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THE LATE DR. O'DWYER,  
OF INTUBATION FAME.

# The Canadian Journal of Medicine and Surgery

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## Original Contributions.

Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else. — RUSKIN.

### SOME CASES OF COLORED VISION.

By JAMES MACCALLUM, B.A., M.D.,

Oculist and Aurist to Victoria Hospital for Sick Children; Assistant Physician to Toronto General Hospital; Professor of Therapeutics in the University of Toronto.

In medical literature the cases of colored vision most frequently described are the toxic ones: xanthopsia, or yellow vision, due to jaundice or to the ingestion of santonin, picric acid, or chromic acid; erythropsia, or red vision, from the seeds of *hyoscyamus niger*, or from the mescal button.

The colored vision of jaundice, and that of santonin and picric acid may fairly be described as mechanical, inasmuch as the humors of the eye are discolored, and objects necessarily take on the hue of the straining.

Red vision may be of much graver import, as in the following case:

W. P., aged 20. In July, 1896, objects appeared to him to be of a red color. This erythropsia disappeared at the end of September, but reappeared at Christmas. Redness more marked to the left eye. When seen by me in February, 1897, objects still appeared red. Ophthalmoscopic examination showed hæmorrhage into the vitreous, so great as to prevent the fundus being seen. Later on he had another hæmorrhage, after which, by oblique illumination, blood was seen just behind the iris, and the retina was detached. Vision, hand reflex. Physical examination revealed organic heart disease of rheumatic origin.

How necessary an ophthalmoscopic examination, and how grave the prognosis may be in cases of colored vision is evident from this case.

Erythropsia may then occur mechanically from hæmorrhage into the vitreous, or—but less often—from hæmorrhage into the yellow spot. The red vision may change into green as the extravasated blood undergoes its usual color changes.

Colored vision may be central, as in epilepsy. Gowers says that the visual aura is twice as frequent as all the other special sense auræ together. Red and blue are the colors most often seen, and both are never absent. When the aura is followed by a true epileptic attack the diagnosis would not present any difficulty.

Although every physician knows that attacks of petit mal may consist only of symptoms which constitute the aura of major attacks, yet one could scarcely be blamed for failing to recognize that an attack of red or blue vision with obscuration of sight was epileptic in its nature. Its temporary duration and careful investigation into the history, family and personal, would be the chief guides.

The colored vision which precedes a fainting attack presents no difficulty of diagnosis.

I owe to my friend Dr. J. D. Courtenay, of Ottawa, the account of another case of central colored vision of somewhat different nature. An old man of sixty who had just escaped delirium tremens, complained for nearly two weeks that all objects appeared to him to be of a bright pink color. Pupils were normal, and there were no fundus changes of any kind. As the exhaustion due to his debauch wore off the colored vision gradually faded away.

The majority of cases of colored vision are peripheral in origin. Patients who have had the lens removed because of cataract, or who have had their pupil enlarged by an iridectomy, often complain that objects appear to them to be red.

The lens normally absorbs chiefly the ultra violet rays, so that the light impinging upon the retina is poor in such rays. If, however, the lens has been extracted as for cataract, the ultra violet rays reach the retina, and produce subjective color sensations and a sense of dazzling. The red vision may occur but once and last only a few minutes, or recur at intervals.

The loss of the lens or of a portion of the iris is not the sole factor in the production of peripheral colored vision, for it may occur when both lens and iris are intact, as in the following cases:

R. S., Jewess, 10 years. The glare of the snow makes objects appear red, the sun has the same effect. The blackboard at school sometimes looks to be of a kind of pink, and sometimes becomes green after having been pink. If she "looks on anything too much" she sees it green and then yellow. When asked what object had appeared thus, she named her slate. Sometimes the objects looked blue, but not often. Fundus normal. Vision R.  $\frac{2}{1}$ . L.  $\frac{3}{4}$  partly. She was put on atropine drops for a week prior to refraction. At the end of that time she said that objects did not present the colored appearance so much as before. She was told to continue the drops as she was not thoroughly under the mydriatic. She disappeared and has not since returned to the clinic.

Pupils 5mm. in diameter; fundus normal; anæmic and poorly fed.

G. Q., male, 14 years, of French descent. A tall, overgrown, anæmic boy. Has just won the bronze medal in the public school. He complains that his eyes pain him when he looks at objects. Objects at first appear to be red, but then change to green. This color phenomenon occurs only when he looks closely at objects. If he looks away from and back again at the object, it is then normal in color. The change of color is most marked with black objects.

During the summer if he looked at the sun and then at the grass it was no longer green but red; if he did not look at the sun the grass appeared of its true color.

If he looked at a schoolmate who was some distance away, he appeared red and then green, but only if the light was very bright. A red shadow often came over the blackboard. The color changes were seen by either eye alone or by both together. When the snow is on the ground, although less than in the bright summer light, these color phenomena are present.

Fundus normal, pupils large, but diameter not noted. Although objects appeared colored in this way he was able to recognize their true colors.

Refraction under atropine R. +1.75 Ds. =  $\frac{1}{2}$ . L. +2.25 Ds. =  $\frac{1}{2}$ .

A week later, after accommodation had returned to some extent, but while the pupil was still 8mm. in diameter, he reported that the colored vision had not been observed for some time.

This patient was under observation during the Christmas holidays so that he was having mental rest at least.

Nettleship is one of the few authorities to make any reference to this phenomenon of colored vision. He says: "Overworked, anxious, neurotic children sometimes complain that after reading or sewing 'everything turns red,' or 'red and blue.' I have not heard green or yellow mentioned."

One is rather surprised that such should have been Nettleship's experience, for green is the complementary color of red, and yellow a mixture of red and green, and hence we would expect the patient to see objects red or pink and then green and yellow rather than red and blue.

In no case of colored vision, unless the hæmorrhagic or, perhaps, the epileptic, is there impairment of vision. The actual hue of the objects is recognized through the red shimmer, except in the case of green, which is blotted out or appears grey.

In the production of colored vision a dilated pupil is an important factor, inasmuch as it permits of an unusual amount of light reaching the retina. The light must be not only unusual in amount, but also in intensity.

If a patient whose pupil has been dilated by a mydriatic, looks at a bright light, and then into a dark room, he sees an image of the light surrounded by a border of pink, blue and other colors. In the production of these familiar "after images" we have the same two factors, a dilated pupil and a dazzling light.

Could one add the element of nerve fatigue, be it peripheral or central, one might produce at will colored vision, for in all such cases one may discover the three factors, a dilated pupil, a dazzling by strong light, fatigue or hyperæsthesia of the retina, or fatigue of the central nervous system.

13 Bloor Street West, Toronto.

## THE SYSTEMATIC AND CONTINUOUS USE OF ART IN ALL CASES AND STAGES OF LABOR.

BY JOHN HUNTER, M.D., REDLANDS, CALIFORNIA.

No other event in life calls forth more anxiety or is attended with greater suffering than the act of childbirth. It surpasses all else in interest to the individual, family, society, nation and the world. Had Noah perished in his transit from intra to extra-uterine life the history of our race could have been written on a postal card. One would naturally suppose, then, that the advent of a human being with such potentialities would be an inspiration sufficient to enlist the best of his art and the closest attention on the part of the obstetrician. However, if any one doing a fair obstetric practice asks his patients how they have been treated, will he not get some such answer as the following: "The doctor made an examination and if I were getting along pretty fast he stayed, but if not he would go and come." "What relief did he try to render?" "None at all." This indolent and cruel routine into which midwifery practice has so universally fallen, is aptly illustrated by such cases as the following: The patient was afflicted with biliary trouble, and at times suffered a good deal of pain during expulsion of the calculi. During these attacks her physician was all attention and fairly exhausted his resources in trying to secure relief, but during her long and intensely painful labor cases the same physician would simply come and go without giving a single thought to her sufferings. When appealed to for some measure of the relief he secured during the passage of the gall-stones, his illogical and brutally inhuman reply was: "It isn't good to meddle with labor cases. Better leave them to nature." A moment's reflection would have convinced him that the expulsion of the calculi was as purely a physical process as that of the foetus. If it were his duty to make the one as painless a process as possible, why not the other? The experience of our best obstetrical practitioners and teachers make the fact an indisputable one, that there is less danger to the foetus, and of *post-partem* hemorrhage or other injury to the mother, when her sufferings are mitigated and her normal powers retained, than when allowed to be driven to distraction by pain and completely exhausted from want of rest. Of course, we daily run across men who seem to cherish a sort of superstitious dread of some occult danger lurking in all applications of art in obstetric practice. In fact, what pagan delusion has been taught so persistently or followed with such fanatical zeal as the bug-a-boo, "meddlesome midwifery," or "leaving to nature." How oblivious all such delusions are to the fact that true art never meddles with the functions of nature—for nature neither tolerates meddling or

imitation (*vide* Second Commandment)—but lends all her resources to art. Microscope or telescope, bicycle or lightning express does not meddle with the functions of eye or limbs, and yet increases their power a thousand-fold. This whole valley of San Bernardino when left to nature was utterly barren and worthless. Art tun- nelled into the mountains, tapped an abundant supply of water and now the soil is unexcelled in fertility. Why, then, since it is the rule for nature to yield her resources to art, should the obstetri- cian be so stupid and incredulous about using all that his art can render in relieving the sufferings, and when necessary, limiting the duration of labor cases. Acting on this rule, the systematic and continuous application of art in all obstetric practice would make our procedure consistent with our methods in medical and surgical work, and give an incalculable amount of relief from the anxiety that precedes, and the intense agony incident to, the act of par- turation. It would also act as a powerful stimulus in augmenting obstetric skill. The present antiquated and disreputable routine would give place to some such standard as the following—contain- ing, of course, such modifications as knowledge and experience would suggest:

1. The obstetrician should possess the fullest possible control over his mental faculties, and a thorough knowledge of the resources of his art. Thousands of lives have been sacrificed directly through the absence of one or both of these.

2. The art of making a thoroughly aseptic, scientific, efficient and painless examination. Scores of ladies refuse the services of many an otherwise reputable man on account of his brutal methods of making an examination. The obstetric fingers can acquire all the sensitiveness, pliancy and delicacy of touch that the fingers of the pianist have. Any infliction of pain is evidence of ignorance or culpability or both.

3. The most reliable aseptic precautions and conditions most religiously carried out during whole puerperal period. Praying for God-speed to the time when an inquest will be held in every case of death during this period. The aseptically righteous men will have nothing to fear—septic sinners will deserve the penitentiary.

4. Surroundings—These should be made as cheerful and com- fortable as possible. A thousand and one things will suggest themselves to the observant eye.

5. Relief from unnecessary pain. Some patients can endure what is intolerable to others. The unbearable pain can be mitigated by mental diversion, change of position or anodynes.

6. The earliest possible resort to the use of anæsthetics and forceps consistent with the most absolute safety to both mother and child. Now, I am well aware, from a pretty extensive reading of obstetric literature, and from what I have often heard some strong and reliable teachers, as Adam Wright, Machell and Macdonald, say at meetings of Toronto Medical Society, that the last proposition will scarcely be allowed to go unchallenged. However, adopting

one of Emerson's maxims, viz., "Stand by your own spontaneous convictions with good-natured inflexibility, the more so when all the cry of voices is against you." I do not hesitate to affirm, from pretty close observation of what I have seen others do, and from what I have been able to do in a fairly large practice extending over a quarter of a century, that instruments can be used with the greatest possible freedom without fear of inflicting either present or remote injury on mother or child. My excuse for introducing a personal reminiscence is the profound impression I secured when attending the second labor case in my student days at the old institution, I think, on Bay Street. A young girl was in labor from Thursday until Sunday morning. She almost battered her brains out in her agony before relief was invoked. Dr. Temple was called—applied forceps and in a few minutes delivered the completely exhausted and demented creature of a healthy child. I at once recognized the absolute necessity of acquiring the art of using forceps, but soon found it was impossible to learn it from books or lectures, and our teachers of that date gave no opportunity of acquiring it from experiment. However, just as soon as I got my license, I quietly ignored all the objections and restrictions I had been taught, and availed myself of every opportunity of using the forceps. About the only cases missed were those where the birth had taken place before my arrival. I always regretted missing these. Now, without presuming to have acquired a particle more skill than any young man who tries can most safely and easily obtain, I soon had a record of a hundred successful cases. I had the privilege of watching nearly every mother and child for seven years. Not one of them suffered any ill effect; but I am fully satisfied that the experience and confidence thus early acquired have saved the lives of scores of patients and children.

