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REPORT OF AN OUTBREAK OF DIPHTHERIA IN THE PARISH OF "PAIN COURT."*

BY GEORGE T. MCKEOUGH, M. B., M. R. C. S. E.,
CHATHAM, ONTARIO.

The parish of Pain Court, which is inhabited by about 250 families—exclusively French Canadians—adjoins the Dover Plains in the County of Kent, notorious for their malaria and ague. The land is low and flat, the soil a rich clay, and the district an agricultural one. The great majority of the people reside along the banks of a winding creek which runs from one end to the other, and is the principal source of drainage for the parish. In the spring months this creek is a flowing stream, and carries off the refuse material of the entire locality, the larger part of the remainder of the year it is either dry or contains stagnant pools of water. The sanitary environments of the various habitations are perhaps superior to those found in country districts generally, from a natural cleanliness of habit of the people. There is however, no system of drainage whatever. About the centre of the community is a church, school house, saw mill etc., the usual conglomeration of a small country village. Malarious affections are exceedingly common; typhoid fever as yet exceptionally rare; scarlatina and diphtheria have occurred sporadically, but there had been no cases of either for a year or more until the late violent outbreak of diphtheria of which the following is a brief report:

The first cases which occurred were two children of J. B.'s aged respectively 5 and 11 years. They both presented symptoms of the disease the same

*Read at the Chatham Med. and Surg. Society, January 8th, 1886.

day, Sept. 16th, and within a few hours of one another. During the following week four more children aged 6, 8, 9 and 14 years, of the same family contracted the disease. They all recovered save one—the youngest, aged 5 years, who died Oct. 3rd, being ill 18 days. The cause of death was asthenia. Several members of this family had diphtheria about two years before, when one died; and a year previous to this many of them had scarlatina. This man's house is situated at the very outskirts of the parish of Pain Court, and is surrounded mainly by English speaking people. The house is an old frame building, located upon a slight rise of ground. The barn yard is distant at least one hundred yards up stream from his house. There was nothing special about the premises to indicate any source of generated specific poison except the aforesaid creek, which runs through the corner of his lot, not twenty yards from his house, and which drains his barn-yard. The bed of the creek just here is deeper than ordinary—in consequence, there has been a stagnant pool of water all summer, which imparted characteristic odors to the neighborhood especially at night.

2. The next family afflicted was almost at the other extreme end of the parish, about five miles distant. A boy of P. L.'s, aged 6, was seen by Dr. Holmes, Oct. 9th, and laryngo-tracheal diphtheria diagnosed. This child had been unwell for two months previous, was anæmic, slightly jaundiced, and had frequent attacks of epistaxis. For two weeks prior to the onset of the croup the child had a very sore throat, for which he was kept within doors. Inspection of the throat on several occasions by the parents revealed redness and some swelling of the fauces, but no white patches. During the afternoon of Oct. 7th his throat affection having improved he was permitted out for an hour or more; the greater part of the time he played about the barn-yard or creek. The child made no complaints on going to bed, but his father on awaking the following morning heard him breathing "croupy." The child died Oct. 10th. A brother and sister of the above aged 10 and 12 contracted diphtheria, the former Oct. 29th, the latter Nov. 3rd. Both recovered. The creek passes directly in front of this residence, not thirty yards away. Its bed is here also deeper than usual in its course, and the rainfall

during the recent months being heavy, water has remained here for some time past stagnating. There are several large elm trees intervening between the house and creek, which have a tendency towards keeping the house damp, notwithstanding an elevated foundation. The barn yard is quite thirty yards above the house located close to the creek. The direct surroundings of the house from a sanitary point of view were good. All the members of the family have frequent attacks of malarious fevers. Mr. L. recently had a most violent and obstinate attack of diarrhœa. Some time ago, a young lady residing here had a severe attack of hæmatemesis. The most careful inquiry failed to elicit any evidence of communication between these two families. There had been no cases of diphtheria in the parish or in the township for a year or more. As a people the inhabitants of the parish live almost exclusively to themselves having very little communication with the outside world.

The French people are particularly sympathetic, and during illness or death, they throng the afflicted house, condoling and lamenting with the bereaved ones. The case of Mr. L.'s proved no exception, notwithstanding repeated warnings. During the illness and after the death of his child the neighbors were assiduous in their attendance at the sick room. The result was most disastrous; within the next few weeks the following cases occurred all within an area of half a mile, which I will hereafter term the "infected area" as a means of designating it.

3. M. B.'s child aged 2 years, exhibited symptoms of croup Oct. 21st. The child had been feverish and unwell for a few days previous. Died Oct. 24th. Four other children aged 3, 5, 7 and 9 years in the same house had sore throats with white patches, fever and some glandular enlargements in the neck. They all recovered.

4. F. P.'s children aged 2 and 5, one died Oct. 24th, and the other Oct. 30th from croup. They were each ill about 7 days, becoming "croupy" a few days before death ensued.

5. L. B.'s child, aged 11 months, sickened Oct. 24th and died Oct. 31st from croup. Four other children of the same family aged 2, 4, 6 and 8 had sore throats, two were quite ill, but all recovered.

6. T. B. lost two children—one aged 3 years died Nov. 7th, was ill for two weeks with a sore

throat, foul breath and fever. The child was apparently almost well when it became "croupy" and died two days subsequently. The second aged 13 months, died Nov. 14th—was ill 4 days. Breathing was strident from the beginning of its sickness. Two other children of the same family aged 5 and 7 were quite ill with fever and sore throat, and coughed up "large pieces of black and white matter," but both recovered.

7. E. C. lost a child aged 4, which sickened Oct. 18th and died Oct. 21st of laryngeal diphtheria.

8. H. D.'s child aged 1 year was taken ill Oct. 20th, was seen by me the same day. Fauces were covered with a thin coating of greyish membrane. Temperature 102° F.; pulse 140—recovered.

9. M. C.'s child aged 2, sickened Nov. 6th and died Nov. 8th of croup. Two other children of the same family aged 3 and 5 were also ill about the same time with fever and sore throat, but both recovered.

10. M. B. had three children sicken the first week in November with fever and sore throat. White patches were distinctly seen in their throats by their parents.

11. N. B.'s child aged 20 months, taken ill Nov. 10th with fever and sore throat, developed symptoms of croup on the 15th and died on the 17th.

All these cases occurred in the infected area. Communication between all these different families was constant.

12. C. B. aged 21, mother of the last child (No. 11) was taken ill Nov. 17th. I saw her Nov. 27th, pulse 140 R. 30, temp. 102.5°. Fauces covered with a thin greyish membrane—recovered.

During the first part of her illness this patient was removed from the 'infected area' to the house of a friend 4 miles distant in the adjoining parish with the following result:

13. J. R.'s only child aged 2 years and 8 months contracted diphtheria two days after the last patient was brought to his house. The child died suddenly while sitting at a table eating Nov. 29th.

14. C. D.'s child aged 4 years sickened Nov. 30th and died Dec. 10th of croup. This man is the father of Mrs. C. B. (case No. 12), and throughout her illness was going to and from his own house, eight miles distant situated on the river Thames, a new house with every facility for good drainage and very good sanitary surround-

ings. No other cases occurred in his own family or in that of his neighbors.

15. J. O.'s children, four in number, aged 4½, 7, 9 and 11 were all taken ill the latter part of November—the youngest died of laryngeal diphtheria, the others recovered. This man lives about a mile from the 'infected area,' but in the same parish. The first child that contracted the disease in this family was present during the illness of a child (case No. 3) in the infected area. The neighborhood here is very sparsely settled and no other cases occurred near by.

16. J. B. lives several miles from Pain Court in the parish of Big Point; attended the funeral of P. L.'s (case No. 2) child. Shortly after, three of his children aged 2, 5 and 7 were attacked with diphtheria, the youngest died Nov. 2nd of croup, the others recovered.

The three following cases occurred in the village in the centre of the community. I could obtain no evidence of direct or indirect contact with the 'infected area' or other source of contagion. It is however very probable that some member of the families attacked were present at some of the funerals of the infected bodies.

17. J. B.'s child aged 18 months—sickened Oct. 17 and died Oct. 24th of croup.

18. J. L.'s child aged 20 months sickened Nov. 4th and died Nov. 14th of croup.

19. J. B.'s child aged 3 years sickened Dec. 13th and died Dec. 15th of the same.

Commentary.—*Origin of the outbreak.*

There are yet many obscure and moot points to be elucidated before the etiological problem of *diphtheria* is finally solved. Of late years the opinion has been, I believe justly growing, that there is some intimate relation between damp and other insanitary factors, and the virus of this disease, yet only recently an English authority Dr. Meymouth Tidy, in a report upon an epidemic of *diphtheria* stated that "it is a doubtful question whether *diphtheria* ever arises from such a cause as defective drainage." Is there any reason to suppose that this outbreak accords with the theory of a special development of infection. The fact that certain isolated cases have occurred in the district at various times points either to the existence of some unhygienic influence capable under certain conditions of generating the specific contagium of *diphtheria*, or to a quiescent state of the

poison introduced at some past epoch and having its vitality renewed on certain occasions from causes yet unknown. In the first family in which the disease occurred, that of J. B., there are two possible factors in the causation.

1st. The presence of the stagnant creek, with its decomposing vegetable matters, etc.

2nd. The fact that two years previously *diphtheria* ravaged this family, there being no subsequent disinfection of the premises; the poison remaining dormant from then until the present, and now again becoming active. Morrell McKenzie mentions a case in which the poison remained latent for three years and then produced its characteristic effects. The strictest inquiry could not elicit the remotest evidence of any source of contagion.

As regards the second family in which the disease appeared, that of P. L. which occurred a week after the death of J. B.'s child, there were also several factors, each one of which may possibly have been the exciting cause of the disease. No communication of any kind took place between these two families. *Diphtheria* had never before invaded this house or the immediate neighborhood, and the house was a comparatively new one with a good foundation. There was however, as in the first case the presence of the sluggish polluted pool of water, besides here were the large elm trees, already referred to, which were a constant source of dampness, especially during the past summer, as the rainfall has been comparatively heavy. The previous health of the child may have been an element in the development of the attack. Many authorities believe in the progressive nature of *diphtheria* under certain conditions from a simple catarrh of the throat.

"Drs. Wood and Formand considered that the inflammatory process of an acute pharyngitis may be a sufficient stimulus to develop the common micrococcus of the mouth into a state in which it becomes capable of producing all the characteristic phenomena of *diphtheria*." Again, it is just possible that the germs of the disease of the cases which occurred two years ago may have been carried down the creek and lodged in the stagnant pool remaining there inactive until the present, when their potency has been revived.

Diffusion of the disease.—Whatever may have been the immediate origin of the outbreak, it is

unquestionable that its dissemination was owing to its contagious nature, contact with, or close proximity to one affected with the disease was the principal mode of communication. There were instances, however, in which the poison was conveyed several miles to children by a parent not ill with the disease.

It might be asked why the disease should spread with such terrible virulency from case No. 11 in the series; whilst in the first family the infection apparently exhausted itself at its starting point. It will be remembered that the first premises attacked are situated on the very verge of the parish and the surrounding neighbors, mainly English speaking people, were thoroughly imbued with ideas of the infectious nature of *diphtheria*, which ideas were imparted to their more immediate French neighbors, and as a consequence when it became known that diphtheria was in their midst the infected house was shunned. On the other hand the population in the "infected area" were entirely French, and notwithstanding repeated warnings and palpable evidence would not believe that the disease was contagious.

Relationship between diphtheria and the so-called true croup.—The evidence obtained from this epidemic leaves little room to doubt from a clinical view of the facts that the fellowship between diphtheria and what was long known as membranous or true croup is an indissoluble one. If a child is ill with a disease characterized by a membrane situated in the larynx and trachea and another child comes in contact with the sick child and almost immediately contracts a disease characterized by a membrane situated on the tonsils, soft palate etc, or *vice versa*, the membrane in each case being almost identical in its macroscopical and microscopical characters, and these phenomena occur and recur in the same epidemic, the conclusion is inevitable.

Other Features of the Epidemic.—The most marked characteristic of the outbreak was the pronounced preference the local phenomena of the disease had for the larynx and trachea. Out of 47 cases there were 16 deaths from "croup." In other respects the type of the disease was not malignant, but it illustrated in a striking manner that the mildest case may assume that form of the disease in which medical skill is almost useless. The character of the membrane was thin, pearly

grey in color; there was but little hyperæmia or œdema of the throat, scarcely any glandular enlargements, and septic symptoms were but little marked. An analysis of the deaths in reference to age bears out previous statistics. Between the ages of 1 and 5 years, 22 had the disease and 17 died; between 5 and 10 years, 21 had the disease and but one died; between 10 and 15 years, three had the disease and all recovered; one adult only was attacked and recovered. Another peculiarity of the outbreak was the deplorable fact that only 7 of the 47 cases received medical assistance. Two were seen by physicians after croup was fully developed, jaborandi was given in one *per ora*, and its alkaloid hypodermically in the other, the characteristic effects of the drug were obtained, but both children died. The adult case was seen on the 10th day of the disease in a critical condition, temperature 100.5°, pulse 140, resp. 30; membrane visible in the throat. Boro-glyceride applied locally. Milk, whiskey and tr. ferri mur. were administered liberally, and the patient recovered. Another case, a child aged 11 was seen a few hours after feverish symptoms were first observed, the characteristic exudation was present in the throat. Tr. ferri mur. was given in 1 m. doses every half hour for a time, afterwards every hour; quinine was also administered, and the child was well in a few days. Several children died from croup within a stone's throw of this house during this child's illness. Had the treatment the effect of limiting the membrane to the pharynx? The other three cases which received treatment presented no unusual features.

SUPRAPUBIC URINATION.*

BY J. P. RUTHERFORD, M.D., CHATHAM, ONT.

Suprapubic urination, the subject which I propose summarily to deal with in the present paper, may arise from three distinct causes. 1st. Congenital deficiency of the anterior wall of the bladder, exstrophy. 2nd. From an opening caused from malignant disease, or traumatic injury. 3rd. Superinduced by the hand of the surgeon in the operation of tapping. To the last of these my thoughts will be mainly directed, not so much to

* Read before the Canadian Medical Association, Chatham, September 2, 1885.

show any original plan, as to compare different methods, for the purpose of bringing out a full discussion of the question.

The necessity for any such operation—I mean “bladder tapping”—in any region, simply hinges on two fundamental conditions. 1st. Complete retention. 2nd. The exhaustion of all simpler expedients for the relief of this condition. And here is where the wedge of controversy enters. Although its necessity is admitted by all surgeons in some extreme cases, eminent men differ as to the place of tapping, and just when it shall replace other methods of relieving an over-distended bladder. Dr. Coulson extends the above rule for guidance by advising the operation of anterior tapping in all cases of “engorgement” produced by enlargement of the prostate gland, necessitating the frequent and difficult introduction of the catheter to remove residual urine, thus giving the irritable bladder and prostate perfect quietude.

The main causes of complete retention are, spasmodic and organic stricture of the urethra, occlusion of the same by impacted calculus, traumatic injury, enlarged prostate gland, or malignant disease. The two latter supply nearly all the cases demanding the operation in question. To relieve a patient in such distress, after thoroughly manipulating with catheters of different sizes and kinds, combined with such adjuncts as opium, chloroform, hot baths, etc., the honest and anxious surgeon, in the face of failure, will ask the question, “What next?” In answer, if we can introduce a filiform bougie, perform Symes’ operation called “external division”; if not, we have “external urethrotomy” at our command, called perineal section by some, cutting without a guide.

