally. The localized form is not always distinct from the general. In the superior type the disease may affect only one arm or sometimes both; the median and ulnar nerves are most frequently affected. Sensation of pricking and burning may appear with elevation of temperature, and the nerve trunks are very sensitive to pressure. Paralysis soon appears in the peripheral branches of the median and ulnar nerves, affecting most frequently the palmar region, the thenar and hypothenar showing marked atrophy. The hand

becomes skeleton-like, and the patient loses all power of doing anything for herself. In less severe cases, so for coarser actions may be retained: even the muscles of the forearm may be affected, particularly those supplied by the ulnar nerve. Very few cases are recorded in which all the arm muscles became affected. Anaesthesia may be more or less marked. Some cases extend over eighteen months to two years. In the inferior type the condition has been confounded with paraplegia, and attributed to injury caused by passage of the foetal head. Doubtless some cases of paralysis are due to this cause, but the condition under consideration is different, for it does not appear so early as the traumatic form, nor is there any history of injury to the nerves in the pelvis. There is always some febrile reaction and other evidence of septic complications. The sensory manifestations precede the paralysis, thus differing from those cases due to pressure exerted by the foetal head in which there is an absence of pyrexia, and motor paralysis comes on early and rapidly. In the inferior form one leg may be affected at a time or both, and even when the two are affected it may be in an unequal degree. In general the prognosis is good, while in a few cases deformity may result. These forms of puerperal neuritis suggest an infective cause, and they appear to be more marked when preceded by severe vomiting. Treatment recommended consists in the injection of ergotin hypodermically or *per rectum*, the amount in the former case being one gramme every two days; otherwise it may be conducted on general grounds as in the more common forms of neuritis.—*British Medical Journal*.

TOXINS AND ANTITOXINS: A NEW THEORY.—Calmette and Delarde (*Ann. de l'Institut Pasteur*, x, 12) have reinvestigated the natural and acquired antitoxic properties of blood serum from various animals.

taking the reaction to doses of abrin as the most frequent criterion. They have arrived at the following conclusions: (1) The serum of animals naturally refractory to such toxins as they have investigated rarely possesses antitoxic properties with regard to those toxins. Thus, while fowls and tortoises resist very considerable doses of abrin their serum is totally inactive with regard to abrin. Similarly, Vaillard has proved that the fowl, although refractory to tetanus, gives a serum which is without action on tetano-toxin. Even when the serum of refractory animals is antitoxic, as in the case of the ichneumon and the hedgehog with respect to serpents venom, the antitoxic power is always extremely feeble, and by no means in proportion to the degree of immunity. There is thus no relation between the natural refractory condition of certain animals and the antitoxic power of their serums in respect of the toxins by which they are unaffected. (2) While warm-blooded refractory animals can produce antitoxins under the influence of repeated non-fatal injections of toxins, cold-blooded refractory animals produce none under the same conditions. (3) Coldblooded refractory animals, such as the frog, can acquire immunity against fatal doses of toxin without their serum becoming antitoxic. (4) Antiabrin and antivenomous serums can be used practically for the production of passive immunity in man and animals, and also for the diagnosis of the toxins which they oppose. The former has a very marked preventive action when applied to mucous surfaces, and hence may be turned to account in ophthalmology. (5) The active substance of antitoxic serums is not modified by certain chemical reagents, which destroy or profoundly alter the toxins. It does not alter toxins when mixed with them *in vitro*. It appears to exist in great abundance in the leucocytic protoplasm of vaccinated animals,