The following deductions may be briefly summarized, especially for the benefit of the host of youthful medicos soon to be launched on the professional sea:

1. Acquire by wide reading and close observation full knowledge of the resources of obstetric art, and by persistent practice the most complete mental control so as to be able under all circumstances to calmly and intelligently use your knowledge and resources.
2. Cultivate early and most assiduously how to make an aseptic, scientific, efficient and painless examination.
3. Consider most carefully every factor that can add to the peace of mind, relief of suffering and prompt delivery of your patient.
4. Whilst always exercising the most intelligent precautions against every possible danger to either mother or child, avail yourself of every opportunity of acquiring the utmost dexterity and confidence in the use of forceps, for in many abnormal cases two lives are absolutely dependent upon this skill. The forceps should

be to the obstetrician what the bicycle is to the expert rider, sensitive and responsive to the most delicate touch.

5. Never leave a case to nature, but be always ready to aid merely physical forces with art, and secure for every patient as painless and as prompt delivery as is consistent with the greatest possible safety to both mother and child.

I may be permitted to add as a word of caution to the many students of the final year who read this journal, that the expression of some of these ideas in their examination papers might not have as happy results as the full adoption of them later on in their practice will be sure to have.

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### CONSERVATISM IN THE TREATMENT OF TUMORS— PRELIMINARY OBSERVATIONS.

BY THOMAS H. MANLEY, M.D.

Professor of Surgery in New York School of Clinical Medicine.

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ADVANCED and more definite knowledge of the diagnosis, or the treatment of new formations, has not been so great as is generally supposed.

The so-called benign tumors give the patient so little concern that he is rather disposed to leave them alone, unless they become unsightly, or he is led to fear their taking on degenerative changes, at a later period.

The difficulties and apprehension cease only when from the special site of the growth, or its surface characters, one is suspicious of malignancy.

What are the positive characters of malignancy? Have we any positive proof that it is a purely local process, or a local manifestation of a constitutional disturbance; in other words, are the determining and proximate causes of sarcoma or cancer known? Our latest and ablest authors, among whom may be cited Billroth, Virchow, Tillman, Paget and Heitzman, candidly acknowledge their utter ignorance of the cause of tumors.

How absurd and preposterous then must it be to pretend to deal on "scientific" principles with a lesion whose etiology has eluded scientific investigation.

But on the side of diagnosis the line is more sharply drawn, for here it is boldly stated that, with the resources of science at our command, mistake or error is quite impossible, as the laws of pathology are fixed and invariable. Here is another fallacy which should be uncompromisingly resisted and refuted. There has been no word in the whole vocabulary of medicine so much abused as this one of "Pathology." Treatise after treatise is being issued from the medical press, entitled "Pathology," which, in point of

fact, treats of *morbid anatomy*, and that quite alone, a branch of medical science which deals entirely with dead structures and elements. The morphologic, finer elements of no tissue in the *living* human body can be studied. In order to study anatomic elements, the tissue must first be devitalized, by severance from its vascular supply, finely divided, hardened, and stained. This is *morbid anatomy*. *Pathology*, it should be remembered, deals entirely with the phenomena of life, undergoing certain deviations and changes in the course of various phases of disease. In the secretions, alone, in life can the finer elements be analyzed.

We are acquainted with, and interpret pathologic changes—vital phenomena—by the aid of physio agencies; we estimate their significance, their immediate effects and remote consequence, by observation, discriminating study, and experience. This is *clinic medicine*, which we thus see is closely allied to pathology.

Having, therefore, a proper understanding of the significance of technic terms, we are the better enabled to decide the relative value of morphologic expedients, or pathologic revelations, in our efforts to ascertain the probable final cause of a certain lesion.

From the above, it is evident that in order to determine the nature of certain ulcers and swellings, we must chiefly resort to two things: First, the *physiologico-clinic* aspect; and, secondly—if deemed necessary—histologic morbid anatomy. In all but exceptional cases the former will suffice. The latter, then, will decide practically nothing, as every microscopist who has any regard for his reputation, must *first* have some knowledge of the symptomatology, and must know what organs or tissue he is dealing with *before* making an examination or giving an opinion.—*The Clinical Recorder*, January, 1898.

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DR. McILWRAITH has removed to 34 Carlton Street.

DR. P. H. BRYCE recently returned from an official tour to Windsor.

DR. FOTHERINGHAM has assumed the active editorial work of *The Canada Lancet*.

DR. PATTON has removed from Bloor Street East to Gerrard Street, opposite the Horticultural Gardens.

WE are much pleased to be able to announce that Dr. H. T. Machell has almost recovered from his recent serious illness.

FROM present appearances there will be a large exodus of Canadian physicians to the approaching meeting of the British Medical Association at Edinburgh.

IT is expected that the meeting of the American Railway Surgeons Association, which convenes in this city in July next, under the able presidency of Dr. Bruce Riordan, will be largely attended, and hold its sessions in the Normal School buildings.

## Selected Articles.

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### THE ACTIVE PRINCIPLES OF PLANTS IN MEDICAL PRACTICE.\*

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BY WILLIAM F. WAUGH, A.M., M.D.,

Fellow of the Chicago Academy of Medicine.

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Is the old therapy satisfactory? So little that it injures one's standing to confess to faith in the curative value of drugs. Therapeutic nihilism is one of the earmarks of the truly scientific physician. And the same spirit prevails among the laity, as is shown by the popularity of any method of treatment that is not regular medicine. The way people flock to the advocates of Christian science, faith cure, homeopathy, hydropathy, Chinese and Indian "doctors," (God save the mark!) Father Kneipp, vegetarianism, Perkins' tractors, the grape and whey cures, osteopathy, Keeleyism, electricity, hypnotism, mineral waters and other forms of suggestive therapy, attest to the public's eagerness to take up anything that is not drug medication. The reason is not far to seek. We are not lacking in valuable drugs, but we have not the requisite skill in applying them. We may classify our ignorance under three sections: we lack a knowledge of physiology, of pathology, and of therapeutics. In each there has been progress in the last quarter of the century, but in none has there been developed a great central, comprehensive conception, such as the evolution theory, by which the isolated facts may be grouped into an harmonious whole. Nor has this work progressed so far that the workers in each field can lend a helping hand to those in the others. The human brain has its limitations; there is a saturation point, which we reach sooner than we like; and the pathologist leaves little brain power to be utilized by therapeutic studies. And these have unfortunately taken the form of the exploration of a vast number of new remedies, introduced and pushed by commercial interests. During their transient popular term someone reaps a harvest and then the drug is forgotten, its true value lost sight of in the crowd of its successors.

I desire this evening to call your attention to some improvements in dealing with old drugs. The profession tends more and more to the use of chemical remedies, the reason for neglecting drugs of vegetable origin being the uncertainty and variability of the latter class. This objection is emphasized occasionally by such occurrences as this: A patient had been taking the fluid extract of conium, gradually raising the dose to 40 ℥j. Refilling the pre-

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\*Read before the Chicago Academy of Medicine, January, 1898.

scription, the druggist dispensed Squibbs' fluid extract, and after the first dose the patient died. Desiring to ascertain if this uncertainty were exceptional or not, I purchased samples of all the various makes in the market, of the fluid extracts of nux vomica, belladonna and aconite, ten varieties of each, and placed them in the hands of a chemist for analysis. He found that no two, were of the same alkaloidal strength, the difference between Squibbs', the strongest, and Warner's, the weakest, being in the proportion of ten to one; the others being strung along at various points between these two. Obviously, the physician who had been giving his patient enough of Warner's extract to produce its physiological effect, would make his patient very uncomfortable if any other make were substituted, and certainly kill him if Squibbs' or Parke, Davis & Co.'s product were employed. For certainty of effect, then, the doctor who prescribes fluid extracts must specify the make, and see that he gets it. How many do this? If not, one ceases to wonder that the doctor becomes skeptical, for an occasional manifestation of unexpectedly powerful effects renders him cautious, and reduces him to infinitesimals or chemical products.

The same objection holds good as to every other preparation from plants. Alcohol evaporates from tinctures. Powders lose strength. The value of plants varies with the soil, climate, season, and many other things. Cultivated herbs are inert, especially digitalis, of which the second year's leaves of wild plants, growing in England, are supposed to be furnished. Their activity depends upon five glucosides, of which digitin is inert, and digitonin exerts a contrary effect to the other three. These comprise all the remedial virtues for which digitalis is used, one being said to excel as a heart tonic, another as a diuretic, the third as a hemostatic. It seems that one might with propriety employ each of these alone for the purpose desired, and not the entire plant, with the antagonistic digitonin and the tannic, digitalic and antirrhinic acids, volatile oil, fat coloring matter, chlorophyle, albumen, starch, sugar, gum, lignin and salts, all inert or of unknown properties.

Cinchona was given to break up malaria attacks in doses of an ounce of the powdered bark; and a dose it was. The use of the extract reduced the bulk to thirty grains, and now we simply give the alkaloid ten grains. This was the first step towards alkaloidal medication, and no one now dreams of retracing; though the text-books long held out that the results from quinine were not equal to those from the bark.

The poppy has long been used as a sedative, and some of my text-books recommended poppy-heads. Opium came next; then we learned to prefer morphine for relieving pain. Study of the drug showed that of the other components of opium, codeine relieves cough better than morphine, and without interfering so much with the elimination and the digestion. Then why use opium when we want the codeine effect? Why morphine when we desire the anti-periodic action of narcotine, the convulsant and tetanizant

action of the baine, the mild hypnotic properties of narceine, the narcotic convulsant power of papaverine. Why give the other eleven alkaloids, three neutral principles and two acids, of whose action we know nothing, when by using one of the alkaloids named we get exactly what we do want?

In jaborandi there are two alkaloids, pilocarpine that causes sweating, and salivation, jaborine that checks both. The varying proportion of these explains why it is that when we give the fluid extract of jaborandi to produce sweating it sometimes thus does just the opposite. And this holds good in regard to that other valuable property of jaborandi, that of exciting the flow of milk. Such experiences have induced us to abandon jaborandi for pilocarpine.

Belladonna dries perspiration and saliva, dilates the pupil, reddens the skin, and in over-doses causes delirium. Hyoseyamus is a feeble sedative, but little used except as an adjuvant; while stramonium is a popular remedy for asthma. In this group of plants are found a number of active principles, such as atropine, hyoseyamine, hyoscine, daturine, duboisine and scopolamine; which, however, have been reduced to the first and last, the others being simply compounds of, or identical with, these two.

From atropine we obtain the effects of belladonna; while in scopolamine when freed from atropine we have the most powerful and prompt hypnotic known, when given in suitable cases. All the effects obtained from the crude drugs can be better had from these two alkaloids, singly or combined, while the latter is lost completely in the plant preparations, as it is covered up by the accompanying atropine.

In nux vomica we find two alkaloids, strychnine and brucine. The former is more powerful, more enduring, but slower in getting to work. Brucine is milder, its effects do not last as long, but its action is manifested more speedily. A valuable distinction may be made in the use of these, that is not possible when nux itself is employed.