Again, we have forcing the stricture with a silver catheter, now obsolete; and many other methods only deserving a passing notice, such as cutting out the stricture, Dupuytren’s vital dilatation, Wakley’s sliding tubes, Arnold’s fluid pressure, internal use of caustics, electrolysis, etc. Then, again, we can tap the urethra directly behind the stricture, if sacculated or distended with urine—this method was strongly advocated by Profs. Liston and Guthrie—a difficult operation, save in the condition of urethra as above, and one at present very seldom resorted to. Any successful operation on the urethral tract, when at all practicable, is the best, as the result is more likely

to be permanent; and to save time, it is sometimes advisable to give temporary relief to the patient by immediate aspiration. All the foregoing methods of relief having failed or proved unsuitable to the case, and we wish to establish a new outlet for some days—nay, it may be some months, or even years—what shall and must be done? Tap the bladder, and do it anteriorly above the pubis. I advocate this outlet as being on the list next to the natural way. Four different methods have been advocated, differing, not so much from their methods of performance as their points of entrance. Two of these have fallen into disuse—the one called “subpubic,” first and last performed by Voillemier; the other, called “pubic,” first performed by Dr. Brander, of Jersey, in 1825. These methods I will not attempt to describe. The most favored positions to-day, are, through the rectum, hereafter called the “posterior method,” and suprapubic, called “anterior method.” The posterior is also called the English method, and was advocated and practised by Mr. Cock, of Guy’s Hospital. The anterior or Irish method, strongly upheld by Fleming, was first performed by Dr. Wiery in 1701 and pronounced the best by Sir H. Thompson, Keys, and many other eminent surgeons, in all cases where a permanent opening is required for any length of time.

Operation.—An assistant, long-curved trocar and canula, soft catheter, some tape, adhesive plaster, and chloroform are required. The catheter should be No. 6, and exactly fit the canula, in order to allow of the escape of any mucus, muco-pus, blood or epithelial debris present. After administering an anæsthetic remove the hair from the mons veneris, place the patient in a semi-reclining position, enter the trocar and canula through the integument one inch above the pubis, in the median line, directing its course slightly downwards. During the operation the bladder is supported antero-laterally by the assistant. The tissues down to the bladder should be pierced by the trocar and not incised. This method was first adopted by Mercier, and is, I think, a most excellent modification of the former plan, as it fortifies very much against extravasation of urine, the canula being better, more firmly and securely held *in situ* by the muscular contraction of the bladder wall at the one end, and of the skin at the other. The trocar must be very sharp-pointed; if not, the

bladder may be separated from its areolar bed before piercing. This accident would invite trouble by way of abscess from extravasation of urine. It must be replaced by the soft catheter before the bladder is emptied. The objects of the soft catheter are four-fold :

1st. To save coats of the bladder from rough edge of canula.

2nd. To allow more fully of washing out of the same.

3rd. By attaching a rubber tube, to conduct the urine to a suitable receiver.

4th. By keeping it introduced well into the cavity, it prevents the urine from escaping around the canula, and holds the latter better in position. If faintness supervene, discontinue the flow of urine and administer a stimulant. Ether hypodermically answers admirably.

CASE I.—J. S.—One of malignant disease, involving prostate and neck of bladder, necessitating for some time the use of the catheter, finally ending in complete occlusion of the urethra, and baffling relief from the latter. Retention, extravasation and certain death on the one hand, or tapping the bladder, on the other, stared the patient and friends in the face. After consulting with patient and friends, an operation (the only hope of prolonging life) was decided on, and finding no possibility of entering per rectum from the extension of the disease in that direction, the anterior method was chosen. The operation was performed as here-in detailed, and his lease of life was extended fully two weeks. At his death, urine passed freely through the new urethral outlet, and although it is customary, after consolidation of the tissues about the canula (say four or five days), to remove both canula and catheter, in this case, from extreme debility of the patient and atony of the bladder, the catheter was left in.

CASE II.—W. C.—Was one operated on for false passage made by patient himself in attempting to procure relief and save a fee. The catheter when in this passage, could be felt some two inches up between bladder and rectum, and could not be directed in any more favorable locality for getting urine, and relieving patient. Different sizes were tried, but profuse hæmorrhage opposed a prolonged persistence in these manipulations. The only choice here lay between repeated aspirations, perineal section, and tapping. This was given in

favor of tapping and the anterior operation. My reasons for such a course were—1st. I feared the urine would trickle around the canula, and enter the torn region between bladder and rectum, and there set up abscess and possibly worse symptoms. 2nd. Aspiration must have been performed if I had chosen "perineal section," as it occurred just after dark. 3rd. Having thus to enter the bladder with a needle, and not being over-sanguine of getting the urethral opening from the perineum, it was considered better to use a large trocar and canula at once. To illustrate the impunity with which the bladder may be tapped, even with a large instrument, I might cite the case of Dr. Dox, in which the bladder was punctured anteriorly some eight times in succession in as many days, to relieve a case of retention, after which the patient re-acquired the power of making water per *vias naturales*. The above case you will find recorded in the New York *Medical Record* for June, 1872, by Dr. Clark, of Geneva. The operation was performed and a perfect fistula established without any bad symptoms intervening. On the fifteenth day after the operation, a catheter was with difficulty passed into the bladder and tied in. It was taken out and re-introduced twice in four days. The artificial opening completely closed up, and nothing remains to-day but a cicatrix in the hypogastric region. The patient is quite well, and has been making water by the good old way ever since.

CASE III.—This case was one of enlarged prostate gland, coupled with vesical catarrh. The occlusion of the prostatic urethra was complete, as can be testified to by my able *confrère* Dr. Bray, who very kindly assisted me in trying to overcome our patient's wants by catheterization, etc. Failing in our efforts to relieve, we operated April 3rd, 1879, and he lived over four and a-half years, until the fall of 1883, making water during this time more naturally by the new channel than he had for years by the old, as he could retain his water better, and for three or four hours at a time, and even went about and attended to his ordinary duties. The only difficulties experienced by him were excoriation of the integument around the new orifice from contact of urine and branch fistulous tracts running from main channels. The former was always readily relieved by a closer attention to cleanliness, combined with the use of oakum and carbolized sponges over the excoriated

parts; the latter by introducing and keeping in a catheter for a short time, which could be done the very day he died, showing that the urethra was almost perfect, and that he passed over to the majority in the end from general decay and old age (having turned seventy-eight years), and not from any difficulty in urinating. Not one drop of urine, mucus, pus or blood ever escaped from the passage, and all attempts to catheterize the same proved futile. This only goes to prove the perfect occlusion of the urethra. I give a summary of reasons why the anterior operation seems to me preferable to the posterior: 1st. According to some of the very best authorities—Sir H. Thompson, Keys, Coulson, etc.—the posterior method should only be used when wanted for a short time. Hence I claim aspiration should be performed instead; and when an opening for any length of time is required, tap, and do it anteriorly.

2nd. As we do not always know how long we may want this substitutionary process, and as the dangers are about equal (or if anything in favor of the anterior method), perform that which you can use long or short, and close at will.

3rd. More easily performed; region more accessible to the surgeon.

4th. The most common cause, enlarged prostate, excludes the posterior.

5th. Dangers greater in posterior; if seminal vesicle should be wounded, epididymitis and abscess may be the result; as to wounding peritoneum, about equally divided; *nil*, with ordinary precautions, in either case; extravasation of urine, abscess and blood-poisoning less in anterior if the soft catheter be used and no incision made.

6th. The function of the rectum is not interfered with.

7th. The retaining power of the bladder is present in the one case and not in the other, as was forcibly illustrated in Case III. The patient could hold his water for three or four hours, much longer than before the operation, and by getting up, completely empty the bladder by making the opening the most dependent point.

CHEYNE-STOKES RESPIRATION—A NEW THEORY.

BY THOMAS W. POOLE, M.D., LINDSAY, ONT.

This curious condition, having been briefly discussed in the editorial columns of the last LANCET (February, 1886), I would be glad, with permission

of the editor, to add the following contribution towards the elucidation of this difficult problem.

All the theories put forward on this subject are based on the assumption that impure venous blood, loaded with carbonic acid and deficient in oxygen, acts as a stimulus to the nervous centres. I am aware that this view of the case—the stimulating character of impure blood—was suggested by a high physiological authority, I believe by Dr. Brown-Sequard himself. But it must be remembered that this has merely been put forward as a possible explanation of certain phenomena not otherwise accounted for, and that it rests upon no actual facts of inductive science.

Is it not absurd, on the face of it, to attribute to bad blood, deficient in oxygen, the power of *stimulating* the nerve centres, in the face of the admitted physiological law, that the activity of those centres is directly dependent upon their receiving a due supply of oxygenated blood? Is it not an outrage on physiological propriety to speak of utilizing “blood loaded with impurities with which to stir up the sluggish nerve centre”? Surely there is something wrong about a theory, or an explanation, which not only common sense would seem to negative, but which is directly antagonistic to established physiological facts.

In the explanation of this curious state, which I here venture to offer, venous blood, loaded with carbonic acid and deficient in oxygen, is held to play its legitimate part of a depressant and paralyzer to nerve function. In order that this shall appear, certain other modifications of current physiological teaching must be made. Nevertheless, in doing this, I shall ask the reader to follow me only so far as I am able to adduce for these modifications the very highest physiological authority.

Why was impure venous blood assumed to be a stimulus to nerve function? Because it was found that “a deficient supply of oxygen in the blood produces a contraction of the arterioles of the body,” and this arterial contraction was held, and is still held, to be due to a *stimulus* from the associated nerves,—the vaso-motor nerves, of the arteries. This stimulus, it was taken for granted, came from the venous blood.

Is this doctrine true,—that arterial contraction is due to nervous stimulation? I will ask the reader to satisfy himself of the correctness of the proof to the contrary, to which I am about to refer

him in the briefest terms. The arterial muscle belongs to the non-striated or involuntary class of muscles; and there is ample physiological evidence that *this class of muscle contracts, not when stimulated by its motor nerves, but when these nerves are cut, or paralyzed, or dead.*

Here are the facts, which also show that the arterial muscle is not alone, or exceptional, in the rôle just attributed to it.

The muscles which close the glottis and those which open the glottis are both under the motor control of the inferior laryngeal nerve. When this nerve is cut, or paralyzed, as by pressure of a tumor, etc., the glottis closes spasmodically, *both sets of muscles contracting*; and the closure takes place, as Dr. Burdon Sanderson says, "not because the dilating muscles do not act," "but because they are overpowered" by their antagonists. (Handbook for Phys., Laborat. Amer. ed., pp. 308, 317, 319; Dr. Austin Flint, Prac. Med., 5th ed., pp. 294, 309, 371; Guttman, Phy. Diag, p. 40). Spasm of the glottis is therefore due, not to nerve stimulation or "irritation," but to nerve paralysis.

The horse breathes exclusively through his nose, and this cavity is closed by the *contraction* of its constrictor muscles when the facial nerve is divided. As a consequence the horse dies from asphyxia. (Strangeway's Vet. Surg., p. 209).

All our text books assert that section of the vagi produces paralysis of the œsophagus. This is manifestly an erroneous conclusion. If it were true, the œsophagus would be reduced to a mere flaccid tube. Instead of this, Dr. Dalton states that the food and drink swallowed, "in a few minutes are suddenly rejected by a peculiar kind of regurgitation." (Phys., p. 473). Dr. Burdon Sanderson has it among the effects of the section referred to, that "the muscular fibres of the stomach are paralyzed, so that regurgitation of food from the stomach is apt to take place. (Handbook, etc., p. 318). This behaviour of the gastric muscle, and of the œsophageal muscle is a proof, not of paralysis, but of more or less active contraction. If the candid reader agrees with me in this, as I think he must, I will ask him to ponder a moment, on the singular mistake which has been made in interpreting the results of this experiment. Could it be possible that a physiologist could claim for an experiment a result in accordance with the theory uppermost in his mind, in

opposition to the visual facts before him, and that others would go on blindly echoing his dictum? Something like this may appear again, as we proceed.

If the reader choose to follow up the enquiry, he will find that the bronchial, intestinal, and other involuntary muscles follow the same law.

Among other effects of section of the cervical sympathetic, as recorded by Dr. Brown-Sequard, are: contraction of the erectile muscles of the ears, contraction of the iris,—of the eyelids,—of "almost all the muscles of the eye,"—of "the muscles of the angle of the mouth," and of others. Among all these evidences of muscular *contraction*, can it be possible that the effect of this section on the *arterial muscle* was one of dilatation? It has been so assumed, and is so stated. But not by Dr. Brown-Sequard. In his "Lectures on the Central Nervous System," in which the effects of this section are detailed at great length, *Dr. Brown-Sequard nowhere speaks of the arteries as relaxed or dilated.* With him, it is always "the blood-vessels" which are "paralyzed," and "the blood-vessels" which are "dilated." He says, "the hanging down of an animal by holding it up by the hind legs in producing a congestion of the head, produces very nearly all the effects of this section." (pp. 140-143). All this, and other facts which might be urged, did space permit, is quite consistent with a condition of mere venous fullness, resulting from arterial contraction.

That this is, of necessity, the actual condition present, is not a mere conjecture, but admits of positive physiological proof, if the law of uniformity of cause and effect counts for anything in physiology.

Dr. Burdon Sanderson shews that the splanchnics are the great vaso-motor nerves of the abdominal viscera, and he states that after their section, "the vessels of all the abdominal viscera are seen to be dilated." What "vessels" are these? The reader has been told by this eminent physiologist that after section of vaso-motor nerves the corresponding arteries are "paralyzed" and "dilated," and he naturally expects to find this shewn to be the case after section of the splanchnics. Dr. Burdon Sanderson does not here once allude to the state of the arteries! What he finds is that "the portal system is full of blood." "A quantity of blood, is, so to speak, transferred into the portal

system, and thereby as completely discharged from the systemic circulation as if a great internal hemorrhage had taken place." (Handbook p. 260). In other words, the arteries are empty and the veins are full. Just think of it! On the theory of the text books, the arterioles here *ought* to be "paralyzed and dilated." They are empty and contracted.

Let me remind the reader that the law of uniformity of cause and effect, demands that what is true of the relative state of the arteries and veins, after section of the splanchnics must be true also, after section of the cervical sympathetic, and since the arteries are thus shown on high physiological authority to be empty, and the veins full in the former case, the same condition must be held to prevail also in the latter.

The arterioles are always empty and their muscles contracted when their nerves are cut or paralyzed, and such is also invariably their condition *in death*, when nerve force is extinct.

This is true even after the operation of "pithing," in which the medulla and spinal cord are destroyed, as anyone can satisfy himself, as I have done, by actual experiment. This is inadvertently proved to be the case by Dr. Burdon Sanderson, in his experiment designed to prove the contrary, as the reader will see by carefully studying the details he gives, in which it is shown, that of two frogs experimented on, the heart in both being exposed and the ventricle cut open, the one whose nerve centres were uninjured bled most from the aorta. "In the frog deprived of its central nervous system only a few drops of blood escape,—the quantity that is to say previously contained in the heart, and in the beginning of the arterial system. In the other, the bleeding is not only more abundant but continues for several minutes after the section." (Handbook, etc 296).

The reader who candidly studies this experiment, as given in the Handbook, pp. 246, 296, cannot fail to see that it is the arteries of the unpithed frog which contain most blood, and that it is the arteries of the pithed frog which are empty, and that here "the whole mass of blood has come to rest out of reach of the influence of the heart," (p. 246)—that is the nervous system; an effect brought about by contraction of the arterial muscles, which "in dying drive their contents into the veins." (Kuss. Phys. p. 181).

This is their condition in asphyxia also, in which case the great veins if cut into will spirt like arteries (Handbook p. 332), and this is what occurs as part of the phenomena of the Cheyne-Stokes respiration, to which we now come after this long but unavoidable prelude.

Let the reader bear in mind that bad blood, arterial contraction, and venous engorgement go together, and that so far from this being a state of nervous "stimulation," it is precisely what occurs in the dying, and finds its completion in death!

A NEW THEORY SUGGESTED.