the leucocytes retaining their antitoxic powers after being thrice washed free from serum. It does not dialyse through membranes; it acts as energetically on the leucocytes of fresh animals as do the antimicrobial serums. (6) Certain substances having no specific action on toxins, such as bouillon, normal ox serum, or the serums of certain animals vaccinated against various infections or intoxications can, when injected into fresh animals, act preventively as regards other infections or intoxications. Hence immunity, natural or acquired, cannot be due to the presence in the serum of a chemical substance having the power of destroying or modifying the toxins. The true existence of a preventive substance in the serum of vaccinated animals remains yet to be proved; the authors' experiments suggest that the preventive power may after all be a physical and not a chemical phenomenon. Thus they have shown that the antitoxic function is independent of immunity, since the latter can exist in the absence of the former; further, that both natural and acquired immunity result from a special property of the cells. These, according to the conditions of the surrounding mediums and their own composition, yield passively to the influence of the toxins as a bar of soft iron does to that of a magnet. When these conditions change under diverse external influences, such as the tolerance of certain poisons, the functional state of the cells is modified at the same time. This may be compared to the conversion of the soft iron into steel by tempering; the steel can preserve its magnetisation, and transmit it temporarily to other bars of soft iron or permanently to other bars of steel. The authors maintain that a similar physical explanation can be offered of the susceptibility or temporary permanent resistance of organisms to infections and intoxications.—*British Medical Journal*.

TETANUS ANTITOXIN.—Donitz (*Duct. Med. Woch.*) discusses some questions of considerable interest in relation to tetanus. (a) Can the tetanus poison already combined with the tissues be liberated with the antitoxin? It has been known for some time that tetanus antitoxin could neutralise the tetanus poison circulating in the blood. The tetanus poison used by the author consisted of 1 c.cm. of a 4 per cent solution, and he found that if the serum be injected within two minutes, 1 c.cm. of a 1 in 1,200 dilution was necessary. If the time amounted to four minutes then a solution of 1 in 600 protected completely against the disease. After thirty minutes a dilution of 1 in 100 no longer sufficed. Thus the amount of serum required to prevent the development of the disease increases enormously with the time that elapses between the injection of the poison and that of the serum. The intravenous injection of the poison was the one adopted by the author. In another series of experiments a 5 c.cm. of a 10 per cent. solution of serum was employed. When the time was $2\frac{3}{4}$ hours tetanus did not develop. Much more favorable results were obtained when the tetanus poison was weaker. The author concludes (1) that the tetanus poison combines with the tissues from the time that it enters the blood; (2) than in four to eight minutes the simple fatal dose is so combined in severe poisoning; (3) that the poison thus combined can be liberated and neutralised by the serum; (4) that the separation becomes more difficult the severer the poisoning, and the longer the time between the injection of the poison and that of the serum. Thus the tetanus serum is a genuine curative agent. (b) Efforts to cure infected animals. Here experiments were made on mice and guinea-pigs after the first manifestations of tetanus had appeared. Infected splinters were employed to convey the disease. The author's experiments confirm the

favorable results obtained by Behring, Kitasato, and Knorr. Of six guinea-pigs with tetanus three were cured. In mice with the earliest manifestations of tetanus a cure could be effected, but later no curative effect took place. Recent experiments on horses have been even more favorable than these. (c) Tetanus poisoning without tetanus. The author draws attention here to some results obtained in his experiments. Some rabbits died after great wasting, but with no manifestations of tetanus. In others the tetanus symptoms were very slight, and death ultimately occurred after great wasting. A similar condition has been observed in diphtheria and pyocyanus poisoning. The author thinks that here the tetanus poison is more widely diffused throughout the tissues, and is not so strictly limited to the central nervous system.—*British Medical Journal*.

TREATMENT OF THE UNCONTROLLABLE VOMITING OF PREGNANCY.—A. Pozzi (*Archivio di Ostet. e Ginecol.*) has treated successfully five cases of severe vomiting in pregnancy by the method proposed by Professor Tibone. In four of these the pregnancy had reached two and a-half months, in one only a month and a-half. The method referred to was the subcutaneous injection in the hypogastrium of a solution of hydrochlorate of cocaine (1 cg. to 1 g. of distilled water). In two of the cases the treatment was begun in the second stage of the vomiting, when there was fever and when cerebral phenomena had begun to manifest themselves. In two cases the cocaine was given when the vomiting was still in the first stage and in the fifth patient the author had to do rather with an exaggerated form of simple vomiting than with the grave incoercible type. In all the cases a great number of other means of treatment—including, in some, replacement of the uterus, had been previously tried.—*British Medical Journal*.