In its progress medical science has separated the affections comprised under the name of indigestion, and taught us to administer acid pepsin for indigestion of proteids, diastase for starch indigestion and bile, with pancreatic extract when fat disagrees. It would be a step backward to mingle all these agents and give them indiscriminately in all forms of indigestion. Progress does not lie in that direction, but it does lie in the direction of specializing still more accurately our therapeutic weapons, and differentiating still more carefully the conditions of disease with which we are coping. And herein lies one of the greatest merits of the alkaloidal therapy, that its wonderful little "arms of precision" require a like nicety of diagnosis; its "rifle-shot" hits the bull's-eye only when the aim is accurate.

Let us briefly consider its limitations:

Active-principles have not been isolated from all drug plants, and these must be administered in the old forms.

Many valuable remedies, oils, salts, etc., are not alkaloidal, and nobody here claims for the active principles the exclusive occupancy of the therapeutic field.

The alkaloids do not exactly represent the virtues of the plants from which they are derived, nor their vices. When the effect of the drug as a whole is desired, it had better be given. The active principles must be studied and prescribed for themselves. The use of the latter requires closer study of the phenomena of disease and the effects of remedies, and the doctor is a better one for such a study. He will find a new world opening before him.

The active principles alone permit accuracy of dosage and consequent uniformity of effect. They are quickly soluble, and hence give speedier results than the cruder forms. As a rule the alkaloids are much pleasanter to take. Apart from their accurate dosage they are much safer, for the method by which they are administered renders an over-dose impossible. To explain: The science of to-day has produced no better guide than the fixing of a dose for an adult, let it be a blacksmith weighing 250 pounds, or a delicate woman weighing 80. The dose for children is regulated by age, regardless of the diversity in weight, strength, etc. Text-books on therapeutics speak of the numerous circumstances that modify the effect of doses, but no active practitioner ever makes more than the roughest approximation at them, even with preparations of unknown strength. And even then he leaves out of his calculation the influence of idiosyncrasy.

By the dosimetric method a very small dose, too small to do harm in any case, is given every quarter to one hour until the desired effect has been obtained, and then stopped. For instance: A prominent citizen was seized with gall-stone colic in an eastern city. The doctors gave a hypodermic injection of morphine—no effect; another—no effect; doubled the dose—no effect; again doubled it—and just then the calculus shot out of the mouth of the gall-duct into the duodenum, the antagonistic effect of the pain was suddenly removed, the whole force of the morphine was at once manifested and the patient died, narcotized.

Had an alkalometric physician been called he would undoubtedly have sent at once for an anæsthetic, knowing something about the nature of spasm; and meanwhile he would have administered atropine, gr. 1-500, with a like dose of nitroglycerin to open the vessels and let in the atropine as quickly as possible. This dose he would have repeated at intervals of fifteen minutes, until relief was experienced, at the same time employing the usual accessory measures. He would have had the patient easy before the chloroform reached the room, because his remedies are more powerful than morphine in relaxing the spasm of the gall-ducts. Even in ten doses he would not have approached the danger line. And if any one of my hearers doubts the efficacy of these little doses, he has something to learn yet.

I must add a few words on the relations of alkalometry to

the medical profession. In France the dosimetrists have founded a new medical sect, with an organization, and members who practise exclusively with a limited number of the active principles. It is, in fact, a new homœopathy, with a much better foundation. The system was introduced here with the same object, and the agents of the French granule makers publish a journal teaching this exclusive system. American physicians have not followed this lead, but have insisted that alkalometry is simply an improvement in medication, not a new school of practice.

This is due to the firm stand taken by those who first gave character to the alkalometric movement, among whom I may mention Aulde, Shaller, Abbott and myself. I am firmly convinced that were we to erect the standard of revolt, we would in five years rally to it at least 20,000 physicians, many of them from the eclectic and homœopathic ranks. Indications of uneasiness among the leaders of these sects are already manifest.

The system devised by Burggraevæ is based upon (1) the use of the active principles; (2) the prominence attributed to vaso-motor conditions in disease, and (3) the use of strychnine arseniate as a "vital incitant." This drug, with aconitine as a remedy for congestion and atropine as a dilator of the cutaneous capillaries, fulfils by far the largest number of his therapeutic indications.

I have not time, however, to discuss the principles of alkalometry at present, being limited this evening to the use of active principles. I thank you for the courteous hearing you have given me.

103 State St., Chicago.

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## PHYSICIANS AND APOTHECARIES IN PURITAN NEW ENGLAND.

BY HERBERT C. VARNEY, ST. PAUL, MINN.

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Of physicians and apothecaries in early New England it may almost be said that for the first hundred years there were none; that is, in the sense of the word as we understand it.

It must not be inferred from this, however, that our Puritan forefathers were without medical attendance; far from it, but the physicians in those days were the ministers; these were men of education and learning, nearly all of them being graduates of the University of Cambridge in England, and those of a later date of Cambridge in New England.

Many of them had been ejected from their livings for non-conformity, and some of them had taken up the practice of medicine to obtain a living. Others, after coming to this country, in order to support themselves—their pastoral salaries being insufficient—studied a few medical books, and then ministered to their neigh-

bors in both spiritual and temporal things. It was in the hands of such men that the practice of medicine was placed for nearly the first hundred years of New England's history.

The first New England physician of whom I find any record is Dr. William Gager, who came out in the spring of 1630, probably in the same fleet with Winthrop. Not being used to life in a new country, he could not endure the hardships of his new surroundings, for his death is recorded at Charlestown in September of the same year. John Dean, or as he styled himself "John Dean Chirurgion," was an early physician of Ipswich, Mass. He died in 1648. His son, Philemon Dean, was one of the early physicians of his native town, renowned both for his skill in medicine and for his standing in the meeting house. His gravestone, with its quaint Puritan epitaph, still stands in Ipswich.

"Here lies ye body of Doctor Philemon Dean who died October ye 18th, 1716, aged 70 years.

O Lord, by sad and awful stroaks,  
Of man's mortality ;  
O let us all be put in mind  
That we are born to dye.  
Grave saint behind that cannot find,  
Thy old love night or morn.  
Pray look above, for there's your love  
Singing with ye first born."

The last two lines of this stanza were quite popular among Puritan epitaph makers.

Another famous physician of Ipswich was Dr. Thomas Wells, more often spoken of in the old records as Deacon Wells. He died in 1666. By his will he left to his son "phissic books" valued at about nine pounds.

Some of the early physicians who came to New England found the practice of medicine but a "meene help," at least Giles Farmin of Boston found it to be such. He came in 1633, and is spoken of in the records as a "goodly man, an apothecary of Sudbury in England." In an account of his life written by himself he says: "Being broken from my study in the prime of my years, from eighteen to twenty-eight, and what time I could get in those years, I spent in the study and practice of physick in that wilderness." The wilderness afforded him but a very "meene" living, for in a few years we find him back in England again, and exchanging the profession of medicine for that of theology, when he became quite a noted minister. He has left one tribute to his early New England neighbors which is worthy of repetition. Before a meeting of divines held at Westminster in 1654 he said: "I have lived in a country seven years; all that time I never heard one profane oath and all that time never did I see a man drunk."

The most famous of the early physicians of Boston was Dr. John Clark, who had also settled for a time at Newburg. He was the first physician in this country to perform the operation of tre-

panning the skull. Dr. Clark died in 1664, aged sixty-six years. He had a son also a doctor, who was one of the early settlers of Rhode Island.

James Minott was a physician at Concord, and from the inscription on his gravestone must have been a little of everything else.

"Here is interred the remains of James Minott, Esq., A.M., an excelling Grammarian, enriched with the gift of Prayer and Preaching, a commanding Officer, a Physician of great Value, a great lover of peace as well as of Justice, and which was his greatest glory, a Gentleman of distinguished Virtue and Goodness, happy in a virtuous Posterity, and living Religiously died Comfortably, Sept. 20, 1735, aged 83 years."

The first women who tried to engage in the practice of Medicine in Massachusetts do not seem to have met with very good success. The famous Anne Hutchinson tried her hand at medicine, but on account of her religious opinions was banished from the colony. Another, Margaret Jones of Charlestown, was indicted and found guilty of witchcraft upon the following evidence:

1. She was found to have a malignant touch, so that whosoever she touched were taken with deafness and vomiting.

2. She practised physic; her medicines being harmless, such as anise seed and liquors, yet they had extraordinary and violent effects.

3. She had told those who would not use the "physicke" that they would never get well, and accordingly their diseases continued, contrary to the efforts of the physicians and surgeons.

4. She had the witches' marks.

In spite of her protestations of innocence, poor Margaret was hanged as a witch on Boston common in 1648. Those were the days when this law was on the statute books: "If any man or woman be a witch, that is, hath or consulteth with a familiar spirit, they shall be put to death."

Almost without exception in all the early settlements of Massachusetts and Connecticut the practice of medicine was carried on to a greater or less extent by the ministers. This union of medicine and religion was called by Cotton Mather "an angelic conjunction." The first medical treatise published in America was by one of these minister-physicians, Thomas Thatcher, and is entitled "Brief Rules for the Care of the Small Pocks," 1677.

Probably the most famous minister-physician was the Rev. Michael Wigglesworth, who was born in Yorkshire, England, October 28, 1631, and was brought to this country when a very young child. He entered Harvard College in 1647, and graduated with the class of 1651. After his graduation he was appointed a tutor at the college, and during that time prepared himself for the ministry and was ordained minister at Malden in August, 1656. After his ordination his health became so poor that he had to spend some time abroad, and was never of a very strong constitution. For nearly fifty years he served the church at Malden faithfully, both as minister and physician, as Cotton Mather said of him, "lively

unto death." He died in 1705. Wigglesworth will always be remembered for his production of that sulphurous poem the "Day of Doom," which was very popular in its day, and also of a book called "Meat Out of the Eater." An extract from the "Day of Doom" may be interesting. The following is one describing the punishment of hell:

"For day and night in their despite,  
Their torments smoke ascendeth ;  
Their pain and grief have no relief,  
Their anguish never endeth ;  
There must they ly and never dy  
Tho' dying every day ;  
There must they dying ever ly  
And not consume away."

His death was lamented by Cotton Mather in the following poetical effort :

" His pen did once meat from the eater fetch,  
And now he's gone beyond the eater's reach ;  
His body once so thin was next to none.  
From hence he's to unbodied spirits flown ;  
Once his rare skill did all diseases heal,  
And he does nothing now uneasy feel ;  
He to his paradise is joyful come  
And waits with joy to see his Day of Doom."

His gravestone, bearing the following epitaph, still stands in Malden burying ground :

" Here lies buried ye body of that faithful servant of Jesus Christ, ye reverend Mr. Michael Wigglesworth, pastour of ye Church of Christ at Maulden, who finished his work and entered upon an eternal Sabbath of rest on ye Lord's Day, June ye 10, 1705, in ye 74 year of his age.

Here lyes in silent grave below,  
Maulden's physician of soul and body two."

Even in their dual capacity, these minister-physicians had a hard struggle to obtain a living, having to take their pay in anything they could get—cordwood, codfish, grain and such like produce. The records show that they were very poorly paid. A physician's fees were only six pence a visit at Hadley and Northampton in 1730, and eight pence at about Revolutionary times. Tooth-drawing cost 8 pence extra. One independent New Haven doctor charged a shilling a visit, and got it.

A good idea of the physicians' fees in England a little earlier than this may be obtained from the funeral bill of John Dudley, who died at London in 1580. He was a brother of the Thomas Dudley who came to New England.

To Dr Astlow for his attendance during his sickness . . . . .	£6
To the pottacarie for his bill . . . . .	5
To Dr. Smith and Dr. Hector at the opening of the bodie . . . . .	6
To the surdeons for opening searing etc. of the bodie . . . . .	7.s5
To a poore man that made an epitaphe . . . . .	.s10

The total of his funeral expenses was about 310 pounds. From this it will be seen that only about 25 pounds were for medical

attendance, including the 10 shillings that went to the "poore" man that made the epitaph.