The salient points of the Cheyne-Stokes respiration are, "alternating periods of arrest and of excitement of respiration." The periods of suspension of respiration "usually last from a quarter of a minute to half a minute, while the periods of rise and fall of respiration are about the same or rather longer duration." "In the former period, the thorax is absolutely motionless and the patient appears almost as if dead. Then a faint wave of inspiration is noticed, followed by other respiratory efforts shallow and slow. The succeeding respirations become gradually deeper and quicker, until the chest is agitated with severe dyspnoea; then, arrived at its maximum the paroxysm abates, the retrocession being as gradual as the onset, and at the end there is a period during which the breathing is in complete arrest." That at this stage "the arteries are strongly contracted," is proved not only by the increased tension of these tubes, but by the arrest of the process at the outset by the inhalation of nitrite of amyl, which dilates these vessels. (Sanson Phys. Diag. Dis. of Heart pp. 35-37).

Let us assume with Dr. Sanson and others, that there is here a condition of partial paralysis of the respiratory centre; that the blood is imperfectly arterialized, is loaded with carbonic acid and deficient in oxygen. Such a condition of things will naturally produce, not stimulation, but failure of function in the nervous centres. We have seen above, that nerve failure means contraction of the arterioles, systemic emptiness and venous engorgement. This condition gradually takes place, the great mass of the blood being transferred to the venous reservoirs "out of reach of the influence of the heart," as in Dr. B. Sanderson's pithed frog.

But as the heart continues to beat, it is fair to assume that a small quantity of blood still finds

its way through the lungs, and from its very scantiness, is capable of being aerated by means of the exchanges of gases still going on in the lungs, owing to the presence of residual air, during the temporary, partial or complete arrest of respiration. (Kuss). As a consequence, the quantity of blood reaching the nerve centres, though small, is at least partly oxygenated, and serves to revive the function of these centres, "imperfectly at first," but with momentary improvement.

The effect of this revival, on the vaso-motor centre, is to facilitate the dilatation of the arterioles, in which the pulmonary vessels share, permitting, ere long, the inrush of venous blood from the distended vena cava and portal system, and its transmission onwards through the heart and lungs.

This corresponds to the period of increase in respiratory function, in which the laborious efforts of a feeble mechanism have been mistaken for an "exaggerated impulse" from excited and overacting or "exploding" nerve centres.

Meanwhile, impure blood from the venous reservoirs, (finding an entrance through the now fairly dilated pulmonary vessels,) begins to fill the lungs in such quantity, (as it is drawn onwards by an inequality of pressure, towards the as yet unfilled arteries) that the whole mass of blood, failing to be arterIALIZED with sufficient rapidity, again becomes unfit for the maintenance of nerve-function and the perpetuation of processes depending upon it.

In such a case, a previously weak organ or centre, is the first to suffer. The medulla oblongata is such an organ in this case, and its contiguous centres for respiration and circulation fail together. Bad blood and deficient blood, acting on centres previously paretic, or enfeebled, have done their work, and again the respiration is suspended. The vaso motor centre is again so functionally weakened that it loses control of the arterial muscle—the "inherent contractile force," which all physiologists assign to muscular tissue, thus freed (as in the examples enumerated above), induces "the strong arterial contraction" referred to by Dr. Sanson, which contraction of the artery is all the stronger the nearer nerve force is to cease in the extinction of life.

This arterial, or systemic contraction, again empties the lungs, and refills the venous reser-

voirs, from which the blood is again drawn, at first slowly and then more rapidly, as the process repeats itself.

Here then, is an explanation of the Cheyne-Stokes' respiration, based upon sound—though as yet unacknowledged—physiological principles, according to which paretic and enfeebled nerve centres are helped by their appropriate pabulum—oxygenated blood—and are overwhelmed and have their function suspended by what is naturally calculated to poison and paralyze them,—impure, venous blood, deficient in oxygen and loaded with carbonic acid. As a proof, if such be needed, that carbonic acid is a poison and not a stimulant, it may be mentioned on the authority of Periera, that the inhalation of this agent produces spasm of the glottis, and this, we have seen above, is undoubtedly due, not to nerve stimulation, but to nerve paralysis.

How such an agent could ever be regarded as playing the part of a stimulant, can only be accounted for on the exigency of an erroneous theory, which demanded its modicum of nerve force from nerve centres actually being paralyzed.

All of which is respectfully submitted to the judgment of the candid reader.

Correspondence.

To the Editor of the CANADA LANCET

SIR,—Not with an idea of imparting anything striking or probably new even to many of your readers, but rather with the hope of having some further light thrown on the subject, I make mention of the following cases.

In this section of the country I have met with no less than five cases of peritonitis in the past month; in fact there may be said to be an endemic, as I have since learned from a brother practitioner that in their town they had met with nearly a dozen cases in the same length of time. These cases, which were nearly all fatal, presented all the ordinary symptoms of peritonitis, but the peculiarities were three-fold.

1. There was no apparent cause for the trouble, as all the patients, up to the moment of being seized with violent abdominal pains and in most cases vomiting, were apparently in the enjoyment of good health. The seizure was very acute and

in two cases the patients died within forty-eight hours.

2. In all the cases except one—a young woman of eighteen—the victims were young men between twenty-five and thirty. I think all the cases mentioned by my friend were young men.

3. Nearly all had very severe nose bleeding. In fact in one the epistaxis was the direct cause of death. The hemorrhage had lasted almost four hours before I could get to the patient. All the ordinary means for checking the bleeding being useless, I resorted to plugging the nares, anteriorly and posteriorly, but although the patient lived some three days afterwards she never seemed to rally. In this case the peritonitic symptoms abated very markedly after the severe hemorrhage. I thought this might probably be the effect of the bleeding, but if so the remedy was almost, if not quite as bad as the disease.

I have not been able to obtain any post mortems, but the medical friend above mentioned had found perforation of the cæcum in the one case in which he was able to obtain an examination of the patient after death.

The usual mode of treatment by opiates, warm fomentations, etc., seemed almost useless, excepting their effect in quieting pain. The tongue presented a red appearance, very dry and at the tip covered with small elevations resembling minute acne. I will not encroach further on your valuable space, but hoping to hear from some brother medico in regard to this matter,

I am, yours, etc.,

Essex Centre, Ont.

P. A. DEWAR.

TO THE MEDICAL ELECTORS OF THE SAUGEEN AND BROCK DIVISION.

GENTLEMEN,—

The representation of this riding in the Medical Council having become vacant by the death of our late esteemed member, Dr. Douglas, I beg leave to offer myself as a candidate for the representation of the Division.

As our Medical Council is now one of the established institutions of the country, it is our duty to send those to represent us who desire its continuance and the increase of its powers. I am heartily in accord with the majority of the profession in obtaining those amendments to our Med-

ical Act, which are being applied for at the present Session of Parliament. I also desire the elevation of Professional Status, by all those means which the Act empowers us to attain. One of the most important is the entrance to the study of the profession, viz. :—Matriculation ; the degree of B. A. should be required of every student, or at least a course of three years in one of our Universities.

I shall use my best endeavours to obtain such a change in the law as will enable us to punish those practitioners who hire themselves to foreign companies for the purposes of quackery, and shall endeavour by every means in my power to further the interests of the profession at large.

I am, yours, &c., &c.,

GEORGE S. HEROD.

(Guelph, Feb. 16th, 1886.

Selected Articles.

METHODS OF DIAGNOSIS.

Mr. Lawson Tait, of Birmingham, forwarded a paper to the New York State Medical Society on methods of diagnosis, from which we give the following, (*Med. News*). He maintained that the speculum and the sound, as means of diagnosis, have been productive of uniformly more harm than good. That a blennorrhagic discharge from the vagina of any patient requires the introduction of a speculum, is one of the stock beliefs of the great bulk of general practitioners, but it is certain that nothing of the kind is requisite, and a very large amount of mischief, there can be no doubt, has been produced by this belief. It is not at all an unusual thing for him, on taking part in a consultation with the family physician concerning some such case, to be told by him that he very much regretted that he had not made an examination with the speculum. Others have told him that they made the said examination, and when asked what they saw, or what they did, the answers usually given are that they did nothing, they merely made the examination ; that is to say, they passed the instrument and with that proceeding were perfectly satisfied, evidently under the belief that the passage of the speculum was quite as much a curative agent as a method of diagnosis. Similarly with the sound, he had heard many practitioners tell of their experience with the sound, or rather their want of it, and he judged that they looked upon it as a sort of magical charm, the introduction of which into the uterus was to achieve unmeasured good. As a matter of fact,

the sound is one of the most dangerous instruments which ever was invented for the treatment of human suffering, and in his own practice obtains hardly any employment at all.

There is a story which is told against himself by some of his colleagues which he never hesitates to repeat, because it is the kind of accident which is liable to occur to any one, and fortunately the only one of its kind which ever happened to him. It conveyed a lesson of which at the time he stood much in need, and from which warning may be taken with advantage. Many years ago he was asked by the surgeon of a large general hospital to give his opinion on the case of a young woman, who had been in the hospital for some months suffering from a pelvic tumor which seemed to threaten her life. She was hectic, suffering and very ill. The tumor on one side of the pelvis was apparently quite fixed, and he expressed the opinion that it was a collection of matter, but in what position he could not say unless she would allow him to make use of the uterine sound. His surgical friend told him he could do exactly what he thought proper. He had asked for his opinion as a specialist and he would not interfere with any steps he thought fit to take for the purpose of furnishing him with that opinion. Mr. Tait immediately proceeded to use the sound and came, quite erroneously, to the conclusion that the patient was suffering from a parametric abscess. The sound passed, as he thought, into an empty uterus, fixed toward the right side, the uterus being of normal length. Within twenty-four hours the patient miscarried of a fourth-month fetus, and this ended all her sufferings. She speedily recovered and left the hospital cured in a way which nobody expected, and which certainly he did not intend. All such accidents have by no means so happy an ending as this had, and their number is immense. But few months pass without his hearing of a case in which some kind of mischief has been done in this way.

One of the most important methods of diagnosis in abdominal disease, and the first to be considered in examining any case, is inspection. A careful examination, by the eye, of the contour of an abdomen when the patient is lying on her back, with the walls of the abdomen perfectly flaccid, will reveal a good deal to the experienced practitioner. A completely and uniformly distended abdomen may mean that the patient is suffering peritonitis, intestinal obstruction, ascitic effusion, a parovarian tumor, an ovarian tumor, a large myoma of the uterus, or pregnancy. The process of discriminating between these various conditions may very rapidly be completed by one who is accustomed to deal with them. Thus peritonitis may be at once detected or eliminated by the presence or absence of the short and rapid pectoral breathing, which shows that the patient is loath

to use her diaphragm. In fact, by this alone, and without almost any further inquiry, he has satisfied himself as to the nature of the case by a single glance. Ascitic effusion, or on the other hand, is revealed at once by the absence of the pectoral breathing, by the greater flattening of the distention, by its tendency to assume a pyriform shape, the broadest diameter just above the pelvis, by the thickening of the walls due to anasarca effusion, and the presence of white lines in the skin of the flanks. If the crest of the ilium sticks out under stretched skin, the diagnosis is again almost complete without further inquiry. If, on the other hand, these subsidiary features are absent, and there be a uniform and complete distention, two conditions widely distinct may be suspected. These are parovarian cyst and hydramnios; and here, again, some very curious mistakes have come under his notice, some of which have had very ghastly results. Parovarian cysts after labor sometimes grow with astonishing rapidity. Hydramnios always occurs with twin pregnancies, and generally in unmarried women, who are of course, disposed to conceal their condition, and mere inspection cannot be depended upon to discriminate these cases.

But inspection will help us very largely to detect pregnancy and myoma, for in these cases the distention is always greatest either at the middle of the tumor or at its upper part, differing in this way completely from ascitic distention; and here one of the most important agents in the diagnosis of abdominal diseases, palpation, comes at once to our assistance, and to the skilled fingers it ought not to take more than a few seconds to discriminate between any or all of these conditions. The percussion note, which is uniform in a case of peritonitis, will easily determine the condition which is present. One or two delicate touches of the fingers of one hand whilst the fingers of the other lie with the most gentle lightness on the other side of the abdomen, will determine the presence of fluid, and it is in this method of palpation that the skill of the practitioner at once becomes visible. The inexperienced hands press firmly upon the walls and may be seen to move to and fro in an aimless fashion as though they were rocking a cradle. The gentlest and tenderest touch alone will reveal what is required. Measurements of the different diameters of the abdomen will teach in a few seconds the leading features which are present: first, that there is fluid; secondly, that it is, or is not, near the surface, being contained, or not, within a thin-walled cyst; thirdly, that there is one cavity, or not; fourthly, the probable character which it presents. The wave excited by gentle tapping is retarded or urged on by the more or less gelatinous nature of the fluid. All these conclusions are indicated with the utmost rapidity to the skilled fingers, and it is absolutely impossible

to teach how this can be, save by the constant practice of the pupil. The parovarian cyst may be diagnosed entirely from one condition, that is, hydramnios, partly by its thin walls and partly by the fact to which he has alluded, that hydramnios is very easily detected. Ascitic fluid is revealed in the same way, and by the additional fact that here and there we get tympanitic percussion notes.

The large uterine myoma is defined by its firm sense of resistance and its uniform feel and pseudo-fluctuation, also by the fact that it has a smaller diameter at the base than at the middle or upper part. Pregnancy, the rock ahead to inexperienced practitioners, can be infallibly revealed by palpation. First of all, there is fluctuation due to the liquor amnii, and it can be easily detected, and this declares the cystic nature of the mass. If the hand be made to lie gently on the parietes for a few minutes a rhythmical contraction of the uterus, by which at one time it is hard as a cricket ball and at another soft as a cushion, will become perfectly apparent, and this is as infinitely more certain sign than the sound of the fetal heart or placental bruit. The fetal heart is a sound which may guide and sustain the practitioner in his conclusions, but it is so easily imitated by intestinal noises, and often so difficult to find, that it is not to be depended upon with certainty. The placental souffle is probably more easily recognized than the fetal sounds, but placental sounds are very often, in rapidly growing tumors of the uterus, so completely imitated that there is always a certain amount of doubt connected with them. But the relaxation and contraction of the uterus in pregnancy are points in diagnosis which when once made apparent, can never be mistaken for anything else.

THE USES OF DIGITALIS.

Dr. W. Symington Brown of Stoneham, Mass., (*Louisville Med. News*), gives the following regarding the use of digitalis:

Digitalis has two marked properties: it is a heart tonic and diuretic. It seems to exercise more control over the circulatory than the nervous system. Next to the preparations of opium and cinchona, I have given it to patients more frequently than any medicine, and the result of my observations for twenty-five years is that digitalis acts slowly, too much so to conclude that it directly affects the nervous system. Another conclusion I have arrived at is, that it is not a cumulative medicine, in the ordinary sense of that term. Our own Dr. Odlin holds the same opinion. On account of its slow solubility in the blood, it may appear to accumulate when too rapidly administered. An interval of six or eight hours should be allowed between doses. In some patients it produced diarrhœa.

In medicinal doses, digitalis steadies the heart's action, lessens the number of beats, allows the coronary arteries to supply nourishment to the enfeebled organ (which is only possible during the diastole), and contracts the arterioles all over the body. In poisonous doses, it seems to tetanize the heart, at last totally arresting its movements. Experiments on the lower animals and a few post-mortem examinations in man show that the left ventricle is always empty and rigidly contracted after death caused by poisonous quantities.

The following is a list of the more important diseases in which digitalis has been given advantageously:

1. In mitral obstruction, and generally whenever effusion occurs from debility. When dropsy supervenes from heart disease, when the face is dusky, the jugular veins distended, the breathing hurried, and the pulse feeble and intermittent—small doses of digitalis, aided by position and stimulants, will often work wonders. In some cases, where the left ventricle is both dilated and hypertrophied, it may be given tentatively,

2. After rheumatic fever, when the pulse is feeble, rapid and irregular, combined with salicylate of soda. It is also useful in the later stages of typhoid fever. In moderate doses it reduces the temperature in all fevers.

3. In atonic uterine hemorrhage, and as a hemostatic after surgical operations on the uterus, it may be alternated with ergot. In giving digitalis it not unfrequently occurs that the pulse is accelerated at first for a few hours, although the final effect is to reduce the number of pulsations.