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VOL. VIII.

TORONTO, AUGUST, 1897.

No. 8.

"THE PHARMACOLOGIST."

From what we have seen of the *Pharmacologist*, one of the latest additions to medical literature, it is an eminently straightforward publication and aims to solve some of the questions which have arisen between the manufacturing pharmacist and the code of ethics.

We know that there are many proprietary preparations on the market, that, according to our code of ethics, it is just a little difficult to place. The *Pharmacologist* gets over this difficulty by making no distinction, and placing all proprietary and trade marked preparations in the pages of the journal devoted to this more commercial side of medicine. Such a journal naturally enters the field in competition with the regular journals, and like them depends for its reception on its points of advantage.

There is no doubt that medical literature to-day, especially as repre-

sented even by the best journals (for we call to mind the cordial welcome given to Dr. Edson's consumption cure by no less an authority than the *Medical Record*) is loaded down with descriptions of cases and their treatment by different trade marked and proprietary remedies. Now it is no doubt in the hands of the profession to either discourage or promote the sale of patented preparations, or of those in which the composition and method of manufacture is not fairly given the profession, but the evil started with the craze for German synthetic remedies.

During the last decade hundreds of young graduates have gone from the American universities to complete their medical education in Europe, and they came back synthetomaniacs. All these preparations were either patented or trade marked and medical literature was flooded with the papers of these gentlemen, and

legitimate pharmacology fell into disrepute. The standard of value in unfortunately too many instances became, not that a drug should be in the *Pharmacopœia* with all its methods of preparation and administration fully set forth and all peculiarities of its action well known to the fathers of medicine, but that it should be a synthetic preparation, with a sufficiency of groups artistically arranged in such a manner that a chemist could tell nothing about them, and the prescriber less. This was the commencement and growth of the evil until now it is manifestly unfair to admit Pill Damiana and exclude Mormon wafers. We have all been guilty of this sin to a greater or less extent. We have tried to ease our conscience and keep on the same road with the code of ethics by admitting reading notices in reference to preparations—reading notices which are generally admitted in the medical press, but we confine these notices to the advertising pages.

There is of course the manufacturers' point of view in all this in the matter of trade marked preparations, and giving regular preparations fanciful names, that he does it to save himself from the substitution and piracy which is so notorious on this continent. It would certainly seem that there should be some system to meet the exigencies of modern commercial methods by which the manufacturer should have certain rights in preparations that he has gone to great expense to completely test before placing on the market, but how this is to be done and make any pretence of harmonizing with the code of ethics, we cannot clearly see.

Dr. Stewart, who has been chairman of the therapeutic section of the American Association, and who edits the *Pharmacologist*, explains these many difficulties, and has tried to overcome them by placing all such matter in the regular pages of his journal, but under a commercial heading.

There is much valuable matter in the journal, and it is ably edited, and although only quarterly at present, may be expected ere long to be a monthly.

We are sure we wish Dr. Stewart every success, and hope that he will be successful in giving us a solution of some of the difficulties which at present exist.

The Pharmacologist. Edited by F. E. STEWART, M.D., Ph.C. Published by Frederick Kimball Stearns, Detroit.

THE SMALLPOX SCARE.

One of the most sensational cases of smallpox that ever occurred in Toronto made its appearance recently on the steamer *Passport*. We doubt if there ever was a case quarantined that attained the complete and inimitable publicity of this.

There can be no doubt that Dr. Sheard, the city health officer, acted in the most prompt and thorough manner and prevented as far as possible any extension of the disease; but we doubt, and have always doubted, the advantage of sensational details in the daily press. For instance, such matter as has been recently published in connection with the Orr murder can be of no benefit to the general public, is not elevating, but is simply disgusting.