The small fees of the olden time led the physicians to adopt all kinds of expedients to help them to get a living; most of them compounded their own medicines and sold them to their patients; this may account for some of the mammoth doses of those days. Others were innkeepers, schoolmasters and storekeepers; one was a butcher, and this in more ways than one.

A noted physician was Dr. Nathaniel Ames of Dedham. He was doctor, innkeeper and also wrote almanacs. In 1725 he began the publication of his almanacs, and continued to do so for thirty-nine years. His house of entertainment was at the sign of the Sun, eleven miles from Boston.

Even the quack soon found his way to this new land. "Run-nagate chyurgeons" and "physickemongers" they were called. In 1631 Nicholas Knapp was fined and whipped at Boston for pretending to cure the scurvy with a "water of noe worth" and which he sold "att a very deare rate." The same treatment might possibly be used with advantage on some of their nineteenth century descendants.

With the doctors making and selling their own medicines, and the people preparing many at home, there was no room left for the apothecary, and we find none at all until 1761, when Thomas Hanasyd Peck of Boston advertises "plain buttons, black thread, cards, lace and small bowstrings, verdegrees, copperas, men's and boys' felt hats, castor and logwood." I have found one advertisement of that time which may be that of an apothecary, in the *Boston Post-Boy* of September 8, 1760:

JOHN LORING.

At his shop near the Great Trees. A fresh and General Assortment of Medicines, both Clinical and Galencial. Spices of all sorts; likewise Redwood Logwood, Allum, Copperas, Brimstone, etc. N.B.—True Lockyer's Pills Bateman's Drops, Stoughton and Duffey's Elixir, etc., etc.

Through this conglomeration of doctoring, preaching, butchering and tavern keeping a great deal of the science of medicine in this country has passed into its evolution down to the present time. Looking back at that little handful of resolute men who first obtained a foothold on the rock shores of New England, we can only be amazed at what has taken place since then. We should also be very thankful, too, for it was through the struggles and trials and efforts of our Puritan forefathers that many of the comforts and blessings we now enjoy have been produced. Some of them foresaw the future of this country in their day, and were glad. I can find no better closing than the prophetic words of Edward Johnston, in the *Wonder Working Providence of Zion's Saviour in New England, 1654*: "The Lord Christ intends to achieve greater matters by this little handful than the world is aware of."—*Chicago Med. Standard*.

## Medicine.

### THE LOCAL TREATMENT OF PAINFUL ULCERATIONS BY ORTHOFORM, WITH SPECIAL REFERENCE TO THE UPPER AIR PASSAGES.\*

BY EUGENE S. YONGE, M.D. EDIN.,

Assistant Medical Officer, Manchester Hospital for Consumption and Diseases of the Throat.

UNDER the name of orthoform, a new synthetic product related in constitution to cocaine has been produced by Professor Einhorn and Dr. Heinz, of Munich, for the production of local anæsthesia.<sup>1</sup> From a chemical<sup>2</sup> point of view the history of the building up of orthoform is of some interest, and may be epitomised as follows. The authors of the investigation set themselves the task of finding the hypothetical molecule hidden in cocaine or its derivatives which would produce local anæsthesia without accompanying toxic effects.

It is assumed that cocaine is constituted of a double ring in which a benzoyl-oxy-piperidine-carboxylic methyl-ester (having a methyl group attached to the nitrogen) is associated with a hydro-aromatic ring of the hydr-benzoyl-oxybenzoic methyl-ester. The analytical observations of Stockman,<sup>3</sup> Filehne,<sup>4</sup> Ehrlich,<sup>5</sup> and Poulsson,<sup>6</sup> who split up the molecule and showed that none of the products obtained by this process were capable of producing local anæsthesia; and the more or less synthetical experiments of Liebreich, Poulsson, and Ehrlich elucidated matters so far that it became a question as to whether the peculiar anæsthetic quality of cocaine was dependent on its double-ring nature, on some property of the first ring, or on an influence existing in the hydro-aromatic ring. The last was a reasonable hypothesis, more especially since it was known that certain other aromatic substances, such as methylene blue,<sup>7</sup> possessed the property of relieving pain. Impelled by the foregoing considerations, a prolonged and elaborate investigation was undertaken by Einhorn and Heinz into a large number of these substances, with the result that they were led to conclude that all aromatic amidoxysters cause local anæsthesia, though in different degrees of intensity and with varying powers of irritation. A substance (p-methyl amido-m-oxybenzoic acid) of this class, to which the trade name of "orthoform" has been given, appeared to act most strongly as an anæsthetic and not at all as an irritant.

Orthoform is a white voluminous crystalline powder without taste or smell; it is not hygroscopic, and melts at 120° C. Free orthoform combines with hydrochloric acid, forming a hydrochloride

\*Read before the Manchester Therapeutical Society.

which is more soluble than the basis powder, but causes irritation to some mucous membranes on account of its acid reaction. The hydrochloride (price 6s. 6d. per ounce) is the preparation on the market, and the dose is eight to sixteen grains. The anæsthetic presents a triple claim to recognition, in that it is sparingly soluble, is non-toxic, and is powerfully antiseptic. On the other hand, it is a disadvantage that the substance will not act on unbroken skin, nor, with certain reservations, on intact mucous membranes, for its strong anæsthetic properties are only manifested where nerve endings are exposed. The slow solubility leads the anodyne to exert its action economically on the tissues, and unlike its rapidly soluble congener, cocaine, only sufficient is dissolved to produce and keep up local insensibility, which therefore becomes prolonged. In from five to ten minutes after application anæsthesia of the denuded surface to both touch and pain commences, and it reaches its consummation within a short period of time. The effect lasts from a few hours to five or six days, and there is, in the majority of cases, perfect or nearly perfect analgesia, the patient experiencing the sensation of the offending part having been cicatrised over or "enamelled." Suppuration is usually markedly diminished and healing accelerated.

The observations which I have made on the pharmacology and clinical effect of orthoform have been principally confined, on the one hand, to a consideration of such preparations as would be suitable for applying to the upper air passages, and on the other hand, to the effect of the drug on ulcerations of these regions. Orthoform is soluble in water, the basis powder very sparingly, and the hydrochloride much more freely. It is also dissolved by ether and spirit. The drug is practically insoluble in normal saline solution, in glycerine, and in paroline, and although suspended in the last-named vehicle, the particles of powder are too large to pass through the ordinary atomiser. The most suitable preparations appear to be:

(1) *The crude powder*, either alone or mixed with equal parts of lycopodium, which should be accurately insufflated on to the required area, since orthoform only takes effect where it comes in contact with the abraded parts, and its influence does not extend to the tissues beyond.

(2) *Pastilles*, with the following formula:  $\mathcal{R}$  Orthoformi, gr. iij to v; liq. cocci, q.s.; saccharin, gr.  $\frac{1}{4}$ ; glyco-gelatini, q.s. The pastilles are useful in mouth, tonsillar, and posterior pharyngeal affections but less so than the two succeeding preparations.

(3) *A saturated solution of orthoform in collodion*, forming a species of "varnish." This is useful in those cases in which an ulcer is exposed to much friction, but as it causes acute smarting it is advisable to primarily anæsthetise the ulcer either with cocaine or with orthoform in powder.

(4) *A spray*, with this formula:  $\mathcal{R}$  Orthoformi, gr. v; sp. vini rect., aquæ, āā, ℥l. This is perhaps the best form in which to administer orthoform for nasal and laryngeal ulceration. The spirit

evaporates shortly after contact with the parts, leaving the precipitated powder evenly distributed over the affected area.

(5) *An ointment* (10 per cent.) made with any good ointment basis.

(6) *An aqueous solution* (10 per cent.) of the hydrochloride as a paint.

The action of orthoform on the unbroken mucous membrane of the mouth, naso-pharynx, and larynx is, in my experience, the following: Neither the free orthoform (basis powder) nor the hydrochloride anaesthetise sufficiently to allow of surgical action. When applied to the tongue, inner surface of the cheek, or to the pharynx, a numb sensation supervenes in the course of about five minutes, but there is little real anaesthesia. The effect on the larynx is to reduce reflex irritability. A peculiar feeling described as similar to that produced by cocaine, is experienced in five minutes; in a few more minutes this relative loss of sensation vanishes, but if before its subsidence a probe be introduced and the vocal cords and interior of the larynx touched, although a species of "gagging" ensues, there is no laryngeal spasm or cough. In the same patient a similar procedure without the previous introduction of orthoform causes intense discomfort and a fit of coughing. The intact nasal mucous membrane is also slightly amenable to the influence of the drug. A feeling of numbness is evidenced in about two minutes, and this merges into real anaesthesia, which is, however, feeble and transient.

I have had the opportunity of testing the anaesthetic value of orthoform in eighteen patients who suffered from painful ulcerations of the upper respiratory tract, and a few representative cases are now quoted.

CASE X.—L. F., aged 24. Tuberculous ulceration of the epiglottis; phthisis. The pain on swallowing and on coughing was intense, and the patient had avoided any but liquid food for three months. A ten per cent. solution of cocaine gave more or less ease for six hours. Five grains of orthoform were insufflated on to the ulcerated surface, and relief began within an hour and lasted for thirty hours. The pain on swallowing and coughing was reduced almost to *nil*, and the patient succeeded in taking food with comfort for the first time for more than three months.

CASE III.—H. H., aged 56. clerk. Epithelioma of soft palate and tonsil. There was an offensive cavity in the position of the left tonsil, a large ulcer to the outer side, and advanced glandular infection. The patient suffered intense pain on swallowing, and also was much afflicted by severe and constant neuralgia from the deep pressure of the growth. Orthoform (5 grains) was blown into the cavity and upon the ulcer, and relief began in the course of half an hour. Almost all pain on swallowing was abolished, and this improved condition lasted a week. The man ate some solid food (about half a mutton chop with bread) within a few hours of the application after a long abstinence from all but liquids. The neuralgia was not diminished at all.

CASE VI.—Mrs. H., aged 35. Tuberculous ulcer on posterior and upper surface of the right arytenoid. Phthisis. There was some dysphagia, and it was a matter of difficulty, owing to the peculiar situation of the breach of surface (exposed as it was to constant friction), to persuade any drug to remain in contact with it. A thick paint of orthoform and collodion was applied, with the result that the patient expressed herself considerably relieved from the dysphagia—this condition lasting about twelve hours.

CASE VII.—E. M., electrician, aged 54. Laryngeal and pulmonary phthisis. Had pain on swallowing for two months before admission to hospital. This was gradually getting worse, and solids, semisolids, and liquids caused great discomfort. He “could not take any breakfast at morning” in consequence. Orthoform (grs. 5 of the basis powder) was insufflated into the larynx, and relief began within half an hour, when saliva could be painlessly swallowed. A solid meal of chop, bread, and potatoes was taken three hours after the application with little or no inconvenience. A feeling of dryness in the laryngeal region began after the meal, but relative relief lasted for twelve hours. The next morning the throat was extremely sore.

CASE II.—H. B., aged 40, striker. Laryngeal and pulmonary phthisis. Interarytenoid thickening and an ulcer on the left cord posteriorly. There was considerable pain on swallowing even liquids or semisolids. The patient—a very intelligent man—was instructed to use a laryngeal spray of a solution of orthoform. After the first application the drug, which “acted like cocaine” (to which he had been accustomed) gave relief in five or ten minutes, and this lasted for four hours. A second application gave comfort for two hours, and a third (of the powder) gave complete ease for three hours and modified comfort for twelve hours. The ulcer rapidly improved, and the pain eventually ceased to trouble the patient.

CASE I.—F. B., aged 19. Scarlatina anginosa with much ingestion and ulceration of tonsils and fauces. Excessive discomfort on swallowing. Orthoform gave relief for twelve hours, and the youth could take his meals comfortably.