4. In delirium tremens. Very large doses have been given successfully in this affection. I recollect attending a case in Scotland, many years ago, assisted by my tutor, where we gave tincture of digitalis in half-ounce doses, after a fair and futile trial of opium, and the patient recovered. He was a regular toper, full of morbid fancies, and he would only consent to swallow the medicine on condition that I scratched his back, during which interesting process he fell asleep. I remember that Dr. Glen was in doubt whether it was the digitalis or the scratching that saved him.

5. Drs. Nelligan and Corrigan, of Dublin, strongly recommended it in epilepsy. They gave two ounces of the infusion at bedtime, continued for four nights, with an interval of two nights, then repeated as before. My experience of its use in this affection is not extensive, and not very favorable.

6. In spermatorrhœa it occasionally proves beneficial. The influence of digitalis on sexual desire, in both sexes, is decidedly sedative and anaphrodisiac. It only exerts this influence, however, after the lapse of weeks.

7. In bleeding piles. A good form for this disease is the powder made into pills with tar,

each pill containing one grain of digitalis. Four may be swallowed daily.

8. In maniacal cerebral excitement the hot infusion, sweetened, in teaspoonful doses, twice a day or oftener, sometimes answers the purpose of quieting the patient better than the bromides.

To return to digitalis. In all cases great care must be taken to watch the effect of the medicine. It is better to begin with small doses, observing the results from day to day. When we have reason to suspect fatty degeneration of the heart, it should not be given. In ossification of the aortic valves and in croupous pneumonia, digitalis is likely to do more harm than good. As a general rule, it is not serviceable in robust patients; and it only acts as a diuretic during the presence of dropsical fluid. The dose should be diminished as soon as the amount of urine secreted becomes less. The main benefit derived from digitalis seems to be the relief of *irregular* pulsation by imparting tone to the heart and arteries. Like opium, its first effect is stimulating, its second effect is sedative.

NOTES ON THE TREATMENT OF DIPHTHERIA BY PROF. DA COSTA.

Diphtheria may continue in an individual for a long time, relapses occurring from self-infection. Treatment must be preventive and individual. In the first place, the strictest isolation must be enforced: remove all unnecessary furniture, clothing and the like from the room; disinfect the sputa, linen and everything from the patient, and, if possible, remove the paper from the walls and wash with some disinfectant. Do not allow members of the family to come in contact with well children, for fear the former may convey the poison to the latter.

The individual treatment is both general and local. In the former, *alimentation* and *stimulation* are of the greatest importance, given, as in typhoid, every two or three hours, day and night. Alcohol is given to the point of tolerance. Begin with $\bar{3}$ ss to $\bar{3}$ j of brandy every hour; increase till heart and pulse are improved. The amount a patient suffering with diphtheria can take is incredible; a child, *æt.* 2 years, has been given a tablespoonful of brandy every hour, and $\bar{3}$ j is quite common. There is present a condition comparable to that found in snake poisoning. Begin the stimulus early.

As to *medicines*, one of the earliest and best treatments is by potassium chlorate, $\bar{3}$ j to $\bar{3}$ ss per diem, in divided doses, well diluted. Next to this, either alone or combined with it, is *tinctura ferri chloridi*, gtt. x every hour or two, for a child *æt.* 10 years.

The rising treatment now is with calomel. It consists in giving large doses frequently, not mind-

ing the free movements from the bowels. Give one grain every hour till twelve doses have been taken, then the same amount every second hour. This has been often tried in the *laryngeal* form, in larger doses, and is of especial utility in this variety of the disease.

Corrosive sublimate, gr. $\frac{1}{20}$ to $\frac{1}{12}$ every hour, is a similar but hardly as effective treatment.

Jaborandi is a very new remedy in this trouble. The idea is that when the patient sweats well the membrane will loosen. As it is very depressing, it is not safe unless the patient is quite strong.

Locally, strong caustics have been abandoned. Cleansing, disinfecting gargles are the modern treatment. Carbolic acid, with borax and soda, may be used. Thymol holds a high place, never weaker than 10 grains to the ounce.

R Thymol $\bar{3}$ j.
Glycerini f $\bar{3}$ ij.
Aque f $\bar{3}$ iss. M.

SIG.—Gargle. Dilute if necessary.

Permanganate of potassium, a favorite with the English, equal parts of lime water and glycerine, or two parts of the former to one of the latter, are very useful and grateful. When the patient is old enough, these are best used in the form of spray. Equal parts of Monseil's solution and glycerine may be used when the redness and swelling are very great. Do not scrape the membrane.

The most prominent among the solvents for the membrane are lime, bromine and pepsine. Of lime, it is difficult to get enough. Bromine is too irritating. The remedy that has done best is a saturated solution of pepsine in the form of spray.

Lactic acid, jaborandi and numerous other agents which have been used for this purpose, have some solvent power, but not enough.

Complications or Varieties.—For *nasal diphtheria*, in addition to the ordinary treatment, carried on, if anything, more actively, keep the posterior nares well washed out with—

R Sodii sulphitis $\bar{3}$ ij.
Glycerini f $\bar{3}$ ij.
Aque f $\bar{3}$ iv. M.

Pepsine may prove yet more effective. This washes away the membrane, checks decomposition of the same and prevents blood poisoning. Use with the post-nasal syringe.

In *laryngeal diphtheria*, besides the ordinary treatment, the best results have been obtained by having the patient breathe fumes from slaking lime. Also an occasional emetic while patient has sufficient strength, does good.

Diphtheritic paralysis, with good management, usually recover. The blood is always deteriorated and patient is anæmic. Give iron, nourishing food, red wines, strychnine, for the paralysis, best hypodermically, if patient is old enough.—*Coll. & Clin. Rec.*

A NEW PHIMOSIS FORCEPS.

The superiority of the forceps designed by Dr. Briggs of St. Louis, for the operation of circumcision, consists in the simplicity and dexterity of the operation with them; the freedom from hæmorrhage to a great extent, the exactness of the coaptation of the skin with the membrane when sutures are in, which will almost insure healing of the wound by the first intention.

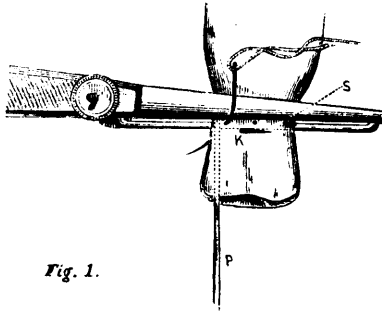


Fig. 1.

Figure 1—Represents the first step of the operation; the forceps in position showing probe within the prepuce laterally, and needle passing to inner side so as to prevent making a suture through the skin only. Any number of sutures desired may be passed, but it is only necessary to have three, which on division of the loop makes six sutures, three on each side.

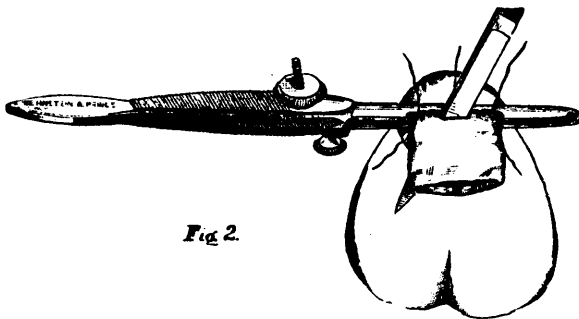


Fig. 2.

Figure 2—Shows sutures in position and fore-skin transfixed above the guide or extra blade.

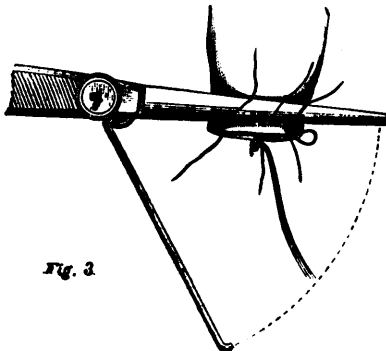


Fig. 3.

Figure 3—Represents the division of the fore-

skin, and hook (a probe or tenaculum may be used) drawing up the loop in the centre or between the membranes. These loops may now be divided and the sutures tied on each side. The forceps being held laterally, obviates any constriction of the membrane in the majority of cases; but should there be any, it can be remedied by dividing the membrane on the dorsum between the sutures.

THE PREVENTION OF MAMMARY ABSCESS.

Instances are not infrequently met with where the function of lactation is either not considered advisable, as in cases of syphilitic taint, marked tendency to phthisis, epilepsy, etc., or where, from the child being still born, or the nipples depressed, subject to cracks, fissures, or erosions, the function of lactation is unnecessary or unable to be persisted in. Apart from these conditions there is unquestionably a growing tendency for mothers to avoid the responsibility of suckling their offspring. Milk is secreted, and if it be not drawn off at appropriate intervals the breasts become engorged, and not unfrequently inflamed, mammary abscess resulting. From whatever cause it may be, we are often obliged to take steps to prevent such a contingency. For many years the old-fashioned methods in general vogue, if not advocated, were at least tacitly acquiesced in, such as rubbing the breasts with sweet oil, oil and extract of belladonna, glycerin and belladonna, belladonna plasters, evaporating lotions, strapping the breasts, and other like expedients.

It being believed that friction of any kind in the large majority of cases rather tended to produce than prevent mammary abscess, it was long since discarded. The application of a long strip of belladonna plaster, sixteen or eighteen inches long and six or eight inches deep, with round apertures, so as to leave the nipples free, tightly across the chest, the breasts being brought well up towards the median line, for many years was the only resource adopted, beyond careful regulation of the diet, abstention from fluids, gentle purgation, etc. This method never failed: but it was often found that the smell of the belladonna produced so much nausea in delicate patients as to preclude the employment of it.

Thinking that in all probability the pressure exerted contributed greatly to the advantages derived, Dr. Arthur W. Edis (*Brit. Med. Journ.*, November 7, 1885) was induced to rely upon a few turns of a rib-bandage, or the application of a thin towel or diaper across the chest, the breasts being brought well towards the sternum. Since adopting this method he has never known it fail. Not a single instance of mammary abscess has occurred in a long series of cases, extending over

several years. The only precaution requisite is to apply the pressure on the second day following parturition, before the breasts begin to fill, and to see that the whole of the glands are included.

It is well to elevate the shoulders somewhat more than usual, and not to allow the bed-clothes to cover the upper part of the chest, the sheet alone sufficing to prevent any risk of chill. Restriction as to the amount of fluid for the first few days and attention to the bowels are all that is requisite to insure success. Some little inconvenience—a feeling of tightness or burning pain—is often experienced; but if the pressure be maintained, no harm results, and within the course of a few days the turgescence subsides and the difficulty is at an end. In order to keep the bandage or towel from slipping down, a shoulder-strap from back to front, or merely pinning the bandage to the night dress, suffices.

Where the secretion of milk seems to be unusually abundant, a mixture of bromide and iodide of potassium may be prescribed with benefit. In only a very few instances has it been found requisite to draw off a small quantity of milk by means of a breast-pump or exhausted soda-water bottle, and this only once or twice.—*Therap. Gaz.*

THE TREATMENT OF PELVIC ABSCESS BY INCISION AND DRAINAGE.—Dr. Paul F. Mundé, of New York gives the following conclusions in a recent paper:

1. Pelvic abscess in the female is not very common in proportion to the frequency of pelvic exudations. It probably does not occur in more than ten per cent. of all cases. The majority of cases terminate in spontaneous absorption of the exudate.

2. Pelvic abscess may be extra-peritoneal, most commonly the result of pelvic cellulitis, or it may be intra-peritoneal, the result of pelvic peritonitis. The adhesions in the latter case might make the abscess practically extra-peritoneal. Abscess of the ovary and pyosalpinx did not fall into the division of pelvic abscess proper.

3. In small, deep-seated pelvic abscess, not containing more than two ounces of pus, and in multiple abscesses of the cellular tissue, a permanent cure might be effected by simply evacuating the abscess cavities with the aspirator.

4. About one-half of the abscesses open spontaneously into the vagina, rectum, or pelvic or abdominal wall. These abscesses may heal spontaneously, or they may require surgical interference.

5. Abscesses containing more than two ounces of pus should be opened by free incision, cleared of debris, and drained, if necessary, through a drainage-tube.

6. This incision should be made at the point where pus points most distinctly, usually in the vagina.

7. In a certain number of cases pus points in

the abdominal wall usually at the iliac fossa; and here the drainage-tube would be required.

8. In some cases in which the pus burrowed deeply into the pelvic cavity it would be advantageous to make a counter opening through the vagina, and establish thorough drainage from the abdominal wall into the vagina.

9. Opening a pelvic abscess which points in the abdominal wall does not differ from this procedure in other cases, and is not attended by greater danger when adhesions have taken place.

10. Chronic pelvic abscess—abscess bursting spontaneously and discharging through the vagina, rectum, and elsewhere—might exist many months or years, and prove exceedingly difficult to cure; this is particularly the case when it opens high up in the rectum. A counter-opening should be made in the vagina, for Dr. Mundé doubted the propriety of enlarging the rectal opening even if it were possible to reach it.

11. In doubtful cases, aspirate and establish the diagnosis.

12. The majority of cases of pelvic abscess will recover.

MEDICINES WHICH STIMULATE THE LIVER.—Podophyllin in small doses is a stimulant to the liver. During the increased secretion of bile, the percentage amount of special bile solids is not diminished. If the dose be too large, the secretion of bile is not increased. It is a powerful intestinal irritant.

Enonymin is a powerful hepatic stimulant. It is not nearly so powerful an irritant of the intestine as podophyllin.

Sanguinarian is a powerful hepatic stimulant. It also stimulates the intestine, but not nearly so powerful as podophyllin.

Irisin is a powerful hepatic stimulant. It also stimulates the intestine, but not so powerful as podophyllin.

Leptandrin is a hepatic stimulant of moderate power. It is a feeble intestinal stimulant.

Colocynth is a powerful hepatic, as well as intestinal stimulant. It renders the bile more watery, but increases the secretion of biliary matter.

Jalap is a powerful hepatic, as well as intestinal stimulant.

Menispermmin does not stimulate the liver. It slightly irritates the intestinal glands.

Baptisin is a hepatic, and also an intestinal stimulant of considerable power.

Phytolaccin is a hepatic stimulant of considerable power. It also slightly stimulates the intestinal glands.

Hydrastin is a moderately powerful hepatic stimulant, and a feeble intestinal stimulant.

Juglandin is a moderately powerful hepatic and mild intestinal stimulant.

Chloride of ammonia is credited with chola-

gogue properties, but it is questionable; nevertheless, it certainly stimulates the intestinal glands.

Calomel is a powerful purgative, but whether it stimulates the liver is still *sub judice*.

Corrosive sublimate is a potent hepatic stimulant, but acts feebly on the intestines.

Sulphate of potash is a powerful intestinal irritant, but its action on the liver is variable and unreliable.

Taraxacum is a feeble hepatic stimulant.

Dilute nitro-muriatic acid has a moderate stimulant action on the liver.

Boldo, bromide of potassium, nitrate of potash, and hard soap, have each some stimulant action on the liver.—*Am. Med Digest.*

HOW TO ADVANCE MEDICINE.—Advance in medicine must be looked for by a better insight into the causes of disease; by a study of pathology in its very widest signification, which shall include not only morbid anatomy, but all those changes in the blood and nervous system which often constitutes the *foens et origo malis*. These causes may be found to be of a specific nature, or to exist in the ordinary surroundings of our lives. Of whatever kind they may be, a discovery of their detrimental influence will lead to the means of their removal.

Then, again, much success may be hoped for on making a more complete study of diseases when actually running their course before us, by observing which are the favorable and which the unfavorable circumstances which determine the issue of the case; and not only the surroundings should be noted, but the meaning of the symptoms should be investigated, so as to discover which to encourage and which to oppose.