The really serious part of the smallpox matter appeared later when it was stated that this man had been shipped on the *Passport* through the direct connivance of the Belleville authorities. It is hard to believe that the authorities of Belleville would connive at such a criminal act, and it certainly seems that the health officer of that town had no idea that so prompt and efficacious a system of isolation, as far as Belleville was concerned, had been carried out.

If the authorities of every county and borough were to practice this, one of the oldest systems of isolation, it

might be cheap and convenient for themselves, but not extremely popular with their neighbours. There appears to be some law on the subject, but the difficulty with the Ontario Health Act is to know whether a law is operative or inoperative. We recently had a law framed which would guarantee the purity of the milk supplied the various cities and towns. The law was good, but the votes of the dairymen were better, and the law was made inoperative for two years. It may be for two years and it may be for ever.

If there is a law to the effect that the authorities of one municipality shall not isolate their smallpox patients by sending them to another municipality, and further, if this law be at the present time operative, we feel that the case should be taken to the courts and the Belleville authorities made to pay the expense that the city of Toronto has been put to in this connection. This would notify other municipalities that there was a law of this kind, and that this clause of the Health Act was and is operative, until, of course, a deputation from Oshkosh waited upon the Government and the Government declared the law to be inoperative for two years. However, of this notice would probably be given.

Miscellany.

SYPHILIS OF THE HEART.—Grassmann (*Minch. med. Woch.*) maintains that when syphilis of the heart is said to be uncommonly rare, this really applies to gummata of the heart. The recognition of cardiac syphilis during life is only rarely possible. A gummatous pericarditis hardly ever occurs, but a pericarditis may be present over a gumma in the cardiac wall. The same applies to a syphilitic endocarditis. Gummata of the heart vary in size; they may be of microscopic size, or even as large as a chestnut. The gumma may soften, or be

converted into a hard mass owing to the proliferation of the interstitial tissue. A result of softening may be an aneurysm of the cardiac wall. The author refers to a case in a woman, aged 38, who died of cardiac insufficiency. There was a large gumma at the apex of the ventricle, an aneurysm filled with clot on the anterior ventricular wall, and an aneurysmal bulging of one mitral cusp towards the auricle. There was also a defect in the ventricular septum, apparently due to the absorption of a gumma. Gummata are usually placed in the left ventricular wall. It would appear that a syphilitic myocarditis may occur without any gummatous formation, and Ehrlich would attribute it to disease of the minute vessels. Cardiac syphilis is a large manifestation of syphilis, but very rarely it has been known to occur within the first two years. Cardiac symptoms may occur in the earlier stages of syphilis, and the author refers to a research of his own not yet completed, where varying symptoms of cardiac disturbance were noted in early syphilis. As regards later cardiac syphilis, there are no pathognomonic signs. Symptoms of cardiac insufficiency, with cedema, arrhythmia, dyspnoea, etc. have been noted. Only in the rarest cases have there been symptoms of a typical valvular lesion. Sudden death may occur. Thus, in Mracek's sixty-three cases, death took place unexpectedly in twenty-one. The presence of cardiac syphilis can be ascertained only in an indirect way, such as an early infection, the presence of other syphilitic manifestations, the ineffectiveness of any other than anti-syphilitic treatment. Anti-syphilitic treatment cannot remove a fibrous myocarditis or arterial disease, but it may be of value before such lesions have become advanced. Gummata can, of course, be absorbed, but a rapid absorption may even lead to aneurysm of the heart. The treatment should be a mild and extended one, for a vigorous anti-syphilitic treat-

ment where gummata are present may be harmful. The author concludes with the statement that syphilis does not spare even the heart.