CASE XVI.—L. G. Syphilitic ulcer of left tonsil causing great pain and dysphagia. Pain absolutely relieved by powder in 10 or 12 minutes; the parts were then painted over with a saturated solution of orthoform in collodion. The patient, who had been unable to eat for some days without agony, took on reaching his home, a good meal of beefsteak with comfort, but was disappointed to find that two hours after the relief commenced the pain was beginning again, and in another hour was as bad as ever. A similar result followed a second insufflation and painting.

CASE IX.—G. S. Intranasal ulcer of catarrhal origin which had become irritated or septic. Situated on floor of nose, about  $1\frac{1}{2}$  c.m. from external nares, and extending on to septum. Infiltration of surrounding parts, and great pain and tenderness of the nose generally. After insufflations of orthoform, relief began in 5 or 6

minutes, and lasted several hours. The breach of surface also began to heal rapidly.

I am indebted for the notes of Cases ix, xvi, and vi to my friend, Dr. Haring, whose patients they were.

Toxic effects were not noted in any of the cases, but there was occasionally some slight burning for a few minutes after the application of the hydrochloride. This failure to discover toxicity is compatible with the statements<sup>1</sup> that over 12 drachms have been sprinkled on a broken surface in the course of the week, also that 30 to 60 grains have been administered daily to rabbits, and 45 to 90 grains to dogs, without evil effects during life or the *post-mortem* discovery of visceral changes. Orthoform fails to produce any results on an ulcer unless the dual precaution is taken to apply the drug directly to the loss of surface and to ensure its retention there.

No relief was experienced by patients suffering from either catarrhal pharyngitis or quinsy.

The drug in doses of 8 to 16 grains is said to be of value as an anodyne in ulcer or cancer of the stomach. In cases of ulcer, complete relief for three or four hours has been obtained, and one patient with cancer benefited in this way for twelve hours. Orthoform is also declared useful in burns, ulceration of the vulva, chronic cystitis, traumatic lesions of the urethra, gonorrhœa, and other cases.

The antiseptic action of orthoform appears to be demonstrated by the rapid diminution of purulent exudation in several of the cases encountered, and the speedy healing of the ulcer. In a case of acute gonorrhœa<sup>1</sup> injections of orthoform solutions were followed by the disappearance of gonococci in four days, and the complete cessation of blenorragia.

Finally, if further observations confirm the results already published, it would appear that orthoform is entitled to take a position in the gamut of local anæsthetics applicable to the upper air passages. It seems probable that it will replace—by virtue of its insolubility and innocuousness—its relative, cocaine, when long anæsthesia on ulcerated surfaces is wished for; be replaced by the more reputed drug when short insensibility of intact mucous membrane is desirable, and on occasion supplement it.

My best thanks are due to Professor Dr. Einhorn, of Munich, who has on several occasions assisted me in the most courteous manner; also to Drs. Hodgkinson, Hutton, Moritz, Haring and Fenn, on the staff of the Manchester Consumption Hospital; to Dr. Wild, Physician to the Manchester Skin Hospital; to Dr. Mercer and Dr. Hodge, all of whom have very kindly given me clinical material or other generous help.

W. J. W.

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## Gynæcology and Obstetrics.

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### VALVO-VAGINITIS IN CHILDREN.

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DR. M. STONE (*Annals of Gyn. and Pedy.*, January, 1898) says that in the treatment of this troublesome affection, his personal experience has convinced him that by far the best was the injection of graduated solutions of permanganate of potassium. The writer begins with the injection of a pint of a weak solution (1-16000) given twice a day through a soft rubber catheter (No. 10) gradually increased to 1-800 by the twenty-first day, if necessary. If after four weeks gonococci are still present, he alternates this with the instillation of a little two per cent. nitrate of silver. A case was reported in which the use of argonin had been extremely satisfactory, and the hope was expressed that further experience would show that in this drug there had been found an almost ideal remedy for these cases.

S. T. M'K.

### MELANCHOLIA ASSOCIATED WITH PATHOLOGICAL CONDITIONS OF THE FEMALE GENITAL ORGANS.

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DR. M. C. MCGANNON (*American Journal of Surgery and Gynecology*, January, 1898), Professor of Diseases of Women and Abdominal Surgery in the University of Nashville, quotes approvingly the statement of Holmes (Chatham, Ont.), that he has cured melancholia in twenty-seven women who suffered with pathological conditions about the genital organs, by remedying the abnormal state. In nearly all of these patients the disease was confined to the cervix. He (Holmes, in *Am. Gyn. and Obst. Jour.*, October, 1897) says: "Affections of the cervix and lower segment of the uterus produce more profound impression on the mental and nervous conditions of women than diseases of other parts of the generative apparatus, because the former are much more abundantly supplied with sympathetic nerves. Next after the cervix the vagina seems most susceptible. A severe vaginitis may produce great mental irritability."

S. T. M'K.

### TREATMENT OF INCOERCIBLE VOMITING OF PREGNANCY.

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DR. A. POZZI, of Turin (*New York Lancet*, January, 1898), has observed five cases of incoercible vomiting of pregnancy, which had resisted hypodermic injections of morphine and the internal use of cocaine, but were rapidly cured by hypodermic injections of cocaine

into the epigastric region. Injections of centigram each were made a few minutes before each meal. The patients were thus enabled to keep their food very well, the cocaine exerting no unfavorable action on either the pulse, the respiration, or the temperature. Dr. Pozzi is of opinion that this method of treatment would probably prove useful also in cases of vomiting from other causes. Dr. Page (*American Medico-Surgical Bulletin*, February, 1898) says that at the first indication of nausea or lack of appetite, the prospective mother should sip a few swallows of moderately hot water occasionally during the day, fasting, to make short and easy work of restoring the balance to the system. He has never known a single case of failure when this plan has been intelligently carried out. It may be necessary to skip only a couple of meals, or it may be necessary to fast two or three days. Wait until the patient is again really hungry before giving food. Meanwhile it will be necessary to give from a quart to three pints of soft hot water daily to fulfil the requirements of the system.

S. T. M'K.

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### ASEPSIS AND ANTISEPSIS.

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DR. B. SHERWOOD-DUNN (*Annals of Gynecology and Pediatrics*, January, 1898) writes a most valuable and exhaustive paper. The closing paragraphs contain some useful information regarding internal antiseptics, which, as he states, is only in its infancy, yet when we contemplate the addition to our therapeutics made by the discoveries in serum therapy and kindred agents to combat the recognized enemies to human life, it offers hope that a few years may render the practice of medicine as fixed in its methods and happy in its results as are those of surgery.

The studies of Boucharad and Dujardier-Beaumetz brought into exact formula the recognized but somewhat vaguely understood auto-intoxication due to fermentation of matters ingested into the digestive tract. These authors have shown that as soon as the digestive act is deranged by fermentation, there is rapidly produced in the matter circulating through the digestive tract a greater or less degree of putrefaction, giving rise to a certain number of auto-intoxicants that compromise the process of general nutrition and show their presence in the functional derangement of the liver, kidneys, and later, the nervous system. The results of the various researches of the past ten years upon this and kindred subjects has established the imperative necessity for gastro-intestinal antiseptics. The remedies recommended as controlling digestive fermentation, salol, salicine, beta-naphthol, phenol, aristol, menthol, and, more recently, beta-naphthol-bismuth and subgallate of bismuth, have been tried with varying success. The great claim advanced for kumyss is that it arrests intestinal fermentation and that its disinfectant and antiseptic action in the digestive process is wholly attributed

to the lactic acid it contains: and following this conclusion it would seem probable that the favorable results obtained from the exclusive milk diet in certain cases is due to the lactic acid formed by the chemical interchange that takes place in the digestive tract.

In Europe, about three years since, every doctor had a different gastro-intestinal antiseptic, and the current literature was filled with writings upon their use; now there is a reaction in the foreign societies, and asepsis of the intestines is more often sought than antiseptis. In this relation M. Dominici, of Paris, administered 15 grammes each of the sulphate of soda and magnesia to a patient, and then examined the evacuations for the following twenty-four hours, which amounted to 1500 grammes in weight and were found to contain about four hundred and eleven billions of microbes for the twenty-four hours. The following day the discharges amounted to 410 grammes, furnishing only about half a billion of microbes in all. This strikingly illustrates the benefits of a good purge in any case where the disinfection of the intestines is desirable, and the aseptic condition that follows, although it doubtless is of very short duration, is most pronounced. The surgical antiseptics most generally in favor, namely, the salts of mercury, cannot well be employed in internal antiseptis, calomel excepted. The only practical clinical results obtained with intestinal antiseptics thus far have been those derived from the insoluble varieties, such as subnitrate of bismuth, carbonate of magnesia, naphthol, benzo-naphthol, and salol. There are many cases of cystitis, for instance, which are immediately governed and resolve, after a few days' treatment with salol or boric acid, and there is no reason to doubt the efficacy of charcoal in certain forms of dyspepsia. The experiments of Professor Fournier, of Paris, have shown that the solution of bicarbonate of soda is sure death to the gonococcus, as it cannot survive in an alkaline media. Much has been published in favor of creosote combined with cod liver oil for consumptives. As much as 40 to 50 centigrammes are administered per diem, with markedly favorable results in many instances. Guaiacol, the principal constituent of creosote, has also been recommended, but is probably inferior to creosote.

S. T. M'K.

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### MESSAGE IN THE VARIOUS DISEASES OF THE FEMALE GENITAL ORGANS.

RUBENSTEIN, of St. Petersburg (*British Gyn. Jour. and Modern Medicine*, January, 1898), gives his observations in one hundred cases, and the following conclusions in different diseases:

1. Cicatricial parametritis. Here massage is a powerful and, in many cases, the only successful means of treatment. Patients lose first the painful sensations and afterwards the distressing pressure-feelings.

2. Exudative parametritis. In this massage forms a good

means of treatment, but should be avoided when the swelling is distinctly thick in comparison to its extent, and when there is increased temperature. All more or less extensive swellings are unfavorable for massage.

3. Immovable retroflexion of the uterus. Here massage is sound treatment. Those cases give the best results in which it is possible to reach the fundus uteri with the external hand in combined examination. After rectification of the uterus the massage should be continued some time. The introduction of a pessary often speeds recovery.

4. In displacements back and to the side the same remarks are applicable as in 3.

5. Inflammation of the ovaries and the adjacent peritoneum. Massage is very good in oöphoritis, especially when the ovaries are fixed, but the results are very slow.

6. Chronic inflammation of the uterus and hypertrophy of the cervix are neither of them suitable for massage.

7. Subinvolution of the uterus after labor yields to massage very kindly, but the treatment must be continued some time.

8. Amenorrhœa. Massage in certain cases will lead to complete re-establishment without pain, and as a rule permanently.

9. Chronic endometritis is not suitable for massage.

10. Mobile retroflexion of the uterus is not very answerable to massage, but in certain cases it constitutes a good method, and fairly successful. In these the indication for further treatment is to be found in the subjective feeling of the patient after the preliminary sittings.

11. In descent and prolapse of the uterus and vagina, and likewise in vaginismus, massage is of no use, and in the latter it is absolutely contra-indicated.

He decides from his observations that the number of sittings varies from ten to twenty of four or six minutes' duration, and spreads over from two to four weeks. Massage of the female genitals is always performed bimanually; and as practically nothing more is required, it is within reach of every medical practitioner.

S. T. M'K.

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DR. DAME has resigned his surgeon-lieutenancy of the 48th Highlanders.

DR. E. W. GOODE has gone to New York for a three-months' post-graduate course.

SURGEON-LIEUT.-COL. J. L. H. NEILSON, of the Royal Canadian Artillery, has been appointed Director-General of the Medical Staff.

DR. W. E. HAMILL, who for years has conducted an extensive business in the purchasing and selling of medical practices in the Janes Building, has found it necessary, owing to his increasing business, to remove to No. 88 Yonge Street.

## Pharmacology and Therapeutics.

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### TANNOFORM.