When we have arrived at some knowledge acquired by these means, the action of drugs may be considered, and the conditions which suggest their employment. As I have before said, it is by no means sufficient to know the physiological action of a medicine, but rather how it will exert an influence on various pathological phenomena. To quote again the instance of digitalis, we require to know not only its action on a healthy heart and arteries, but what power it exerts on quickly acting hearts, for whose correction we now see it daily given.

In upholding these views, I am of necessity protesting against the so-called popular theory, that diseases are so many entities, whose symptoms are to be relieved by some drug; or, as I have seen it expressed in a book on the most wide-spread heresy of the day, that since it has pleased the Almighty to visit his children with various ailments, so he has provided in the herbs of the field some remedy for their cure. This is both an untruth and an absurdity; or, as a member of Parliament declared in the House of Commons, when

denouncing restriction on medical practice, that all collegiate training was useless, the medical art being a gift with which some persons were naturally endowed. It need scarcely be said that he was the patron of the most flourishing quack in the country. If medicine is a branch of science, it must be studied in the same way as other sciences, by observation and experiment. There must first be a study of anatomy and physiology; then a study of disease, as seen in the living subject, and in its results on the dead; then, again, an investigation into the action of remedies of all kinds, and their suitability to the amelioration of morbid states; efficient treatment can only follow by a complete adoption of all these methods. By making it the result of a scientific procedure, we are assisting to stay the degeneracy of medicine, which is ever apt to constitute treatment the very foundation of our art, the alpha as well as omega.—Dr. Wilkes, in *Brit. Med. Journal*.

THE INFLUENCE OF DRUGS ON MILK.—In a medico-legal case MM. Brouardel and Pouchet were asked whether an infant of two months could have been poisoned fatally through its mother's milk the mother having been for some time under treatment with arsenic, and on several occasions having shown symptoms of arsenical poisoning. To settle the point M. Brouardel made a number of experiments by giving Fowler's solution to nursing women, the result of which showed that arsenic can readily be found in the milk, even when taken in small doses, but that no toxic symptoms are likely to be produced in the child unless the mother be takign a toxic dose.

Fehling has lately experimented upon the subject of the elimination of drugs by the milk, and found that salicylate of soda, iodide of potash and iodoform can all be traced to the urine of the nursling, the latter drug when taken in very small quantities, and even when applied externally. Hence he advises against its use as a dressing for wounds in nursing women. He has also found corrosive sublimate in the urine of children whose nurses had the drug applied externally, but the quantity passing to the child was so small that he thinks it unnecessary to use the same precautions with corrosive sublimate as with iodoform. The narcotic substances are without effect upon the nursling. The largest doses of opium or chloral administered to the nurse do not bring about any especial symptoms in the child. Atropine was tried on animals, and no dilation of the pupil or other manifestations occur in the suckling, excepting when the maximum therapeutic dose has been exceeded. Fehling therefore comes to the conclusion that while but few drugs administered to the mother prove deleterious to the infant, a strong exception, however, should be made of those substances that are eliminated with difficulty and accumulate in the

organism. Nevertheless it is certain that many substances, when ingested, produce decided effects upon the milk. "Milk sickness," or the "trembles," occur in persons using the milk of cows which have fed on certain pasturage, and the odor of copaiba or asparagus can be detected in the child's urine when these substances have been taken by the nurse; moreover, artichokes, absinthe, and other substances will make the milk bitter.—*North-western Lancet.*

DIPHTHERIA.—With regard to the treatment of diphtheria, I know of nothing too strong to say in the reprobation I think we ought to show towards the treatment by scraping off the membrane; and that by mopping or swabbing the throat with nitrate of silver and other astringents is nearly as bad. It forces the fungus to extend to unstringed portions of the mucous membrane, and drives it downward toward the glottis, and I believe it to have been answerable for multitudes of deaths in former less enlightened days. I believe it is a plan never now adopted, unless it may be by the gentlemen who call all white patches in the throat diphtheria. It is excellent treatment for simple ulcerative tonsillitis.

Arguing from analogy, and seeing the success in vineyards of the use of sulphur for the cure of oidium, I think this is the most rational line of treatment to adopt to destroy the fungus of diphtheria. Finely powdered sulphur blown on to the membrane through a quill or glass tube causes no pain and very little distress to even very young children, and in such cases it is almost the only local treatment that can be adopted. With children a little older, sprays are very useful. Carbolic acid spray is in my experience, useless as a germicide, because the mouth and throat will not tolerate it of sufficient strength to destroy the vitality of the false membrane; but in a strength of 1 in 60, or one in 80, it is very soothing to the inflamed throat. Boracic acid spray, on the contrary, is extremely useful, for it appears to have the power of dissolving the membrane whose vitality the sulphur has destroyed, and thus a fresh layer is exposed for the next applications of sulphur to act upon. Where the diphtheritic patches are very thick, it is a good plan to syringe a concentrated solution of boracic acid over the throat in a child who is too young to use a gargle. If it is swallowed it does no harm. In older children and adults it acts to best advantage as a gargle, removing the membrane in flakes and not irritating the throat. I have not used pepsine, as I have been thoroughly satisfied with sulphur and boracic acid for local treatment; but its use is thoroughly scientific on physiological grounds. We aim, of course, first at the destruction of the local manifestation of the disease in consequence of its tendency to cause death by asphyxia; but it does

not follow that because the throat becomes clean the patient is out of danger. Therefore we ought to aim at the destruction of the poison in the blood from the earliest period of seeing a case. I believe that in the sulpho-carbolates we have a group of substances that are capable, if not of destroying what already is formed there, of preventing a further development of the disease, and so controlling its progress. In the allied diseases of scarlatina and erysipelas it displays marked powers of modifying their course, and, again arguing from analogy, I think it is a scientific proceeding to administer them. I give the soda-salt in doses of a grain for each year of the child's age every three or four hours. The temperature quickly falls, and then the sulpho-carbolate can be discontinued, to be replaced by perchloride of iron.—*Dr. Corbin in Australasian Med. Gazette.*

KEITH ON HYSTERECTOMY.—Dr. Thomas Keith, (*Edinburgh Med. Journal*, May, 1885,) while recognizing the marvellous improvements and results of the last ten years in operative interference in cases of fibroids, yet takes a thoroughly conservative view, and advises the operation of hysterectomy only in extreme cases. The removal of the ovaries and tubes, he says, is an operation full of promise, and, as regards his own work, the result is more satisfactory every time that it is performed. It will not, however, supersede hysterectomy, as there are cases in which, even when got at, the ovaries cannot be separated from the uterine tumor without too great a risk. He advises trying the simpler method first, in all cases where the tumor is small, and does not extend much above the umbilicus. The proportion of cases in which interference of any kind is warrantable is, perhaps, not greater than five per cent. The cases in which he thinks hysterectomy may reasonably be recommended are these:

(1) In very large, rapidly-growing tumors of all kinds in young women.

(2) In all cases of real fibrous cystic tumors.

(3) In most cases of œdematous fibrous tumors which are not cured by removal of the ovaries. They occasionally grow to be very large, even weighing two hundred pounds, according to the author. Sometimes, large quantities of red serum can be removed with much relief, and in this way, the patients carried over the menopause when the necessity for further puncturing ceases.

(4) In cases of large, bleeding fibroids, when removal of the ovaries cannot be accomplished, provided that the patient is not approaching the menopause. In these cases, as a rule, though there are many exceptions, menstruation goes on much beyond fifty.

(5) In certain cases of tumors surrounded by much free fluid, the result of peritonitis, provided that the fluid shows a tendency to reaccumulate

after two or three punctures. Occasionally, when the fluid does disappear, its absence may, from some change in the osmosis, be followed by an extremely rapid growth of the tumor. It is important to remember that long continued irritation of the peritoneal surfaces by large, solid tumors, is apt to be followed by degeneration of the peritoneum of a sarcomatous or cancerous nature. The microscopic examination of the fluid will, in such cases, keep one from falling, into error. Dr. Keith has several times, where large, healthy, uterine fibroids were present, removed fluids swarming with cancerous elements, the source of which was found to be altogether in other organs affected with cancerous disease. — *Boston Med. Journal*.

CHIENE'S CONTRIBUTIONS TO PRACTICAL SURGERY.—Prof. John Chiene, in an admirable series of practical notes on every-day surgery, makes, *inter alia*, the following suggestions :

In wounds of the face, the best stitch to use is horse-hair. Unless the wound is of considerable size, no form of drainage is necessary. The best dressing is a pad of salicylic cotton-wool or corrosive wool, fixed in position with flexible collodion.

The introduction of the sharp spoon into surgical practice has greatly simplified the treatment of lupus. In the use of the sharp spoon, special care must be taken to scrape away the raised edges of the lupoid ulcer, as it is here that the pathological change is advancing. This is best done by scraping from the sound skin toward the centre of the ulcer. After the new formation is completely removed, the best application is a powder which has been introduced into surgical practice by Dr. Lucas Championniere, of Paris. It consists of (1) light carbonate of magnesia, which has been impregnated with the vapor of eucalyptus, (2) powdered benzoine, and (3) iodoform in equal quantities.

In persistent hemorrhage from the nasal cavity, plugging of the posterior nares should not be done until an attempt has been made to check the hemorrhage by firmly grasping the nose with the finger and thumb, so as completely to prevent any air passing through the cavity in the act of breathing. This simple means, if persistently tried, will in many cases arrest the bleeding. The hemorrhage persists because the clot, which forms at the rupture in the bloodvessel, is displaced by the air being drawn forcibly through the cavity in the attempt of the patient to clear the nostrils. If this air is prevented from passing through the cavity, the clot consolidates in position, and the hemorrhage is checked.

In the reduction of a dislocation of the lower jaw, the patient should be seated on a low stool before the surgeon. In this way the surgeon gets a sufficient leverage, standing above the patient, and the reduction of the dislocation is simplified.

In the division of a tight frænum of the tongue, when a child is tongue-tied, care must be taken not to use the scissors too freely. All that is necessary is, standing behind the patient, to nick the anterior edge of the frænum with the scissors, and to tear with the finger-nail the remainder of the band. In this way hemorrhage, which is apt to be troublesome, is prevented.

In the removal of an elongated uvula, after you have grasped the apex of the uvula, it is to be drawn forward and rendered tense before division. If it is simply grasped, and an attempt made to divide it in its normal position, it is not always an easy matter to effect the object desired. When it is rendered tense the operation is a very simple one. *Edin. Med. Jour.* Dec. 1885.

THE DISINFECTION OF SLEEPING-APARTMENTS.—

Professor König of Göttingen, in an article on this subject in the *Centralblatt für Chirurgie*, says that at one time, while he was practising medicine in Hanau, he suddenly discovered that his bedroom was thickly inhabited by bugs. A friend assured him that he could speedily rid him of the pests, and proceeded to fumigate the apartment with corrosive sublimate. The success of this measure was most gratifying; and, when the room was opened, the dead bodies of various kinds of insects were seen strewn about the floor. This incident led the writer to hope that the same means would be effectual in destroying the infectious elements of contagious diseases; and a trial in private houses after scarlet fever or measles, and in hospitals after erysipelas or pyæmia, gave most satisfactory results. Since adopting this method, he has never seen a second case of a contagious disease which could be attributed to infection remaining in the room in which the patient had been confined. The mode of procedure is very simple. From one and one-half to two ounces of corrosive sublimate are put on a plate over a chafing-dish, and then the windows and doors are closed. At the expiration of three or four hours the windows are opened, and the apartment is thoroughly aired. The person entering the room should take the precaution to hold a sponge or cloth over the mouth and nose, in order not to inhale the vapor. The following day the windows are again closed, and some sulphur is burned, in order to neutralize any of the mercurial fumes which may still linger about the furniture and other articles. The room is to be again aired and cleaned, and will then be ready for occupancy.

It should be distinctly understood that this method of disinfection is wholly unsuited for domestic purposes, and should not be employed by persons unaccustomed to chemical manipulations. Corrosive sublimate is a dangerous poison, which it is not prudent to have about the house; and its use in the way here described is safe only in the

hands of a professional "expert."—*Popular Science News.*

COLD PEDAL DOUCHE FOR CATARRH.—Medical science often seems to be a compound of contradictions. The hot foot bath, with or without mustard, is a popular remedy for colds, whether of the head or chest. The use of the cold douche to the lower extremities for catarrhal maladies is not so well known, and by no means so frequently advocated. Recently, however, M. Bourgarel has extolled the benefit of the cold douche to the feet in diseases of the respiratory passages. As all the world knows, the object of the pedal excitant is the production of *reaction*. M. Bourgarel maintains that reaction is easily obtained by the application of cold, and for this purpose the douche need not be very forcible or long applied. It is recommended that the cold douche to the feet be systematically used. There can scarcely be a doubt of the value of this treatment, provided the cases in which it is prescribed are suitable. As a general tonic to the circulatory and nervous systems, the application of cold water under some pressure to even a small area of the superficies of the body stands in a high place. The beneficial effects on the system at large reflect itself on those parts which are in a less healthy or atonic state. And so it follows that the remedy in question may put the finishing stroke to a chronic catarrh. That the temporary shock and subsequent reaction implied in the cold douch may also prove of service in spasmodic attacks is not without the bounds of physiological reason.—*Lancet.*

THE TREATMENT OF PNEUMONIA BY QUININE.—DR. F. P. Atkinson thus writes in the *Practitioner* for October :

If the Collective Investigation Committee of the British Medical Association have done no other good, they have certainly directed attention to the treatment of pneumonia by quinine, which is destined, I think, sooner or later to supersede all methods now in vogue. There can be no question that in almost every case (and I think there are very few exceptions), it prevents the disease advancing beyond the first stage, and rapidly causes resolution to take place. It does away with the necessity for poulticing, all that is required being the application of cotton-wool to the front and back of the chest. My friend, Mr. Corbett, who has a good series of charts to bring forward, tells me it is equally successful in cases arising in young infants as it is in adult cases, and he asserts that many children he has been able to pull through, who, in old times, would certainly have been lost.

He gives an adult two grains every two, three, or four hours, according to the severity of the case, combined with hydrobromic acid, and if there is any delirium a few drops of tincture of digitalis.

If there is any large deposit of urates in the water, he gives some citrate of potassium alternately with the quinine. This method of treatment I have followed out with decided benefit to my patients and satisfaction to myself. Now any one who has given repeated doses of quinine to a patient will, no doubt, have noticed the profuse sweating that occurs after its administration, and I am anxious to find out as to whether quinine really acts curatively through the perspiration it produces, its antiseptic action, or both. In some cases of menorrhagia, it exerts a very decided influence upon the muscular tissue of the uterus; has it any influence upon the muscular coat of the arteries in pneumonia? An answer to these questions would, no doubt, help us not only in the treatment of pneumonia, but also many other febrile diseases.

TOLU VARNISH IN DIPHTHERIA.—DR. Richard Lord writes in the *Brit. Med. Jour.*, December 12, as follows: "M. O. L., aged 13, complained, at 2 o'clock on November 10, malaise. She was in bad spirits, owing to the death of one of her schoolfellows from diphtheria. A saline asperient was ordered and taken in the evening. Next morning, at 7 o'clock, said she felt all 'right,' but complained of sore throat.

"On examination, a thick, well-formed, greyish-looking patch, rather smaller than a florin, but of oval shape, with gangrenous edges, was seen over the right tonsil, and on the right posterior pillar of the fauces. At 5 o'clock in the afternoon, the patch had somewhat increased, and two small patches were seen on the other side. The diphtheritic spots were covered with tolu varnish, as recommended in Dr. Morell Mackenzie's work. Tincture of perchloride of iron, with glycerine and and chlorate of potash, was prescribed as a constitutional remedy. The patient expressed herself greatly relieved by the varnish, and I applied it twice a day, instead of once as advised by Dr. Mackenzie. In about forty-eight hours from the time when it was first seen, the membrane began to disappear, and, on the evening of the fourth day not a trace of it remained.

"I may add that it is important that the fauces and tonsils should be first well dried with blotting-paper. The solution can be most conveniently applied with a camel's hair pencil fixed in a long wooden pen-holder, as supplied by Messrs. Maw. The method of treatment which I have found so successful in this case being, I believe, little known, I think I shall be doing a service to my brother practitioners in placing it on record.