EMOTIONAL DYSPEPSIA.—O. Rosenbach (*Berl. klin. Woch.*) says the prognosis is more favorable in this than in any other nervous dyspepsia if the patient has not become hypochondriacal owing to the long duration of the ailment, or owing to a neurotic predisposition. It is unfavorable when he broods over it, suspecting some severe organic disease, but even here it is not hopeless. It is important to investigate the digestive processes, as the proof that the food stuffs are really digested almost always makes a favorable impression on the patient. It is better here not to give a test meal, but to withdraw a portion of the stomach contents after the mid-day meal, for the patient is often at his worst in the morning. Treatment is particularly successful when a single emotion has been the cause of the dyspepsia; the success of treatment is interfered with by successive shocks. The demands made upon the stomach should be diminished as much as possible after any emotional shock, but a total abstinence from food is undesirable, unless there is a loathing for it. A certain amount of occupation, walking exercise, and light muscular gymnastics is in most instances to be recommended, but both mental and bodily fatigue are to be avoided. Drinking warm water, and warm applications to the epigastrium are employed to counteract symptoms of colic and spasms. Cold food, etc., should be avoided. The author says that small doses of narcotic and sedative remedies, such as opium and belladonna, are useful when given not on a full stomach. Even a small quantity of cognac is recommended under these circumstances. When digestion is considerably prolonged, washing out the stomach is serviceable, or when that is not practicable

pepsin and hydrochloric acid may be given. Sodium bicarbonate can be given in sour eructations, but this remedy can easily be abused. The modern method of over-feeding is never employed by the author in this effectation, even if there is wasting. In cases of marked hyperæsthesia of the stomach cocaine may be given with good results. Treatment directed to the mental condition is often more efficient than the use of the prepared food stuffs so popular at present. Prophylaxis is not to be overlooked, and here the author again recommends the use of small doses of opium, belladonna, or cognac, etc. Some interval should be allowed to elapse after the emotional shock before much food is taken.—*British Medical Journal.*

OVERSTUDY IN YOUNG GIRLS.—The well known strictures repeatedly made by Skene against the injurious effects of overstudy upon young girls should be treasured by every practitioner. Much the same may be said against an artificial social life, such as prevails in many of our larger cities. It must not be forgotten that a girl does not become a woman promptly upon the first appearance of her menses, but that for some time thereafter, usually several years, she is in a transitional state, and that the less Nature is hampered in the proper molding of the individual the better for that individual. A girl naturally below par, especially if descended from defective parents, or if she has a highly sensitive nervous organization, not only has all she can attend to to adjust herself gradually to the strains of maturing womanhood, but she is likely, despite Nature's best efforts in her behalf, to require extraneous aid. This it is the physician's duty to give, and it is folly to render aid on one hand, whilst continued overwork is permitted to more than cancel this upon the other.—*Medical Council.*

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Zinci sulphatis,
Sodii biboratis,
Acidi carbolici. āā $\frac{3}{8}$ j.
Aq. $\frac{3}{8}$ vj.

M. Sig.: A tablespoonful to a quart of lukewarm water as a vaginal injection, twice daily.—*New York Polyclinic.*

SMALL-POX still lingers in this city, isolated cases being every now and then discovered by the health inspectors. One case was recently found among the patients in the waiting-room of the Vanderbilt Clinic. The patient had been sitting with the others for upward of an hour before the nature of the disease was discovered.

A physician in New York was recently arrested on a warrant granted by the board of health, on the charge that he failed to notify the board that two children whom he was attending were suffering from small-pox.

URTICARIA.—

℞ Sodii borat. $\frac{3}{8}$ ij.
Aq. lauro-cerasi fl $\frac{3}{8}$ j.
Aq. sambuci fl $\frac{3}{8}$ xj.