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TANNOFORM is a condensation-product of tannin and formaldehyde, of the formula  $C_{29}H_{26}O_{18}$ . It occurs as a loose, reddish-white powder, insoluble in water, but soluble in alcohol, in ammonia water, and solution of soda or of sodium carbonate; it melts with decomposition at  $230^{\circ}$  C.

According to a number of reports from eminent dermatologists, tannoform is an excellent and perfectly innocuous antihidrotic and siccative antiseptic in bromidrosis (offensive perspiration) and hyperidrosis (excessive sweating) in any part of the body, and in soft chancre, bed-sores, ulcers, ozena, and cervical catarrh.

Professor von Mering has conducted an extended series of experiments with tannoform, and reports as follows:

"Tannoform, used externally in substance or in 20 to 50 per cent. triturations with powdered starch, promptly checks excessive sweating. In bromidrosis of the feet I have repeatedly employed tannoform on the one foot, and tannic acid on the other, by way of comparison, and found that the tannin was considerably less active than the tannoform. Compared with salicylic acid—which is the chief remedy heretofore used against this trouble—tannoform proved to be more pleasant and more efficacious. Tannoform is of service also in the treatment of old wounds, such as fetid ulcers of the leg and running eruptions; it also possesses disinfectant properties. It may be used either pure, or mixed with starch or talcum, or as a 10 per cent. ointment.

"Even when dusted over in small quantities, it quickly suppresses the hyper-secretion of sweat and completely removes all odor. It is greatly superior to any of the remedies hitherto used in cases of hyperidrosis and bromidrosis, and it forms, more especially, a valuable substitute for chromic acid, which, owing to its exceedingly poisonous nature, is highly objectionable.

"Tannoform has the further advantage that it does not, like salicylic acid, tartaric acid and formaldehyde foot-baths, shrivel the skin, or stain it like iron chloride.

"Tannoform differs essentially from tannin. Tannin is readily soluble in water; tannoform is insoluble in that solvent. Tannin has a harsh, astringent taste, and possesses in a marked degree the property of forming hard, very coherent, water-insolvent compounds with the tissue elements. Albumen, peptone, gelatin, mucus, etc., are, therefore, precipitated by tannic acid. After ingestion, tannin rapidly unites with the albuminoids present in the contents of the stomach or adhering to the mucous lining, and, therefore, cannot reach the intestines in active form.

Applied to mucous membranes, especially if in excess, tannin is prone to cause irritation; it may tan the stomach so intensely as to disable it for weeks. Even after the ingestion of small doses of tannin, especially on an empty stomach, the gastric mucous membrane becomes corroded, the appetite diminishes, and a sense of weight and of pain is felt in the stomach.

"Tannoform, on the other hand, exercises no irritant or corrosive action on the mucous membrane, and is indifferent in doses in which tannin would be deleterious to gastric digestion. Tannoform, being insoluble in water and acids, but soluble in diluted alkalies, is not assimilated in the stomach, and, therefore, reaches the intestinal canal unchanged—that is, in an active form. On taking 0.1 to 0.2 gm. ( $1\frac{1}{2}$  to 3 grn.) of tannin into the mouth, a bitter, harsh taste is experienced, and after the taste disappears the mucous membrane of the mouth becomes much irritated. Tannoform, on the contrary, is tasteless, even if taken in quantities of 1 gm. (15 grn.), and exercises no irritating or caustic action on the buccal mucous membrane. The administration of tannic acid (in chronic intestinal catarrh), even in doses of but a few centigrammes, is sometimes followed by vomiting and a sense of pressure in the stomach; whereas, in these same cases, tannoform produces no such symptoms, even when given repeatedly in 1 gm. (15 grn.) doses."

Drs. de Buck and de Moor conclude their paper on the properties of tannoform with the following words (*Belyrique Médicale*, 1896, No. 33):

"The clinical observations of which we have given a short account show, in our opinion, clearly enough that tannoform is a really valuable therapeutic agent. As might have been expected from its composition and chemical properties, tannoform has proved to be an excellent intestinal astringent and antiseptic. In this respect its action bears in every sense comparison with that of its congener, tannin.

"We would more particularly call attention to the local action of tannoform. We have not as yet met with a single case of local hyperidrosis that has refused to yield to the action of tannoform. Often its action is in fact so rapid as to render it necessary to exercise caution in its application, since the sudden suppression of a process of secretion to which the system has become accustomed cannot possibly be treated as a matter of total indifference. We therefore consider it desirable to induce diuresis (by means of diuretic decoctions of milk) as well as to produce purgative effects (by means of podophyllin and belladonna, cascarn, etc.) in all cases where the patient, having suffered for a considerable time from hyperidrosis, requires effective treatment. It should be remarked in this connection that excessive secretion of sweat is a particularly frequent affliction of nervous patients suffering from gout or anæmia. It may therefore be advisable to endeavor to modify this constitutional anomaly by means of alkalies, nerve-sedatives, and tonics."

## CLINICAL NOTES ON A CASE OF HYDROCEPHALUS.

PATIENT, 4-para, aged 38, of fine physique and in good health. Family history exceptionally good.

History of an accident by being thrown from seat of waggon against the dashboard at the fourth month of pregnancy. This I do not think was a factor in producing condition found in child as the ectoderm had long since covered in the neural canal.

I was summoned to her on March 10th, last year; patient complained of intense pains in the lower part of the abdomen. Internal examination revealed no changes in the os uteri and as firm pressure over hypogastrium did not increase the pain I concluded the pains were merely an exaggeration of the uterine muscular contractions which are normally present throughout pregnancy and imperceptibly increase until its termination. I prescribed an opiate which diminished the severity of the pains. I saw her again on the 11th and 12th, when she remained in a somewhat similar condition at no time being thoroughly free from pain. On the morning of 14th, the os began to be influenced and on the evening of same date the os was fairly well dilated with a small flattened projection of the membranes. Abdominal palpation showed child in left occipito-anterior position, but nothing more definite could be elicited. I see some text-books mention that the diagnosis of this condition can be made by abdominal palpation, but it must be in extremely exceptional cases. Following my usual practice in obscure cases I gave an anæsthetic and made an internal examination first while the membranes were intact, then afterwards ruptured them and continued the examination. With unruptured membranes nothing definite could be ascertained, but with hand in utero the unusual size of head and its resiliency concluded the diagnosis. I now sent for assistance and my confrere agreeing with the diagnosis, I introduced perforation and let out the fluid. Now came the difficulty; I pushed my hand further into the uterus, and although either leg could be easily grasped, version was utterly impossible, so I introduced a blunt hook through the opening made by the perforation and by handwork I managed to get the head to the vulval outlet and the delivery was soon completed, the body of the child was very large, especially the shoulders, and its large size, I presume, accounted for the impossibility of performing version.

The child had also talipes equino-varus and spina lufida in the dorso-lumbar region.

The mother made an uninterrupted recovery. The ætiology of hydrocephalus is unknown. The prognosis in those cases is good if diagnosed and treated early, but if the nature of the case is overlooked the maternal mortality has been reckoned as high as 1-4. The diagnosis is by no means easy by the ordinary methods used. Its rarity also increases the diagnostic difficulty, statistics giving it as 1-3000.

The main diagnostic features are the slowness of the first stage, the high position of the head and its compressible character and the actual mensuration of the head by internal manual examination under an anæsthetic. A point I noticed in connection with this case was the small quantity of amniotic fluid, quite in contrast with the large amount found usually in aneucephalic monsters.

A. J. II.

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## Public Health and Hygiene.

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### PROVINCIAL BOARD OF HEALTH.

THE Provincial Board of Health met in Dr. Bryce's office, January 27, 10.30 a.m. Dr. McDonald, of Hamilton, Chairman; Dr. Bryce, Secretary; Dr. Covernton, Dr. Cassidy, Dr. Vaux, of Brockville, and Dr. Kitchen, St. George, were present.

An interesting pamphlet on the cigarette question was handed in. The article stated that the current opinion that cigarettes are a source of danger is erroneous. There is no opium in the majority of fillers, nor any arsenic in the wrappers. The smoke inhaled rarely passes beyond the bronchi; if it does it is immediately expelled. Cigarette smoking, in fact, is the least harmful method of smoking.

A letter was read from the Board of the Casselman District, about the recent diphtheria outbreak there. The disease had originated in the case of a visitor from Ottawa, who died at Casselman. The disease had been spread by children kissing the corpse and communicating it at schools. Only two deaths had occurred, and the disease had disappeared.

A communication was read from the Toronto Burial Reform Association, who wish to lower the expense of funerals.

The town of Niagara-on-the-Lake sent a report to the Board asking for a solution of the difficulty which had arisen from the dumping of tomato peels in the river by a local canning company. The Board suggested that the dumping pipe be carried out thirty feet into the river, where the current would remove it.

The town of Stouffville submitted a report of a waterworks system which they wished to build, together with an analysis of the water to be used, both of which were approved of by the Board.

A communication from the Hamilton Board of Health gave rise to considerable discussion. It appeared that a young lady from Hamilton had died very suddenly in Boston, and the doctors certified that death resulted from septicæmia. The father had the body taken to Hamilton for burial, and arranged a public funeral. The affair was done so quickly and quietly that the local Board had no opportunity to interfere. It appeared later that the young lady's throat had shown a decided membrane. The Provincial

Board adopted the following resolution: "That for the purpose of preventing the spread of contagious diseases the term diphtheria must be extended to cover all cases in which a throat membrane is a decided feature." This concluded the morning session.

In the afternoon the President, Dr. McDonald, of Hamilton, presented his annual report. He laid great stress upon the benefits which good sanitary legislation had effected in the way of stamping out disease. The Board of Health, he said, had given good aid and advice in outbreaks of contagious diseases. This advice, he was glad to say, had been well received and acted upon by the local Boards. He regretted greatly that such opposition had been presented to their work as was shown by the above mentioned case of a young lady who died in Boston of an infectious disease and was given a public burial in Hamilton. The Board was to be congratulated on the marked diminution of infectious diseases, which would be gone into in detail in the report of the Committee on Contagious Diseases.

Dr. P. H. Bryce then presented the report on contagious diseases. During the last quarter of the year there had been no serious outbreaks in the Province. Two cases only of small-pox had been reported, one in Cambridge Township and one in the Nipissing District. Five deaths from scarlatina were reported. Diphtheria had been reported from twenty-seven municipalities. He laid great emphasis upon the curative powers of antitoxin in cases of diphtheria; in fact, he said: "Neglect to use it can no longer be considered good medical practice." In Massachusetts out of one hundred and thirty-six cases of diphtheria treated with antitoxin only two deaths had occurred, a percentage of 1.5. Similar reports came from New York and Chicago.

The total deaths from contagious diseases during the quarter were: From scarlatina, 5; from diphtheria, 47; from typhoid, 20; from whooping cough, 11.

A report was read from the Medical Health Officer of Guelph, stating that the Secretary of the local Board had been instructed to send to the Provincial Board a copy of his (the Medical Health Officer's) report, omitting the last clause regarding sewerage.

The Board decided that the Secretary of the Guelph Board should be instructed to send in a complete report, including the clause on sewerage.

It was announced by Dr. Bryce that the meeting of the American Public Health Association would take place in Ottawa next September. The sum of \$800 has been appropriated by the Provincial Government of Ontario for the purposes of the meeting. The meeting of the Association of Medical Health Officers of Ontario would take place at the same time.

The London Packing Company had caused considerable nuisance by dumping their sewage in the neighborhood of a creek. The Board decided to instruct the local Board of London "that they were justified in seeking an order of the court to compel the pack-

ing company to at once introduce such methods as will abate the nuisance."

The Provincial Board of Health continued its deliberations, January 28, 10.30 a.m. Prior to the adoption of the minutes Dr. Cassidy remarked on the necessity of having an explicit legal definition of the term "membrane" as used in the definition of diphtheria. He did not think that a pultaceous deposit should be called a membrane. It was decided that if the Health Officer is satisfied that true diphtheria is not present, but that the streptococcus is evident, he must use his own judgment regarding isolation.