SUBCUTANEOUS DIVISION OF THE SPHINCTER ANI.—In the *Med. Times and Gazette*, Mr. Pick recommends the plan of dividing the fibres of the sphincter ani by a subcutaneous incision, in cases of spasm of the rectum and fistula in ano. The

author records the case of a man who suffered from intense pain and spasmodic contraction of the sphincter ani after each action of the bowels. No structural lesion could be detected, and it was determined to divide the sphincter subcutaneously. This was done by inserting the left forefinger into the rectum, and then introducing a tenotome through the skin about a quarter of an inch from the anal orifice; by means of the finger in the rectum, the point of the tenotome was carried up beneath the mucous membrane, until it was well above the upper edge of the sphincter muscle. The tenotome was then turned round, and the fibres of the muscle were divided until no resistance remained. After the operation, the patient's bowels were confined for 48 hours by means of opium; then a copious enema was given, producing a good evacuation without any pain. From this time, the patient was perfectly relieved of his trouble. The author also records three cases in which he has divided the fibres of the sphincter ani in this manner before operating for piles, and considers this a better plan than that of forcibly stretching the sphincter with the hand.—*Med. and Surg. Reporter*.

RELIABLE REMEDY FOR OZENA.—Besides the removal of the diseased bone, the only remedy which has thus far been considered to possess any value in ozena has been chloride of zinc, and every physician will admit that its effect never answers the expectation.

A new preparation of aluminium, the aluminium acetico-tartaricum, has been discovered to be almost a specific in ozena. Altenstart and Schaefer (*Deutsche Med. Woch.*,) 23 85,) have tried it in a large number of cases, and say that its effect is really surprising. The factor of the secretion rapidly disappears, the scabs become thinner under its use and drop off much easier, the atrophic mucous membrane assumes a healthy look, and within two weeks a complete cure may be established in all cases where the bone has not already been so diseased as to be loose like a sequestrum. Of a fifty per cent. solution, one teaspoonful is usually added to one-half to one pint of water. It possesses about the same caustic properties as a solution of nitrate of silver of one to five, and is also indicated in the same morbid conditions of the mucous membrane as the latter drug, but it seems to have a specific effect upon the mucous membrane of the nose and of the larynx. In ulcerations, for instance, of the larynx, its effect is far more rapid than that of boric acid.

We do not know whether the remedy has reached this country, but it will be rapidly imported whenever some of our leading physicians conclude to make a trial of it.—*Med. and Surg. Reporter*.

AMMONIA IN THE TREATMENT OF ANTHRAX

ANE CARBUNCLE. The *Lancet*, for January 9th, without giving the source of its information, states that Dr. Leonidas Avendano lately read a paper before a Lima medical society, in which he testified to the great value of ammonia in anthrax and "carbunculous diseases," adding that it was a specific, and should be the only drug used. In cases of malignant pustule, after an incision has been made, the official solution should be dropped into the wound, in the hope of its destroying the bacilli there, and of some of it finding its way into the blood before the bacillus does so as to make it impossible for the parasite to multiply in that fluid. In addition, some salt of ammonium, such as the acetate, should be given internally, and, on the slightest suspicion of general infection, resort should at once be had to intravenous injections of ammonia, in doses of ten drops of the official solution with the same quantity of distilled water. In cases of malignant œdema and carbunculous fever, too, "the microbe should be attacked directly in the blood, ammonia being injected into the circulation." Several successful cases were related, and the author closed by stating, to the honor of Peruvian medicine, that Dr. Leno Alarco had first injected chloral in tetanus, and ammonia in septicæmia or purulent infection; that Dr. Armando Vélez and Dr. F. P. del Barco had first injected capsicum into the veins in yellow fever; and that Dr. Néstor Corpancho and himself had originated the treatment described for carbuncle.—*N. Y. Med. Journal*.

TESTA ON IODOFORM IN GOUT. Professor Testa (*Gaz. Med. di Torino*, 1885) recommends the use of iodoform in gout. From several experiments and clinical observations, he arrives at the following conclusions: 1. Iodoform augments the daily excretions of urea, while it accelerates the organic changes of matter and the process of oxidation. 2. The quantity of uric acid which is excreted daily with the urine, under the use of highly nitrogenized food, is diminished, inasmuch as, through acceleration of the process of oxidation, the conversion of uric acid into urea is increased. Oxaluria is diminished, through conversion of the oxalic acid into carbolic acid and water. 4. In gout, the amount of uric acid in the blood is diminished through an increase of the organic changes. 5. Hence iodoform is to be regarded as a rational remedy, fulfilling the primary indication in gout. The quantity of iodoform given daily by Dr. Testa amounted to from sixteen to twenty centigrammes ($1\frac{1}{2}$ to 3 grs). In seven cases of gout in which it was given, the paroxysms became less frequent, and their intensity and duration were reduced. It appears, however, to be contra-indicated, or at least to require great caution in its use, in cases where gout is complicated with an affection of the kidneys.—*London Med. Record*.

CARBON DISULPHIDE IN NEURALGIA.—Guerden recommends, as far superior to the menthol pencil in neuralgia, the application, for three minutes, of:

Carbon disulphide (rectified) 9 parts.
Essence of mint 1 part.
Shake well.

In superficial neuralgias, whether facial, dental, or intercostal, and in superficial rheumatic pains, this application produces instantaneous relief, and not infrequently a cure. In the deep neuralgias, as sciatica, it is necessary to project the solution upon the painful part by means of an atomizer. Actual freezing of the skin is unnecessary. Dental neuralgia usually succumbs to this treatment applied to the corresponding cheek—a slight application to the gum, or the insertion into the carious tooth of a pledget of cotton moistened with the solution being occasionally advisable. Very obstinate facial, dental, and pharyngeal neuralgias may be subdued by gently introducing into the external auditory meatus a pledget thus moistened, squeezed out, and covered by a layer of dry cotton. —*Revue de Therap.*

THE ACTION OF MERCURY UPON THE BLOOD.—Dr. L. Gallard, in an experimental study to determine the action of mercury upon the blood, concludes:

1. That the number of the red corpuscles may diminish slightly at the beginning of the administration without regaining their original proportion, but more frequently it increases progressively, until about the fourteenth day of treatment, to undergo at this time a slight diminution.

2. The hæmoglobin always increases progressively until about the twenty-fourth day of treatment, and having attained at this time its greatest abundance descends to its original proportions, and if the treatment is continued sinks below it.

3. The abundance of hæmoglobin increases in a proportion beyond that of the red corpuscles, and may even increase when these diminish, whereby mercury may be compared to those metals which induce the production of hæmoglobin.

4. The weight of the body increases almost constantly, though it is impossible to determine the exact relation which exists between such increase and the condition of the blood. —*Archives Générales de Médecine, November, 1885.*

TREATMENT OF FAVUS IN THE ADULT.—The crusts should first be removed by lotions of green soap, preceded, if necessary, by poultices. The hair is then to be cut as short as possible, and an ointment of eight to fifteen grains of bichromate of potassium in one ounce of lard applied, the head being afterwards covered with a cap of linen or cotton cloth. The head should be thus washed with green soap, and covered with the ointment every morning and evening. If the application

caused much smarting the proportion of potassium bichromate should be reduced, or if the crusts fail to become detached it should be increased. A trial of a few days duration will suffice to determine the relation between the individual tolerance and the degree of activity of the ointment. The hair should be cut very close, but epilation is useless.—*Journal de Médecine de Paris, November 15, 1885.*

GOSYPIUM IN UTERINE HÆMORRHAGE.—MAS-SINI ("Korrespondenzbl. f. Schweiz. Aerzte;" Ctrbl. f. klin. Med.") thinks that this drug is to be regarded not only as an efficient substitute for ergot, but as having some advantages over that remedy. Although less prompt in action, it is more enduring; hence, while it has been used successfully to increase the pains of labor and in uterine atony in the placental stage of labor, its most appropriate field is in gynecological practice. In two cases of metrorrhagia at the menopause the author observed brilliant results from the use of the fluid extract, two or three teaspoonfuls daily.—*N. Y. Med. Journal.*

ASTHMA—Dr. Q. C. Smith in a recent number of *Gaillard's Medical Journal* recommended the following for the paroxysms of asthma:

R Mur. Pilocarpine,
Apomorphia aa gr. $\frac{1}{2}$.
M.—To be administered hypodermically.

The patient will quickly sweat profusely, breathe easier and obtain sleep in ten minutes.

For the constitutional treatment he uses the following:

R Iodide of sodium ʒ i.
F. E. grindel. robuus,
Tr. aloes
Syr. ipecac aa ʒij.
Liq. pot. arsenitis ʒss.
F. E. belladonna gtt iv.
Syr. Lactucarium, (am-
bergris) q. s. ft. ʒij.

S.—Teaspoonful every three hours for one day, and three times a day after meals for from three to six weeks.

A NEW HEART-TONIC.—Prof. Wagner recently employed the new heart-tonic, the nitro-salicylate of caffeine, in his clinic in Buda-Pesth, on twelve patients (*Oroosi Hetilap.*, No. 32, 1885). The daily dose varied from 3 to 18 grains. The results were the same as those observed by Riegel. The remedy is a rival of digitalis, but has the great advantage of being more rapid, and never accumulative in its effect. The only drawback seems to be, that with the discontinuance of the remedy its effect also quickly ceases. At the beginning but small

doses should be administered, as many patients evince a peculiar idiosyncrasy against the drug.

The remedy is indicated in all cases where compensation has ceased. It here causes a regular and stronger action of the heart, and decided increase of the urinary secretion. All the disagreeable after-effects of digitalis are absent in the employment of nitro-salicylate of caffeine.—*Med. and Surg. Reporter.*

THE TREATMENT OF SCARLET FEVER.—Dr. Bedford Brown, of Alexandria, at the meeting of the Medical Society of Virginia, said that he had seen malignant cases with cold extremities and tongue, with a body temperature of 107° F. He used

- R. Acid. salicylat, ʒij
- Tinct. aconit. radialis, gtt. xlj
- Infus. digitalis. ʒjss
- Spts. ammon. aromat, ʒiij
- Syr. aurant. cort., ʒss
- Aquæ, ʒj

M. Sig.—Teaspoonful for a child five years old every three hours.

This combination reduced fever more decidedly than any other antipyretic he had used; it acted also as a diaphoretic and diuretic. A tepid bath or a wet pack increased its action. Alcoholic stimulants benefited malignant cases, tending to collapse and coma; as also cases, on the other hand, having high fever, rapid pulse, and extreme restlessness. Such agents, also, generally arrested adenitis. In dangerous cases, frequent baths were too exhaustive. When extensive suppuration and pyæmia threatened, tincture of iron, Fowler's solution, and quinia sulphate acted well. To arrest acute nephritis and renal dropsy, he enveloped the body with a flaxseed-meal poultice covered with oil-silk. When the kidneys were engorged, the urine bloody, with dropsy of the chest and abdomen, a full dose of calomel, followed by compound powder of jalap, would often do good. Such cases bore purgation. But if the renal dropsy was attended with cool skin, great pallor, feeble pulse, and great prostration, then frequent purgation was not well borne. In such cases he used lumbar poultices, digitalis, acetate of potash, with occasional saline cathartics. A morbid element in scarlatina often developed rheumatism; hence, frequent cardiac complications. When these occurred, he resorted to the active agents named in the foregoing prescription. Alkalies and salines should be used in renal complications. He had been disappointed with the diaphoretic action of pilocarpin. Potassium iodide was often useful in nephritic sequela of scarlet fever.—*N. Y. Medical Journal.*

TO PURIFY DRINKING-WATER.—Professors Austen and Wilber, after the most elaborate experi-

ments, consider it established that by the addition of two grains of alum to the gallon, or half an ounce to the hundred gallons, water can be clarified by standing, and that neither taste nor physiological properties will be imparted to it by this treatment. By increasing the amount of alum, the time required for separation and settling can be diminished; and, *vice versa*, by diminishing the amount of alum added, a greater time will be required for the clarification. The solution of alum is made as follows: Dissolve half an ounce of alum in a cup of boiling water, and when it is all dissolved pour into a quart measure and fill to a quart with cold water. This solution should be kept in a bottle labelled "alum." Fifty-four drops of this solution contain two-thirds of a grain of alum, which is the amount to be added to one gallon of water. The old-fashioned teaspoon holds about forty drops, the new spoons, however, hold about seventy drops. Hence a modern teaspoon, scant full, will be about the right amount to add to every gallon of water to be filtered.—*St. Louis Cour. Med.*

THE DOCTOR'S PECULIAR DANGER.—The *Medical Age* deals with a delicate subject in the following skilful manner: "The physician, especially if he has been favored by nature with physical attractions, is above all men subject to sexual temptations. His relations to his female *clientele* are of that secret and confidential nature which tends to familiarity. Weak women, who are diffident and shy to all other males, frequently conceive for their physician a passion which it would require but a slight response to convert into a crime. We apprehend there are few of our readers whom professional experience has not convinced of this frailty (which may, after all, be more or less physiological) on the part of the weaker vessel. In view of this fact, it is very complimentary to the profession that there are so few scandals chargeable to it. As compared with even the clergy (the especial conservators of morals), physicians stand well in this respect. Doubtless, too, not a few of the scandals chargeable to medical men have no sufficient foundation, the peculiar relations of the doctor to his female patients laying him especially open to the schemes of the black-mailer."

FACIAL PARALYSIS.—To a recent meeting of the Midland (England) Medical Society Dr. Suckling showed a man, aged twenty-six suffering from facial paralysis with inequality of soft palate and deflection of the uvula. Two years ago he was thrown out of a trap on his head. Purulent discharge followed from both ears some weeks later, ending in absolute deafness and facial paralysis on the right side. The faradaic and galvanic irritability were quite lost, the uvula was deflected to the right, and the posterior pillar of the fauces on the

left side was much narrower than on the right. Dr. Suckling considered the palatal changes very interesting, since Dr. Gowers says he has never seen the soft palate affected in facial paralysis.

NAPHTHALIN IN THE TREATMENT OF ULCERS.

According to Dovodtchikow (*Wretch*, 25, 1885), naphthalin forms a most valuable local application to ulcers, especially in patients of the poorer class. Apart from its cheapness and the ease with which it may be applied, it is recommended as inducing rapid healing and cicatrization, and as possessing such antiseptic properties as to cause the rapid disappearance of offensive odors. A still more important claim is that the application is absolutely painless and non-irritant, so that the patient thus treated may continue his work without retarding the cicatrization of the ulcer.—*L'Union Médicale*.

NUX VOMICA IN RECTAL PROCDENTIA.—During the past ten years Schwartz has successfully used the extract of nux vomica in rectal procdentia, also in infants and adults, even when the trouble has become chronic. One and one-half grains of the extract are dissolved in eight ounces of distilled water, and of this from seven to ten drops are taken every four hours. The dose for a child is given as five drops and for an infant of one to two years the dose is two to three drops. A recent prolapse should succumb in from twenty-four to forty-eight hours. To prevent relapse this treatment is continued a week after cure, the appropriate dose being taken but twice daily. If the prolapse is not of recent date, sixty grains of extract of rhatany may with advantage be added to the original solution.—*Nouveaux Remèdes*, Dec. 1, 1885.

CARBOLIC ACID IN INDIGESTION.—I have just passed through a severe attack of indigestion accompanied by colic, pyrosis, food eructations, epigastric weight, uneasiness, etc. Alkalies, muriatic acid, pepsine, and pancreatic extract failed to give relief. Seeing your note in the American Practitioner on the use of carbolic acid in acid eructations, etc., I took, with almost instant relief, two or three drops of the acid as soon after food as regurgitation, distension, or acidity occurred. One dose was usually sufficient. On two occasions only was a second dose required. This I took half an hour after the first. I dropped the acid on a bit of fresh bread and rolled the mass into a pill. Since my own case, I have given it in a similar case with like good result. Here I added a scruple of carbolic acid to one ounce of glycerine. Dose, a teaspoonful.—R. in the *Am. Prac. and News*.