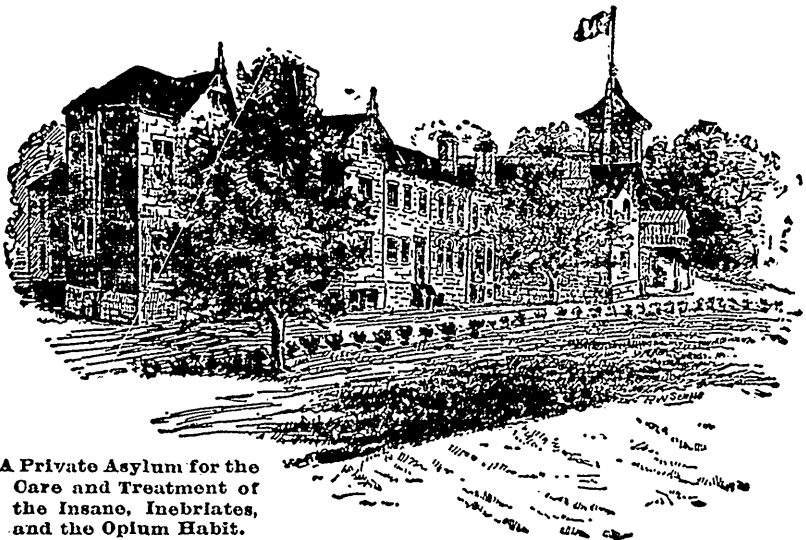
M. Sig.: Use locally. (To allay itching.)—*Neligan.*

℞ Chloralis,
Camph. āā $\frac{3}{8}$ j.
Pulv. amyli $\frac{3}{8}$ j-ij.

M. Sig.: Keep tightly corked in a wide-mouthed bottle. Rub in with the hand.—*Bulkeley, Ex.*

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NAPHTHALENE IN THE TREATMENT OF DYSENTERY. — Kartulis

(*Semaine Med.; Progres Med.*) recommends the following formula :

℞ Naphthalene..... gr. xv.
Calomel..... gr. viij.
Ess. bergamot gtt. iij.
Sugar..... q. s.

M. Divide into ten waters. Sig.: One to be taken every hour.—*Ex.*

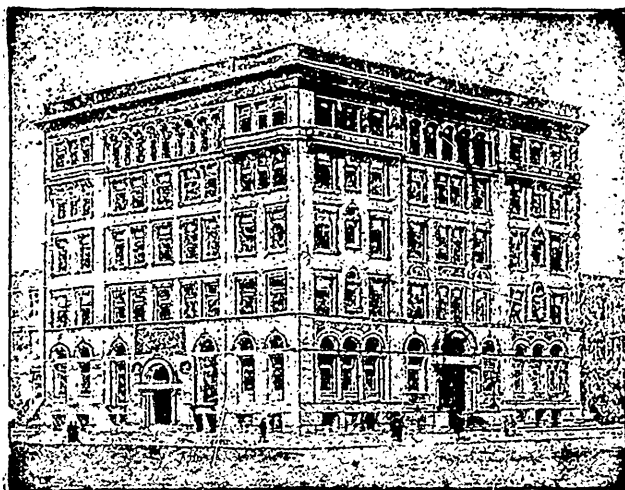
CORNS.—The following painted on the corn night and morning for several days will often afford much relief. At the end of such treatment the corn will, as a rule, come readily away :

℞ Acid salicylici..... gr. xxx.
Ext. cannabis ind..... gr. x.
Collodii ℥iv.

M.—*Stetwagon, Med. Summary.*

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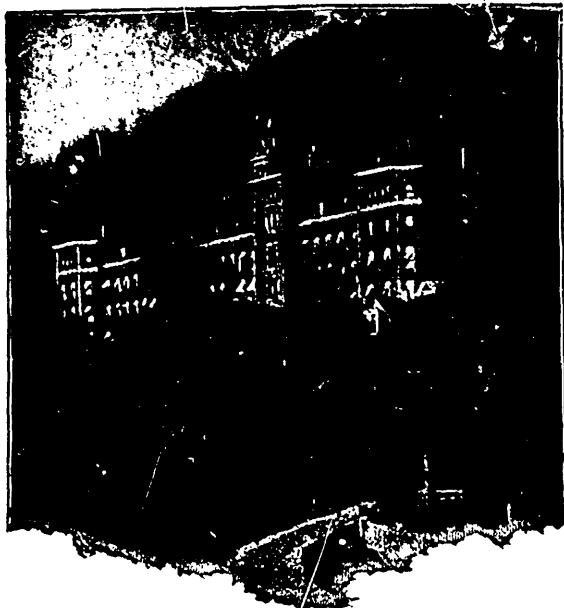
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DISEASES OF THE CORNEA.—Diseases of the cornea, especially ulcerations, are apt to arise from faulty teeth, or from any diseased condition of the mucous membranes about the head. Such conditions should be carefully examined for. If the patient is strumous, cod liver oil and allied tonics are indicated as constitutional treatment.—*De Schweinitz, Ex.*