Dr. Bryce read the report of the Committee on the transportation of dead bodies. The following rules were embodied in the report and adopted:

(1) The transportation of the bodies of those dead of small-pox, Asiatic cholera, yellow fever, typhus fever or bubonic plague is absolutely forbidden.

(2) Bodies dead of diphtheria (membranous croup), scarlatina, scarlet fever, glanders, anthrax or leprosy must be prepared as follows, if they are to be transported: The body must be injected arterially and in the cavities with a fluid approved of by the Board of Health. (b) All orifices must be disinfected and stopped with cotton wool. (c) The body must be externally washed with a proper disinfecting fluid, approved of by the Board. The body must then be enveloped in a one-inch layer of cotton and placed in a tin or zinc lined box, hermetically soldered, the whole to be then placed in a wooden casket,

(3) Bodies of those dead of puerperal fever, erysipelas, tuberculosis, measles or other dangerous, infectious or communicable diseases must be prepared for transportation as in rule 2, omitting the necessity for arterial injection. The bodies must reach their destination within forty-eight hours from death.

(4) Bodies of those dead of non-contagious diseases may be transported in a casket and zinc-lined box, as in rule 3, provided that they reach their destination within thirty hours from death.

(5) Articles or persons who have been exposed to contagious diseases cannot accompany the body, unless certification of disinfection can be shown from the local Health Officer.

(6) Notice must be sent by telegraph from the initial point of transportation to the Health Officer of the district of destination, stating the time of departure and arrival of the corpse. The body must be accompanied by someone who is provided with his own ticket and certificate and the ticket and certificate of the corpse.

(7) A duplicate of the transit permit must be sent to the Secretary of the Provincial Board of Health, and the original placed on the outside of the box.

(8) Disinterred bodies of those dead from any disease can be transported only under the approval of the Provincial Board of Health.

A proposal was adopted to divide the Province into seventeen

districts for the purpose of facilitating the inspection of transportation of dead bodies. The morning session then adjourned.

At the afternoon session Dr. J. J. Cassidy presented the special report of the Committee on Embalming (*vide* page 94, February issue of this journal).

The report was adopted.

Mr. Mackenzie, the Provincial bacteriologist, then presented a continuation of his report upon the Berlin diphtheria epidemic. He also reported upon the advisability of adopting some method of controlling the sale of antitoxin in Ontario, in order that the public may feel confidence in the strength of the drug, as indicated on the label. The following is the latter report verbatim :

TORONTO, *February 1st, 1898.*

GENTLEMEN,—I beg to report to you upon the result of a test which has been made during the past month upon Messrs. Parke, Davis & Co.'s antitoxin. This firm has repeatedly requested that such a test should be made, but routine work in the Laboratory has been so great that it has been impossible to get time until recently for its completion.

The sample tested was bought in the open market at a drug store, and the test applied was one to determine if the sample contained the number of antitoxic units indicated by the label.

The label claimed that the bottle contained 1000 units; the result of the test showed that it contained over 1200 and under 1500 units, probably nearer 1500 than 1200 units. This shows that the antitoxin was reliable, as it is necessary to place in the bottle a good margin of units in excess of the label strength, so that the loss of units which takes place by keeping, may not be so great as to bring it in a reasonable time below the amount indicated by the label.

Antitoxins differ from other drugs in this respect, that there is no danger in overdosing; the danger is rather the other way, and the rate of decrease in strength due to keeping is determined by factors which are largely not controlled by the manufacturer.

I propose as soon as I can get a sufficient number of animals to carry out similar tests for other antitoxins exposed for sale, and I have no reason to expect from the reliable character of the makers that they will not give good results, but this brings up the whole question as to the action of the Board in regard to the sale of antitoxin in Ontario.

The testing of antitoxin cannot be done without special apparatus and special training, and it is exceedingly important that some body such as your Board should be able to supervise and control the material for sale in the market, so that physicians should be able to feel certain of the strength of the antitoxin which they use.

As yet it is doubtful if there is any danger from weak antitoxin being sent out by the manufacturers, but there is a danger

of its being kept too long in stock, and consequently deteriorating. To avoid this, the makers of antitoxins in America warn purchasers not to use old stock, and the date of testing is placed on the packages. They also offer to exchange old stock for fresh material, so that there is no excuse for a druggist selling material which has been kept too long.

In Germany all antitoxins, as a matter of fact, must be tested at the Imperial test station before they are offered for sale, and this necessitates a test of one bottle from each lot obtained from a house. Such a test could not be made by us in Ontario, but a sufficient control could be kept of the supply by testing occasional samples bought in the open market, and publishing the results.

There is no doubt that the manufacturers would invite such a test, and it is possible that with the tests published, there would not be any need of special regulations, at least at present. But if regulations were required, it would not be difficult to draw up some which would require the antitoxin to be somewhat in excess of the label strength as is required in Germany, and prohibit the sale of antitoxin after a certain period had elapsed from the date of manufacture.

The undertaking of such control tests would be a serious addition to the work of the Board, and the only question which arises, is the possibility of my being able to undertake it with the steady stream of routine work of the Laboratory.

To give you some idea of the work necessary to the test it would be perhaps as well to outline to you the methods which are adopted.

An antitoxin unit is ten times the amount of antitoxin serum which is necessary to mix with ten times the minimum fatal dose of diphtheria toxin, so that when this mixture is injected into a guinea pig of 250-300 grammes weight, the animal shows no evidence of poisoning from the toxin. In testing antitoxin the first step is to obtain a strong diphtheria toxin, and this is done by cultivating a virulent diphtheria bacillus in beef broth for a certain length of time and then filtering out the bacteria.

The next step is to determine the strength of the toxin. This can only be done by direct inoculation of animals, and for this purpose, guinea pigs weighing 250-300 grammes are used as a standard.

It usually takes a dozen animals, at least, to determine the minimum fatal dose, and it may take more. By the minimum fatal dose we have been in the habit of taking that dose of toxin which will kill animals of the standard weight in forty-eight hours. Recently Professor Eblich has shown that this is somewhat uncertain, and at the Berlin station they now take the dose which will kill in four to five days.

This m. f. d. determined, the next step in the process is to determine the amount of antitoxin which will neutralize the action of ten times the m. f. d. This is done by mixing ten times the m. f. d. with varying doses of antitoxin, and injecting the mixture

into the guinea pigs as near the standard weight as possible. For instance—

Guinea pig, 300 grammes, 10 m. f. d. x 0.0005 c.c. antitoxin—no change.

Guinea pig, 300 grammes, 10 m. f. d. x 0.0004 c.c. antitoxin = œdema (swelling) at point of inoculation.

In such a test 0.0004 c.c. would not be sufficient, whilst 0.0005 would be sufficient. From this we would calculate that an antitoxin unit of this serum would be 0.005 c.c., i.e.,  $\frac{1}{200}$  of a c.c. of the serum, which means that one c.c. would contain 200 antitoxin units. Such a test requires, as you can see, quite a number of animals, because individual differences occur which have to be eliminated.

It is a question whether, in reporting the results of such a test, it would be well to report the exact result, or to simply say that the test showed the sample to contain, say, over 1,000 units.

In Germany, of course, no report is made public, but the Imperial seal is not used unless it is sufficiently strong, and consequently it cannot be sold.

But here it might be necessary to encourage the putting up of antitoxin of a sufficient strength by publishing the exact strength of the test.

It must be remembered, however, that when we speak of exact results, we do not mean exact in the sense of a chemical test; the test is not a chemical one, but a biological one, and consequently is influenced by biological factors, such as the condition of nutrition of the animals, the surroundings so far as light, air and drainage are concerned, and other factors, such as the degree of inbreeding, etc., and in justice to the manufacturer it would not be fair to require that a test made in Toronto should easily be compared with the results of a test made at the place of manufacture.

Looking to all these questions which I have brought forward, I leave the matter with you for discussion.

I have the honor to be, your obdt. servant,

(Signed,)

JOHN MACKENZIE,

*Bacteriologist.*

The reports were adopted. The meeting then adjourned *sine die*.

DR. W. SHAW has moved to Navan, Ont.

DR. J. H. ELLIOTT has been appointed Resident Surgeon of the Gravenhurst Sanitarium.

DR. W. C. HEGGIE has returned to Toronto, after ten years' absence in Michigan. He has taken the house formerly occupied by Dr. Hunter on Dovercourt Road.

DR. MCDIARMID, formerly of Winnipeg, has been appointed Lecturer on Obstetrics in the Chicago Post-Graduate School, and has removed to that city.

# REPORT OF DEATHS FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF DECEMBER, 1897, AND JANUARY, 1898.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

## DECEMBER, 1897.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Report d.	Scarlatina.	Diphtheria.	Rate per 1,000 per Annum.	Mesles.	Rate per 1,000 per Annum.	Whooping Cough.	Rate per 1,000 per Annum.	Typhoid.	Rate per 1,000 per Annum.	Tuberculosis.	Rate per 1,000 per Annum.
1,305,851 58%	560 74%	218	5	30	0.07	0	0.3	13	0.1	22	0.2	136	1.2

## JANUARY, 1898.

1,536,825 67%	582 78%	238	16	51	0.1	4	0.4	8	0.05	13	0.1	146	1.1
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Population of Province ..... 2,263,492  
Municipalities of Province ..... 745

# The Canadian Journal of Medicine and Surgery

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*Oral Surgery*—E. H. ADAMS, M.D., D.D.S., Toronto.

*Surgical Pathology*—T. H. MANLEY, M.D., New York, Professor of Surgery, New York School of Clinical Medicine, New York, etc.

*Medicine*—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon, Toronto General Hospital; and W. J. WILSON, M.D., Toronto, Physician Toronto Western Hospital.

*Gynecology and Obstetrics*—GEO. T. MCKEITCH, M.D., M.R.C.S. Eng., Chatham, Ont.; and J. H. LOWE, M.D., Toronto.

*Medical Jurisprudence*—W. A. YOUNG, M.D., L.R.C.P. Lond., Eng., Toronto.

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*Physiology*—A. B. EADIE, M.D., Toronto, Professor of Physiology, Woman's Medical College, Toronto.

*Pediatrics*—AUGUSTA STOWE GULLEN, M.D., Toronto, Professor of Diseases of Children, Woman's Medical College, Toronto.

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VOL. III.

TORONTO, MARCH, 1898.

NO. 3.

## Editorials.

THE TIMES ARE OUT OF JOINT.

RECENTLY a city general practitioner, who is said to have a large practice, complained to the writer, that for the last three years, though living in an economical manner, he had lost money. He acknowledged that he had booked fees, but denied that he had received a reasonable percentage of the cash. He contended that the sick benefit societies injure the physician. He knows a workman, a member of three different societies, who can earn more money when sick, through the benefits he then receives, than he

can when in good health and working full time at his trade. This looks like putting a premium on dishonesty and malingering. Then society work is slavish. For instance, a member of a lodge asks his physician to visit him at his house for a trivial ailment. Should the physician refuse, he may expect a volley of abuse at the next meeting of the lodge. A non-society man calls at the physician's office, because he expects to pay less for an office consultation than a visit. Owing to the efforts of lodge officials, or the promptings of self-interest, benefit societies are well patronized. Nearly every third man you meet belongs to some society, so that a general practitioner, who wants to make a living, cannot afford to refuse societies, and tenders for their work on the principle that "half a loaf is better than no bread."