EVOLUTION IN MEDICINE.—The steady progress which medicine has made from year to year for the last half-century has transformed the physi-

cian's art, and contributed largely to diminish the weight of human misery and disease; of this we are not unfrequently reminded by veteran physicians who can look back for this period, and to whom the subject, as published addresses and orations show, has an irresistible attraction. To trace the upward course from year to year, to lay a finger upon this fact or that, and say here is something known now but not known a year ago, is less convincing; for the science and art of medicine does not advance by leaps and bounds, but by a slow process of accretion strictly analogous to organic growth. The tendency of medicine in this generation is primarily toward analysis; the analytical method has been applied to every department, and a minute accuracy and precision of observation has been cultivated.—*British Medical Journal*.

HOW TO REMOVE SMALL BODIES FROM THE EYE.

—The eye is frequently irritated by the entrance of bits of straw within the lids. If a grain of flaxseed is placed under the inferior eye-lid and the eye closed, it immediately becomes surrounded by a thick mucilage which entraps the foreign body, and soon carries it out from the angle of the eye.—*Med. World*.

The knowledge a trained nurse possesses—the very utmost she can acquire—must be simply so much quackery, in so far as it extends beyond the mere womanly qualification of ministering gently to the sick and obediently carrying into effect a careful practitioner's instructions. Unhappily, female nurses are actually allowed to pass catheters and give hypodermic injections.—*The Lancet*.

PRURITUS OF PREGNANCY — PILOCARPINE.—A correspondent writes that a single dose of one-third of a grain of pilocarpine by the mouth, served to bring on profuse sweating and salivation, with complete relief of intolerable and persistent itching which had lasted throughout pregnancy and recurred after delivery.—*Brit. Med. Jour*.

HYPERTROPHY OF THE HEART.—Prof. Da Costa recommends in the initial stage:

R Tinct. aconiti rad. m xvi.

Tinct. cinchonæ comp. ʒij.

M. Sig.—One teaspoonful three times a day.

In addition, the bowels are to be kept freely open, and the arterial tension lessened by the administration of one or two drachms of Rochelle salts, or some other saline, every morning.—*Med. Bulletin*.

TELEPHONES FOR THE SICK-CHAMBER.—A London firm has devised a telephone by which persons suffering from contagious disorders may safely communicate with their friends.

THE CANADA LANCET.

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AGENTS.—DAWSON BROS., Montreal; J. & A. McMILLAN, St. John N.B.; GEO. STREET & Co., 30 Cornhill, London, Eng.; M. H. MAHLER, 23 Rue Richer, Paris.

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BACTERIA.

It may be interesting to our readers to have set before them in a short space the principal facts known to the scientific world in regard to bacteria, these little organisms which have so interested the medical mind in connection with their relation to disease. The subject is one of immense importance, and some of the best scientific minds of the day are bent upon the task of investigating the true position of these organisms, whether they stand in the relation of cause or effect to those diseases with which they have been especially associated.

But few investigators look at present with favor upon the theory that disease is caused by chemical changes—i. e., that some *materies morbi* having found its way into the body, sets up a catalytic action and induces morbid processes in the various tissues which are affected in the particular disease. This is, speaking broadly, the idea which held the medical mind for years, and which even yet has a few well-known adherents; but the great majority of scientists and original investigators unhesitatingly affirm that disease is caused by living organisms, germs, which introduced into the system multiply indefinitely and thus excite the morbid processes characteristic of each type of disease.

This germ theory of disease is certainly the one which commends itself to the present bent of the scientific mind. When Koch announced in 1882

that he had discovered the bacillus which was specific in tubercle, he gave a great impetus to the investigations then being made as to the influence of bacteria upon disease. These investigations, owing to the imperfection of instruments, the ignorance of the methods of staining, and the want of precise information on the part of botanists regarding these schizomycetes, had been carried on in a desultory manner for years. Bassi discovered, as early as 1835 the cause of muscadine in silk-worms. The fungus of favus was discovered by Schonlein in 1839, that of thrush a few years later; so that though it is only within the past few years that much progress has been made in the investigation, it was commenced long enough ago.

The term *bacteria*, synonymous with *microbe*, has been given to microscopic particles of vegetable matter belonging to the *fungi*. These little organisms are practically omnipresent. Every breath we draw sucks almost countless numbers of them into the lungs. Examine a drop of decomposing animal fluid under the microscope, and you will find the fluid alive with minute particles of various shapes. Some mere points, others rod-shaped, others wavy lines, and all in a state of motion. Wherever decomposition goes on, these bodies are found; the air of our towns is as a sea in which they float in immense profusion, while even country air is not free from them, all awaiting favorable conditions for reproduction. The power of resisting destruction shown by most of them is great. Boiling water will not destroy all forms, e. g., *B. subtilis*; they may be subjected to freezing without losing the power of motion and reproduction. Fortunately however, the temperature of boiling water destroys all known pathogenic species. The name *Bacteria* is unfortunate, being the proper name of a single genus only, but it has come into general use and is now used in the same sense as *microbe*. They have been classified by Cohn, who calls them as follows:

1. *Sphero-bacteria* or micrococci.
2. *Micro-bacteria* or bacteria.
3. *Desmo-bacteria* or bacilli.
4. *spiro-bacteria* or spirillæ.

The first consist of minute drops of protoplasm, having delicate cell walls; they multiply by fission, forming clusters (*zooglea*), and chains. They are found in myriads wherever moist organic matter is decomposing, and are active agents in the process

of fermentation. The majority of these germs are innocuous, but some are pathogenic.

The second, *micro-bacteria*, *B. termo*, are slightly elongated, multiply by division, and often appear linked in chains. They are remarkably active, and while many of them are harmless, the bacterium septicæmiæ is rapidly fatal when introduced into the blood of a living animal. Others having a close resemblance to the pathogenic members of this class are found in the blood of persons in perfect health. The third, *Desmo-bacteria* (bacilli) are of various sizes, but all are more or less rod like. The long slender ones have been spoken of by authors as vibriones. They are sometimes provided with a flagellum or tail, which assists in movement. Their development is usually by spores, though fission has been observed. The *Spiro-bacteria* appear under various forms, but all have a characteristic twist or spiral. Some are provided with flagella, which assist in locomotion. They multiply by spores. While the principal forms have thus been spoken of, it is to be remembered that no hard and fast line can be drawn between them. They do not always retain their original forms; thus the micrococci often elongate so as to resemble the bacilli; and the bacilli sometimes break up into fragments so as to closely simulate the micrococci.

These little organisms are found in every portion of the universe where their existence can be maintained, and it is fortunate that only a few are pathogenic. "Their prodigious powers of reproduction, their astonishingly rapid alterations of the media in which they multiply, and the occult and subtle chemistry which they employ, these and other mysterious facts of their life history are subjects of profound concern." Many act as scavengers, hastening disintegration by oxidation, while others, if the theory be true, are the active agents in disease. All bacteria do not require oxygen for their existence, but all need water, without which they become inert.

Certain temperatures are necessary for the successful multiplication of these fungi, that of the body being most favorable for the pathogenic varieties, but while prolonged boiling is fatal to all known species except *B. subtilis*, their spores are less easily destroyed, though the question appears to be open, as to whether they will resist prolonged boiling, and in sterilizing for the purpose of pure

culture they are exposed to prolonged high temperature in an oven.

Some of the diseases in which specific bacilli have been isolated are as follows: tubercle, cholera, anthrax, septicæmia, typhoid fever, carbuncle, glanders, small-pox, syphilis, gonorrhœa, diphtheria, etc., etc. Recent observers have discovered minute organisms in the red blood corpuscles of persons suffering from malaria. They can be easily stained and indeed present all the chief characteristics of bacilli. They have been named plasmodes, and when injected into the blood of a healthy individual speedily produce febrile movement. The scientific world is now much interested in bacteriotherapy, and several experiments recently made seem to shadow forth the hope that much may yet be accomplished in the cure of specific disease by the destructive action of one species of bacillus upon another. Thus Cantani's phthisical patient who was subjected to inhalations of *B. termo* in meat broth, soon showed in his sputa total absence of *B. tuberculosis*, and had his condition "*wonderfully improved*." Salama of Pisa, found a similar disappearance of Koch's bacillus and improvement in a patient's condition, under the influence of the same *B. termo*.

Of course it is not certain that in either case the bacterium was the only means by which improvement was brought about; but it is sufficiently encouraging to permit us to hope that bacteriotherapy may yet be of service in the prevention and cure of disease. Let us however, be on our guard, and not allow this most inviting theory to carry us too far, for it must be remembered that we are by no means certain that we have discovered in these organisms the cause of certain obscure pathological states; that the bacteria may not be the cause, but the result of disease, whereby the soil becomes fit for their multiplication and growth; in fact *whether they are the cause, or the scavengers of disease*.

AMERICAN HEALTH ASSOCIATION.

We wish to inform our readers that it has been decided to hold the fourteenth annual meeting of the American Public Health Association in Toronto early in October, 1886. The Association dates from 1872, and from a very modest beginning has grown so rapidly in importance and numbers that

it now reckons among its members, not only medical men from every State in the Union, but numerous laymen-clergymen, lawyers, architects, journalists, etc., etc.

The following are some of the officers for the present year: *President*, H. P. Walcott, Cambridge, Mass.; *1st Vice-President*, Dr. C. W. Covernton, Toronto. Dr. Hingston, of Montreal, is the representative of the Advisory Board for the Dominion of Canada; Dr. P. H. Bryce, for Ontario, and Dr. Montizambert, for Quebec

Associated with this organization is one of all the State Boards of the Union, and at the last meeting, the Provincial Boards of Ontario and Quebec were represented. National, State, and Municipal health organizations have a large representation in its membership, and this taken in connection with the extent and practical value of its labors, has gained it a standing recognition and influence all over the United States, and now that the Dominion of Canada is included in its organization, it may be fairly claimed as the largest sanitary association in the world—the International Congress of Europe not having so large a membership or embracing anything like the same amount of territory. In view of the very great advantages to be derived by officers and members of Boards of Health, Provincial and Local, it is to be hoped that not only the Medical Health Officers of Local Boards, but the Chairmen and Secretaries will join the Association. We have reason to know that the present Central Board represented at the P. H. A. at Washington by Dr. Hingston, will send delegates, and also that the Provinces of New Brunswick, Nova Scotia and Prince Edward Island will send their fair share. It would therefore be a matter for very great regret if the Local Boards were not adequately represented. We have reason for saying that the Provincial Board will do their utmost to make the attendant expenses as light as possible. Efforts are being made to secure a representation from Europe, and to the furtherance of this end, arrangements have been made with the S. S. and R. R. companies to carry passengers at the same rates as were accorded to the members of the British Association when they visited Montreal.

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HYDROCHLORATE OF COCAINE IN REMOVAL OF THE TONSILS.—Dr. W. C. Phillips, (*The Quarterly*

Bulletin) has used with the following results a two per cent. solution of the Hydrochlorate of Cocaine in the removal of the tonsils. Only one tonsil was treated with the solution, the other was removed without recourse to anæsthesia. In the case in which the solution was applied, it was noticed: 1. That no hemorrhage occurred for a few seconds, and that it was at no time profuse. 2. That there was very little sensation of choking on the part of the patient. 3. That the cut surface was more than ordinarily anæmic in appearance. In the other case, which was the smaller tonsil of the two, more choking was noticed, the hemorrhage was more profuse and instantaneous, and the cut surface of the tonsil was redder than on the other side. From the above results he is led to conclude that the uses of Cocaine in cases requiring excision were: 1. To lessen the hemorrhage. 2. To do away with the choking sensation. 3. To relieve the pain caused by the operation.

THE ACTION OF LACTIC ACID ON CERTAIN MORBID GROWTHS.—Lactic Acid has been proposed by Dr. E. Jelinck, who has been studying its action for some months, as an application to granulations occurring about the nares, pharynx and larynx. So much benefit has followed its use that he considers that it will play an important rôle in the treatment of tubercular diseases of the larynx. For the larynx a 20 per cent. solution is strong enough to begin with. On the pharynx an 80 per cent. solution may be used, and on granulations elsewhere it may be employed in powder or as a paste allowed to remain on the part for twenty-four hours, the application being repeated in three days. Professor Mosetig-Moorhoff has employed it on fungus (of bones), lupus, papilloma and epithelioma. Two cases have been exhibited by him before the Gesellschaft der Aerzte of Vienna, in which there was in each case extensive involvement of bones, yet in each case a beautiful cicatrix had been obtained.

POST MORTEM ALBUMINURIA.—It has been found by M. M. Vibert and Agier that urine drawn from the bladder of a cadaver is almost invariably albuminous, even when there was no lesion discoverable in any part of the uro-genital apparatus. It was noticed in these experiments, also, that the longer the time was since death occurred, and the less urine there was in the bladder, the greater was

the proportion of albumen contained in it. The source of these cases was shown to be the mucous membrane of the bladder, for when the bladder was removed from the cadaver, emptied of its contents and washed, and then filled with distilled water, this fluid was found in a short time to be markedly albuminous. This is a point well worth bearing in mind in the examination of the bodies of those who have died suddenly.

APPOINTMENTS.—The Ontario Medical Association has been requested to appoint two of its members on the committee appointed at the International Congress, Antwerp, to report on the best bases of International statistics of the insane, and classification of mutual diseases. The representative for America is Clark Bell, editor of the *Medico Legal Journal*, New York, and he has requested two to be named by each of the scientific societies in America, to assist him. The President, Dr. Tye, has named Dr. Bucke, of London, and Dr. C. R. Clark, of Kingston, as our representatives.

Dr. D. W. Eberts, McGill College, Montreal, has been appointed medical superintendent of the Winnipeg General Hospital. Dr. P. Wells has been appointed member of the Quebec Board of Health, Quebec, and Dr. C. S. Parke, commissioner of the Marine Hospital, Quebec, *vice* Dr. Marsden deceased.

TRYPsin IN DIPHTHERIA.—This remedy which has been recently introduced by Messrs Fairchild Bros. & Foster of New York, is highly extolled in the treatment of diphtheria. It acts quickly and powerfully as a solvent of fibrin and fibrinous membrane. This property gives the strongest grounds for anticipating success in its application. It is most active when rendered slightly alkaline. We give the following formula for its use.

R Trypsin grs. xxx.
Sod. bicarb..... grs x.
Aquaæ Dest..... ʒj M.

It is used locally and may be applied in the form of spray, or by means of a brush every hour or half hour.

THE METRIC SYSTEM NOT THE BEST.—We see that Oscar Oldberg (*National Druggist*) has, after advocating the metric system for a number of years, at last decided against it. He believes our present system of weights and measures is better

adapted to the purposes of medicine and pharmacy than the metric, because of the inconvenient size of the units and the impossibility of binary subdivision in the latter. No doubt this decision will please most of us, who, though we may talk and write glibly enough of grammes, litres, etc., have not the same "grip" on the meaning of the words we have on grains, pints, etc., learned in our school-boy days, and made tangible by every day experience. The metric system is more scientific, but to an English speaking people it is not so satisfactory as our old Apothecaries' and Troy weights, or our gills, pints and quarts.

ONTARIO MEDICAL COUNCIL ELECTION.—By reference to our advertising paper, it will be seen that an election will shortly take place, of a representative for the Territorial Division of Sauguen and Brock, on the Medical Council, made vacant by the death of Dr. Douglas. Dr. Geo. S. Herod of Guelph, has offered himself as a candidate, and if elected will make an excellent representative. He is well known in the community and so far as we can gather from his circular, he is in accord with the profession, in regard to the management of the affairs of the Council.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The eighteenth annual meeting of this Society was held at Albany, February 2nd, 3rd and 4th. The attendance was large, and a great amount of practical work was done. Interesting papers were read by Drs. Ely, of Rochester; Drs. Roosa, Loomis, Otis and Goodwillie, of New York; Dr. Powell, of Toronto, and many others. The Society is evidently in a very flourishing condition, and the large number of contributors with a world-wide reputation insures the fact that much benefit will accrue to those taking part in its proceedings.