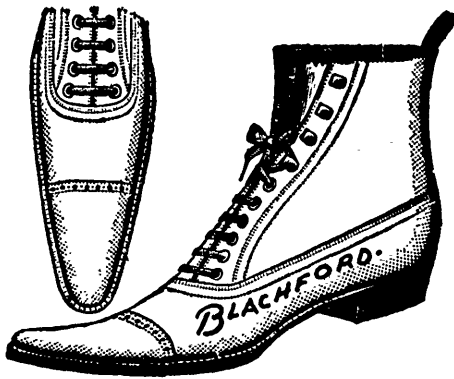
THE MIGNONETTE AS A VERMIFUGE.—The *Journal de med. de Paris* states that in Russia the mignonette (*Reseda luteola*) has long been held in great popular esteem as a remedy against tapeworm, and tells of a woman who, fasting, took a very strong decoction of the flowers, and then a large dose of castor-oil, and three hours afterwards voided the tapeworm in the form of a ball.—*Ex.*

THE CORSET HABIT.—At the Academy of Medicine of Paris the question of corsets has been to the fore. M. Laborde opened the discussion, and illustrated his remarks by X-ray photographs and the exhibition of a hygienic corset. M. Louis-Championniere, however, said that the corset in question was nothing but an abdominal belt, and condemned it on the ground that its constant use enfeebled the muscles of the abdominal wall.

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—*Leistkow.*



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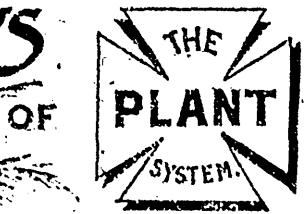
The attention of the medical profession is respectfully drawn to the uniform success attending the treatment of Alcoholism and Morphine addiction at Oakville. A prominent medical man in Toronto has, within the last few weeks, paid a glowing tribute to its efficacy in the case of one of his patients who had long since lost his susceptibility to the ordinary form of treatment employed, and whose life seemed to hang in the balance. Many come to Oakville in the last stages of the malady, yet of these but two cases in four years have proved to be beyond reach of our treatment, a record well deserving the thoughtful consideration of the profession.

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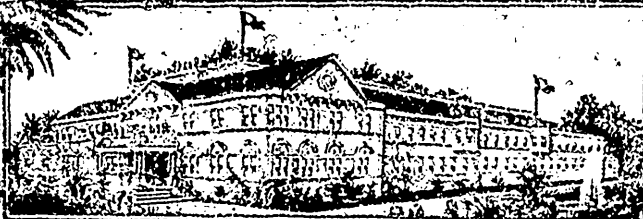
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CHRONIC GOUTY AFFECTIONS.— Dr. Murrell (*Lancet*) reports that he has successfully treated the acute manifestations of chronic gouty affections by a local application, which is as follows: Half an ounce of iodide of potassium dissolved in half a pint of rectified spirit (methylated spirit is used in hospital practice); then one ounce of soap liniment is added, and finally, one-half drachm each of oil of cajuput and oil of cloves. A piece of lint soaked in this mixture is wrapped around the affected part, covered with protective dressing and kept in place by a bandage. It acts as a powerful counter-irritant, and the inflammation usually subsides in from twelve to twenty-four hours. Dr. Murrell gives, in addition, a drachm of colchicum wine with ten grains of iodide of potassium three times a day. This produces brisk purgation, sometimes accompanied by vomiting, but it speedily cuts short the attack.