DR. HEYWOOD SMITH AND THE STEAD CASE.—Dr. Smith, the physician who examined a young girl, and gave Mr. Stead a certificate of her virginity, received the following reprimand from the College of Physicians of London:—"It is in the opinion of this College a grave professional and moral offence for any physician to examine physically a young girl, even at the request of a parent, without having first satisfied himself that some decided medical good is likely to accrue to the patient from the examination."

SANTONIN IN AMENORRHŒA AND DYSMENORRHŒA.
 —J. Cheron (*Revue de Thérapeutique*) writes that the physiological action of santonin on the unstriped muscular fibres and upon the vascular system, renders it especially useful in amenorrhœa and dysmenorrhœa, especially when dependent upon anæmia and chlorosis, as also when the flow has not been properly established. He holds that it acts as a tonic to the system and removes the passive congestion upon which the amenorrhœa or dysmenorrhœa depends. It has no injurious effect upon the stomach. The following will be found a convenient method of prescribing it :

R. Santonini gr. xxx.
 Glycerini q. s. M.

Ft. pil. No. 40.

S.—One or two pills before each meal.

FUNCTION OF THE SPLEEN.—M. Phisalix (*Revue Bibliograph des Sciences Médicales*) says that the function of the spleen is the formation of blood corpuscles. Histologically the spleen may be regarded as a modified form of connective tissue, in the cavities of which even from its embryonic period, blood cells are formed. The splenic cells multiply by subdivision, and after becoming free, form red and white blood corpuscles.

BUCKWHEAT FLOUR IN GLYCOSURIA.—Dr. A. M. Duncan writes (*Med. Rec.*) that Dr. Alvord, a retired practitioner of Hamber, Ohio, finds relief from glycosuria when he confines himself to a diet of pure buckwheat cakes. The urine becomes normal, or nearly so, in quantity and quality, the pain in the eyes is greatly relieved and the gastric disturbances disappear. When wheaten bread and other starchy foods are resumed as diet, the symptoms reappear, to be relieved by a return to the buckwheat cakes.

COCAINE IN SEA SICKNESS.—Dr. Hood mentions the good effects produced by cocaine in sea sickness. His son, who on former voyages suffered excessively, was greatly relieved by the use of the drug, though the passage was a rough one. During the voyage to Calcutta he missed only three regular meals, but had them at these times on deck. The dose was two teaspoonfuls of solution of the hydrochlorate, 1 in 1000. It is best administered before vomiting has commenced, for after

that its power over the affection is diminished. It should be repeated every two or three hours. If cocaine does only one half the good it at present gets credit for, it will be a greater *Mash Allah* than opium, though it appears to be a worse master than even that monster.

SALICYLATE OF ESERINE IN PHYCTENULAR KERATITIS.—The following formula is recommended (*Western Medical Reporter*) for use in the treatment of inflammation of the cornea of children.

R. Salicylate Eserine gr. ii
 Aqua ʒ ss. M.

Sig.—One or two drops once a day to be dropped into the eye.

BRITISH DIPLOMAS.—The following Canadians have been admitted members of the Royal College of Surgeons, England, at the recent examination. Ed. Furrer, M.D., H. H. Hawley, M.D., J. R. Logan, M.D., N. Allen, M.D., of Trinity University; J. B. Lawson, M.D. (McGill). The L.R.C.P., London, was taken by M. R. Saunders, M.D. (Trinity) and E. E. King, M.B. (Toronto University).

BORACIC ACID IN DIABETES MELLITUS.—F. A. Monckton (*Australian Med. Gaz.*) reports he has cured one case of diabetes mellitus with this drug. The patient was not stringently dieted, but was given seven grains of the acid three times a day, and at the end of ten weeks the sugar had all disappeared from the urine, and its specific gravity was reduced from 1025 to 1016. The drug produces no unpleasant effect. He is anxious that all who have an opportunity shall test the value of the drug in this disease.

LOTION FOR GOUTY JOINTS.—Dr. Rothe (*Morabiiien*) speaks highly of the following solution in an attack of acute gout. Liquor plumbi acetat. 15 parts; spiritus vini, 25 parts; tr. opii ammoniat. 5 parts; aq. font, 300 parts. Having first used frequent cold douches, he applies compresses wet with the above solution and covered with mackintosh. The treatment gives great relief from pain and shortens the attack.

PURE TEREBENE IN WINTER COUGH.—This remedy, prepared by the action of sulphuric acid on oil of turpentine is said to give excellent results

in chronic bronchitis. Dr. Wm. Murrell (*Brit. Med. Jour.*) has employed it in a large number of cases at the Chest Hospital at Westminster, and in private practice, and speaks highly of its efficacy. He recommends it to be taken in doses of five or six drops on sugar every four hours, to be gradually increased to twenty drops. Patients always notice the characteristic odor which it gives the urine.

EUCALYPTUS AND TURPENTINE IN CROUP.—In an article in the *Cal. Medical Journal*, Dr. Johnston speaks very highly of the use of eucalyptus and turpentine in the treatment of membranous croup. He sprays the mouth and throat with equal parts of oil of eucalyptus and turpentine every fifteen minutes by means of an atomizer. He was led to the use of these remedies from the fact that they are capable of dissolving India-rubber. He claims to have had good results from their use in the manner above referred to, and also thinks they would be equally serviceable in the local treatment of diphtheria.

INHALATIONS OF CARBOLIC ACID IN PULMONARY GANGRENE.—According to M. Paul, says *The Bulletin General de Thérapeutique*, seven cures were effected without untoward symptoms by the inhalation of the vapour of a solution of carbolic acid, one part in seven of water. Eucalyptus in doses of one half drachm of the alcoholates per diem was in addition used internally.

TREATMENT OF HYPERIDROSIS.—German army surgeons report favorably of the action of salicylic acid in extreme sweating of the feet. It is applied in the proportion of two parts of pure salicylic acid to one hundred parts of best mutton suet. So simple a remedy will be hailed with delight by those suffering from this most disagreeable disease.

BROMIDE OF ETHYL IN SECOND STAGE OF LABOR.—Dr. Montgomery has used this agent for producing anæsthesia during the second stage of labor, in a number of cases, and has never seen any unpleasant effects either to the mother or child. The patient is able to co-operate with the physician, never becoming entirely unconscious, while at the same time the pain is reduced to *nil*. It is administered by pouring from a few minims

to a drachm on a cloth and holding it against the face of the patient at the commencement of each pain, removing it in the interval.

VALERIANATES IN MELANCHOLIA.—The following is said (Dr. Defoe, *Med. Brief*) to be very effective in the treatment of melancholia in nervous women.

R Zinci Valerianat.

Quiniæ Valerianat.

Ferri Valerianat..... aa gr. xx

Ft. pil. No. xx. Sig.—One three times a day.

RESORCIN IN EPITHELIOMA.—Dr. Antonio, of Mazoro del Vallo Maggio, claims to have cured a case of extensive epithelioma of the face, by the use, twice a day of an ointment consisting of fifteen parts of resorcin to twenty parts of vaseline.

CURE FOR CORNS.—It is said that liquor potassæ, applied twice a day, will remove the most stubborn corn in a space of from a few weeks to three or four months.

CORONER.—Dr. J. S. Lathern, of Halifax, N.S., has been appointed Coroner for the Co. of Halifax, *vice* Dr. E. Jennings, deceased.

Notes, Queries and Replies.

I should be glad to hear from any of your readers who may have had experience and success in the treatment of Pityriasis Capitis. The patient is a young woman, healthy, functions normal. Disease of two years' standing.

INQUIRER.

Books and Pamphlets.

DISEASES OF SEDENTARY AND ADVANCED LIFE.—By J. Milner Fothergill, M.D., London. New York: D. Appleton & Co. Toronto: Willing & Co.

If all American medical republications of foreign works possessed even a moiety of the excellence of the above brilliant treatise, one might almost feel inclined to condone the servility which our boasting cousins evince in their worship of British celebrities. How little short of mortifying it must be to the really patriotic members of the

medical profession in the Great Republic, to run over a catalogue of any of the distinguished publishing houses of New York or Philadelphia, and to see that the works of his own countrymen make so comparatively meagre a show in the entire array. It may truly be said that a British author may look for his largest circulation, not in his own country; and is it not a marvelous fact that this circulation is greatest among a people who *affect* to scorn and deride everything that bears the title or the aspect of British, from the institution of monarchy down (and that is down enough south of the Lakes) to the Bench of Justice? It is no wonder that John Bull has begun to discover so many beautiful traits in his bovine republican cousin nephews. What effect this new inspiration may have on the tenor and tone of general English literature, it would be premature yet to predict. It is by no means unpleasant to any reader of liberal mental tendencies, to observe the indications presented in recent medical English works, of the high appreciation in which American writers are now held on the other side of the water. John has begun the study of national psychology, and he finds it not an indiscreet investment to spice his books with captivating quotations from American writers. Hence has it come to pass that one now tumbles on such names, in recent English medical books as Weir Mitchel, Flint, Da Costa, Wendell Holmes, Bigelow, Draper, Loomis, *et hoc genus nonnullam tempora mutantur*. John no longer worships exclusively himself; he bows towards the west. He will be all the better for the change of ritual. Read the following passage from Dr. Fothergill's chapter on the nervous system, in the part in which he is treating of the frailties of old age. "This senility," says Dr. F., "is the bane of the system of presbyters or elders. Where a number of senile personages act in concert, their conduct is such as to demonstrate what has just been said above. The mental moods come out plainly; as is seen in the facility with which a good looking young matron will turn the committee of an institution round her finger, provided that committee consist exclusively of grey or white-headed men. It is exemplified in self-electing oligarchies of senescent persons, as the Royal College of Physicians of London for instance, which is little removed from an intellectual mummy swathed in rags and cerate."

Hurrah for Fothergill? That's the stuff for young America. Hit them again, harder and still harder. That nasty twister! Tar and feather

her; and those old whiteheads! explore their skulls; your shillelah cannot harm them; they are but "intellectual mummies." You are not, are you? indebted to them for your M.D. handle. Does any tale thereby hang? Is your scorn of the concrete order, or is it purely subjective—Pickwickian? No matter which, it is just the thing for young America, and it is not a bad sample of your lively book. It is however but just to say that this fling at the twister and the mummies is the only crabbed passage in the book, and who knows how great had been the provocation? Dr. Fothergill's chapter on "the seminary for young ladies," may very profitably be perused by all parents and teachers. He writes as one who knoweth whereof he treateth. Here is a sample. "In boys' schools the moral advantages of plenty of physical exercise in suppressing certain predilections is fully recognised; but with girls the whole scheme of education is, or rather was, on the devil's side. Much that tends to disaster, to wreck, alike of mind and body, goes on unseen, and therefore uncorrected. This is an imperfect world, doubtless; but would it not be possible to correct some of its imperfections?" Again, "the athlete is rarely a youth of impure thought or vicious practices; this all recognize,—preceptor and physician alike; while the moody youth, solitary and sedentary, is too often steeped in unclean thought." This is plain speaking. Every long experienced and sagacious physician will testify to its truthfulness.

A MANUAL OF HYGIENE AND SANITARY SCIENCE, by a committee of the Ontario Board of Health Toronto: Williamson & Co.

The above work will be issued in Toronto in a few weeks, and gives promise of being a useful addition to others of a similar nature now before the public. It is designed to "occupy an intermediate place, between the elementary text books, for the use of children, and more advanced works for students and practitioners of medicine." It deals with such subjects as the composition of the blood, circulation, respiration, ventilation, heating, lighting, functions of the skin, disposal of sewage, nature of infectious diseases, contagion, foods and adulterations, drinks, digestion, alcohol and its abuses, hygiene of the eye and ear, etc. The field covered is quite extensive enough and embraces such a knowledge of the subjects treated of as every intelligent citizen should possess. The work is tolerably free from technical terms, and is therefore well adapted for popular use. We trust that it will be extensively read, and that the many excellent suggestion, it contains may be put

into actual practice. If such is the case, we may reasonably expect an improved state of sanitary science and a diminished death-rate in this province.

MILK ANALYSIS AND INFANT FEEDING, a practical treatise on the examination of Human and Cow's milk, cream, condensed milk, etc., and directions as to the diet of young infants. By Arthur V. Meigs, M.D. Philadelphia: P. Blakiston, Son & Co.

One would have fancied that the simple law of nature, which points to the milk of the mother as being the most suitable food for her offspring, scarcely required the elaboration of so scientific a treatise as Dr. Meigs has given us. Such however appears not to be the case, and those interested in the feeding of young infants, and who is not, may find in Dr. Meigs' book much that is worth knowing, but whether the preparation he recommends will be found useful in all cases, we have no means at present of ascertaining. Of one thing a somewhat large experience has convinced us, and that is, no one of the many proposed substitutes for the maternal milk can be relied on in all cases. Perhaps the most objectionable of the proposed substitutes are those compounds composed more or less of farinaceous materials. Dr. Meigs certainly does not err in this respect, his substitute being composed of cream, ordinary cow's milk, lime water and solution of milk sugar, a mixture which can scarcely claim either originality or novelty.

LEONARD'S PHYSICIAN'S POCKET DAY-BOOK.—Bound in red morocco, with flap, pocket and pencil loop. Price, postpaid, \$1. Published annually by the *Illustrated Medical Journal Co.*, Detroit, Mich.

This popular day-book is now in its ninth year of publication. It accommodates daily charges for fifty patients, besides having cash department, and complete obstetric records. There are also columns for the diagnosis of the case, or for brief record of the treatment adopted. It is bound in flexible covers, weighs about five ounces, and is easily carried in the pocket.

COMPARATIVE ANATOMY AND PHYSIOLOGY, by F. Jeffrey Bell, M.A., Prof. Comparative Anatomy at King's College. Illustrated with 229 Engravings. Philadelphia: Lea Bros. & Co., 1885.

This is one of a series of Manuals for students of medicine recently published by Lea Bros. & Co. The work is written in an interesting and attractive style, and will be welcomed by those for whom it is intended.

WOOD'S POCKET MANUALS.

CUTANEOUS MEMORANDA. By Henry G. Piffard, M.D. Third edition.

VENEREAL MEMORANDA. By P. A. Morrow, M.D. William Wood & Co., New York.

The object of these little works is to supply the essentials of their topics in the smallest space possible and in the handiest form. This object is well attained in the specimens before us, which can be recommended as from the pens of competent writers and published in an attractive and eminently convenient form.

INEBRIISM—a Pathological and Psychological study by T. L. Wright, M. D., Bellefontaine, Ohio. Price \$1.25.

The above excellent little work consists of an analysis of the inebriate constitution, especially with reference to alcoholic proclivity. Those who may wish to obtain the work can do so by addressing the author as above given.

MONOGRAPH ON COCA AND ITS ALKALOID COCAINE. By Wm. R. Warner & Co.: Philadelphia.

The above mentioned Monograph on Coca comprises, in a few words, the most important and necessary information on this subject from all sources. Write to the publishers for a copy.

A GUIDE TO THE NEW PHARMACOPŒIA (1885), comprising an epitome of the changes and an account of the new preparations, their character, uses, doses, and modes of administration, together with a Therapeutical commentary, by Prosser James, M.D., Lecturer on Materia Medica, London Hospital, etc. London: J. & A. Churchill.

EPITOME OF SKIN DISEASES; being an abstract of a course of sixteen lectures delivered by Louis A. Duhring, M.D., of the University of Pennsylvania. Philadelphia: J. B. Lippincott & Co.

Births, Marriages and Deaths.

On the 15th of January, Dr. Thos. Hawkins, M.R.C.S., Eng., of Oxley, Ont., aged 78 years.

On the 15th ult., Dr. B. V. Harley, of Carlton, N.S., aged 79 years.

On the 14th ult., M. C. Macleod, M.D., of Economy, N. S. aged 37 years.