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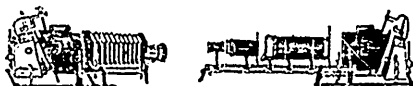
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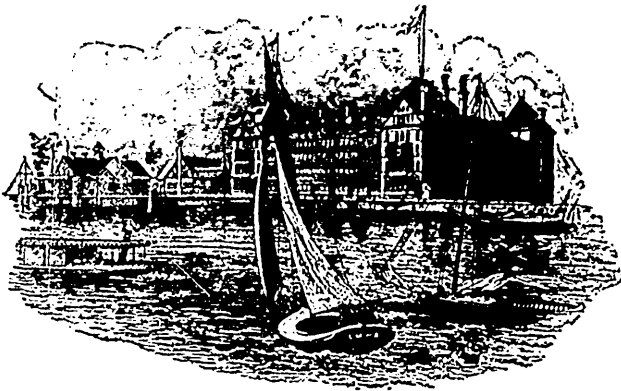
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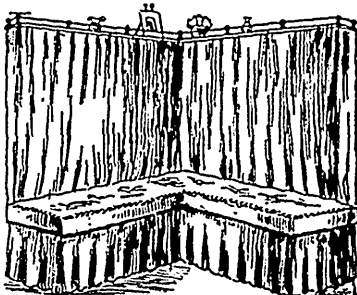
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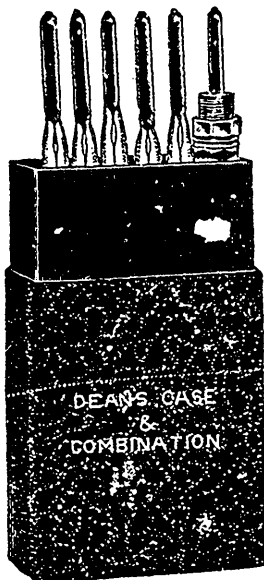
℞ Chrysarobin.....gr. j.
Iodoform.....gr. ¼.
Ext. belladonna.....gr. ⅛.
Cocoa-butter and glycerin gr. xx.

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from eight to fifteen grains a day, and at the same time prescribes inhalations of a 3 per cent. solution of ichthyol in glycerine. The frequency and the severity of the paroxysms diminish very rapidly, and the duration of the disease is shortened.—*Ex.*

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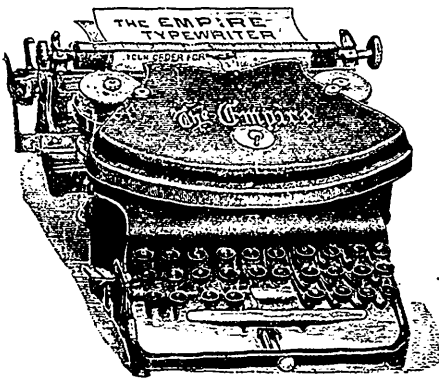
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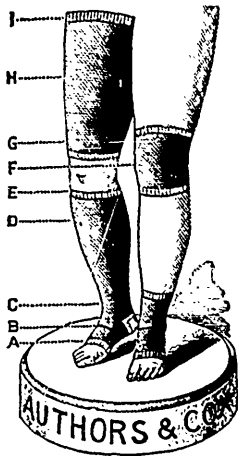
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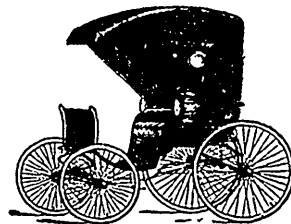
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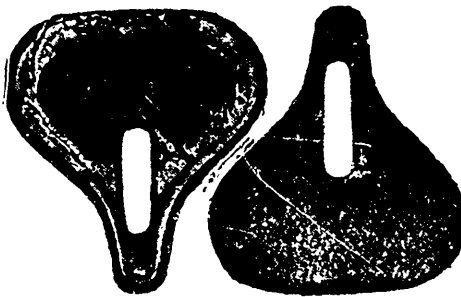
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