From the Government Inspector's report for 1897, we see that the hospitals are making money—four of the five Toronto hospitals show an aggregate surplus for the past year of \$54,678.33. That they do excellent work none will deny. The only person who makes nothing substantial out of this investment of public money is the visiting physician who is not a professor in the school of medicine. If the professor makes anything, it comes out of the pocket of the medical student, who is deluded with the false idea that he is receiving a training to fit him for the practice of a lucrative profession. A question from paterfamilias, who pays for the student's medical education: If the Provincial Government pays 29.39 per cent. of the money annually expended on hospitals in Ontario, why does it not also pay an equal amount of the fees required to train the physicians who, in a few years, will officiate as members of the staffs of these same hospitals? And if the Government does not contribute to the expenses of the medical student's education, by what right does it afterward interfere with his chance of making a living as a physician? The Turkish Government is more consistent. The Turkish troops are well supplied with medical officers who are trained for the military service during a medical course, which extends over six years. The medical officer is educated at the expense of the Government. When he enters the army, after examination, the medical officer pledges himself to serve for twenty-six consecutive years, when he can retire with a pension. If, for any reason except disability, he leaves the service before the expiration of this time, he is obliged to refund the Government for his expenses incurred in obtaining his medical education. This is quite logical. The Turkish Government pays for the education of a surgeon,

claims his services for a term of years, but pays him for the same, and finally pensions him. Not bad for "the unspeakable Turk!"

In 1897, 19,617 persons or 8.78 per cent. of the population of Ontario were treated in forty-three hospitals. In addition, the Ontario Government Inspector tells us that *thousands of outdoor patients* have been treated at the various hospitals during the year. In 1880 there were 5,302 indoor patients and twelve hospitals, thus showing the excessive development of hospitalism in Ontario. A satisfactory and reasonable method of regulating our present system of charitable relief done at the expense of the physician, would be to remunerate the medical staff for their services to the hospital. We may then expect a happy equilibrium. Otherwise, as the Government Inspector suggests in his last report, legislation may be required to prevent the multiplication of hospitals, all striving to outdo each other and using the doctor to help them gratuitously to increase their renown.

J. J. C.

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#### THE CITY OF TORONTO SHOULD NOT ENCOURAGE CONTRACT PRACTICE.

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Muddy York became Toronto, and Toronto has grown into a large city. Over this city one man presides as Health Officer, and well he fills his office. Dr. Sheard is indeed a man of many parts, but why any one son of Adam can be expected "to be seated in the Health Office, examine causes of filth and sickness on any vessel in the harbor, analyze well water, look after sewers, visit premises of butchers during the dog-days, examine applications for admission into the General Hospital, consult and advise about street cleaning, visit destitute families suffering from disease, advise the General Inspector of Licenses, look out for diseased animals, fish, fruit, meat, vegetables, etc., inspect maternity homes, stick posters on the houses of feverish but protesting citizens, attend at places provided for public vaccination, superintend endless book-keeping, pay-rolls, mortuary statistics, etc., advise Public School Inspectors pertaining to hygiene, and furnish an annual report," is beyond our comprehension. But in addition to the already named *repertoire* must be added Sub-section 12 of Section 8 of By-law 2,477, passed by the Toronto City Council, January 13, 1890, which says that his duties shall include "attending upon, and discharging the duties of physician and surgeon, when instructed by the

Mayor or the Board, to *any city official or employee* who may at any time be injured while engaged in the actual discharge of the duties of his office or employment; and such attendance shall be regular and continued so long as may be necessary for the recovery of any such official or employee from any injury so sustained." We ask, are not the duties of Health Inspector sufficiently arduous in themselves to debar any one man from acting also in the capacity of City Physician?

Take, for instance, two classes who come under the heading of employees, the firemen, and the "white-winged angels." The first class named, the firemen, who risk life and limb, why should they be so poorly paid that they cannot pay for medical attendance? Surely no men are more worthy of their hire, and when accidents do occur among them they are generally serious, and consequently, why should the over-burdened Health Officer be requested to attend the sufferers? We think the city should give as salaries ample amounts to provide against such contingencies, and a proper proportion of this, when occasion or calamity requires, should find its way into the pockets of regular physicians all over the city.

The by-law calls, we allow, for attendance on any employee who may be injured *while engaged* in the actual discharge of the duties of his office or employment; but are these employees, according to their own belief, ever ill from any other cause? Take the last-named class, the dust-pan brigade. Do they contract pneumonia? It is, of course, according to their statement, while attending to duty. Typhoid fever—the bacillus enters while attending to duty. Nervous prostration—acquired by listening to the "quotations" of irate coachmen, who order them to move out of the way! And so on, and the Health Officer ministers unto them.

We think the corporation of the City of Toronto should not so overwork its Health Officer, and what is equally as important, should not deprive regular physicians all over the city of these employees as patients, as if they receive proper salaries, they should pay for medical advice just as other wage-earning citizens do. The physicians have been talking much over this vexed question *in camera*, but so far have not lifted up their voices in the market-place! However, the medical journalist, like the village blacksmith, can look the whole world in the face, trim a new quill and dip it in gall. It is whispered that soon a deputation of physicians will wait upon His Worship Mayor Shaw, and bring

these ideas clearly before him. Let us hope their plea may ere long be granted, and that the city employees may be free to pay, and individually select, their respective medical attendants from among the whole community of physicians, who are also, let the city fathers remember, residents, taxpayers and voters. W. A. Y.

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### A FEW BRIEF REFLECTIONS ON THE PATHOLOGY AND MORBID ANATOMY IN HERNIA OF THE ABDOMINAL CICATRIX.

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THE relative frequency of this unfortunate accident warrants something more than a passing notice of its pathology and structural anatomy.

In order to comprehend the factors, which lead to a yielding of the scar after an abdominal incision, we must first remember that the causes in operation are of two orders. The first, and no doubt those of paramount importance, are intrinsic or *pathologic*; the second are incidental, or *operative*. It therefore follows, that for the latter there is prevention or relief, while in the former the condition is beyond the reach of remedies.

Many inherit a tendency to hernia, which in its fullest sense must include every description of visceral displacement or ectopy, whether it be of the female genitals through the vaginal passages, or a bulging of the viscera through the abdominal portals; in others it is acquired.

The primary and principal anatomic changes here involve the ligamentous stays and supports, atrophy, degeneration and elongation of the mesentery and other supports, want of tonicity, want of contractility. Thus, for the falling uterus we anchor it against the abdominal wall or tether it up by an Alexander, when, the underlying condition being in no manner influenced by the operation, not only may the organ now descend again, but post-operative ruptures may follow through the openings made in the abdominal wall, a condition which Salter well observes, may be more troublesome than the state for which the operation was performed.

Secondly, the incidental causes are those dependent on the technic of wound management. If we could entirely dispense with drainage the tendency to yielding of the scar would be greatly reduced. The drainage tube enormously adds to the post-operative troubles of celiotomy, by favoring intestinal adhesions and leaving a weak scar.

Since operators have discarded it in all except septic cases, the number of eventrations has been greatly reduced. Surgeons are not agreed on the best suture for closing the incision, though, no doubt, that which includes all the investing layers and involves the least trauma is the most appropriate. In the meantime all jarring and commotion of the abdominal walls must be as far as possible obviated, as straining at stool, coughing, vomiting, etc.

The *morbid anatomy* of post-operative eventration is very similar to, if not quite identical with, that of umbilical hernia. These rarely have a peritoneal investment, and therefore, the omentum and intestines being neither limited nor protected by a serous envelope, wander far into the intermuscular spaces, becoming adherent to everything they touch. The portal of escape becomes larger and larger, and the mass becoming incarcerated in its new habitat can no longer be confined, nor its volume limited completely by truss pressure.

It is well to bear in mind that any operation on the abdominal wall, which involves a free division of the muscles, may be followed by hernia even though the peritoneal cavity is not opened; as in supra-pubic cystotomy, nephrotomy, the para-peritoneal ligation of arterial trunks, operations for perityphlitis or Alexander's operation on the round ligaments.

T. H. M.

### THE MICROBE OF RHEUMATISM.

MR. THIROLOIX reports in the *Annals of the Pasteur Institute*, November 1, 1897, p. 845, that he has confirmed the discovery of the microbe of acute articular rheumatism, made by Pierre Achalm. The latter published his first observations in 1891, describing an anerobic microbe, found at the autopsy of a man who had died of cerebral rheumatism. Since then, this micro-organism has been searched for and found in eight other cases. It has been obtained in two autopsies; four times it has been got in the blood taken from a vein of the arm unmixed with other organisms; and in two other cases it was accompanied by micrococci.

To cultivate blood drawn antiseptically from the fold of the elbow, it is sown on tubes containing pure milk or milk mixed with bouillon. A vacuum having been made in each tube the latter is placed in the stove. It takes from eight to ten days before Achalm's microbe is developed. It is a thick rod, somewhat like

the bacillus of anthrax. Its length varies, according to the medium in which it is grown. It is easily colored by the usual coloring fluids, and remains colored after Gram's stain. It is exclusively anerobic, and liquid media are more suitable for its growth than solids. Horse bouillon, particularly if deprived of air, is an excellent medium for its cultivation. When it is growing, bubbles of gas first appear; then a uniform disturbance of the fluid occurs, and later a whitish deposit is made. When sown in tubes of milk, this bacillus causes coagulation of the milk in from twelve to fifteen hours, and such a free evolution of gas occurs that the tubes may burst. Cultures on solid media are hard to get, and the resulting colonies are made out only by the microscope. The resulting bacillus is, however, more regularly shaped than the one got in the liquid media. An interesting point is, that the salicylate of soda prevents the development of cultures. The media in which the bacillus has vegetated soon becomes acid and unfit to preserve the vitality of the organism; but the latter may be preserved by the addition of carbonate of lime.

The guinea-pig best shows the reaction. Inoculated in the thigh, one of these animals died in from twenty to thirty-six hours, presenting at the seat of infection a large gelatiniform œdema, or a cavity filled with reddish serum, exposing the necrosed muscles. The pericardium contained a large serous exudation and sometimes false membranes; the pleura presented similar appearances, when the inoculation was made in the thorax. The specific bacillus is found in these fluids. Œdematous serum taken from a guinea-pig and injected into another guinea-pig caused the death of the latter from acute septicæmia in ten hours. The mouse is less susceptible than the guinea-pig. The dog has always proved refractory. The rabbit requires very copious inoculation.

By injecting the serum of a guinea-pig directly into a rabbit, without passing it through cultures, M. Thiroloix produced in the latter animal heart-complications, which have a striking resemblance to those observed in human beings affected with rheumatism.

At an advanced stage of the disease, association with other microbes is noted. It appears that the Achalm bacillus opens the way to secondary infections.

A similar observation to Mr. Thiroloix's was reported by Messrs. Triboulet and Cœyon, at a meeting of the Paris Academy of Medicine, a report of which appears in *L'Independance Medicale*, November 24th, 1897.

J. J. C.

## TORONTO INSANE ASYLUM.

UNTIL the year 1841 there was no provision whatever made by the State for the care of the insane in Ontario.

The insane were first confined in the old gaol on Toronto Street, then in the house on the corner of Bathurst and Front streets. Next they were housed in the Parliament Buildings, which in those days were vacant a greater part of the time owing to the Parliament of the Canadas sitting alternately in Toronto and Montreal year about. The insane of the Province were next confined in old King's College Building in Queen's Park, and until 1850 they were kept in the barracks at Malden near Amherstburg, and in the old hotel at Orillia. In 1850 the large buildings on Queen Street West, Toronto, commenced five years before, were finished, Mr. Howard, of Howard Park, being the architect, and from that time to the present this building has been used as a very efficient asylum for the insane. At one time they were brought here from all over the Province, but as the population grew thicker, the district was narrowed from time to time, until at present the Toronto Asylum only accepts free patients from the city and the County of York, though private patients still are brought here from all over the Province.

Dr. Rees was the first superintendent, beginning in 1841 with seventeen patients. In 1844 Dr. Telfer became the superintendent, and was followed in 1847 by Dr. Park, who held office for less than a year. Dr. Primrose gave place in 1849 to Dr. Scott, who was succeeded in 1853 by Dr. Workman, who acted as superintendent for twenty-two years. Dr. Gowan acted as superintendent for less than a year, and was followed by Dr. Daniel Clark, who has been the superintendent from 1875 until the present time.

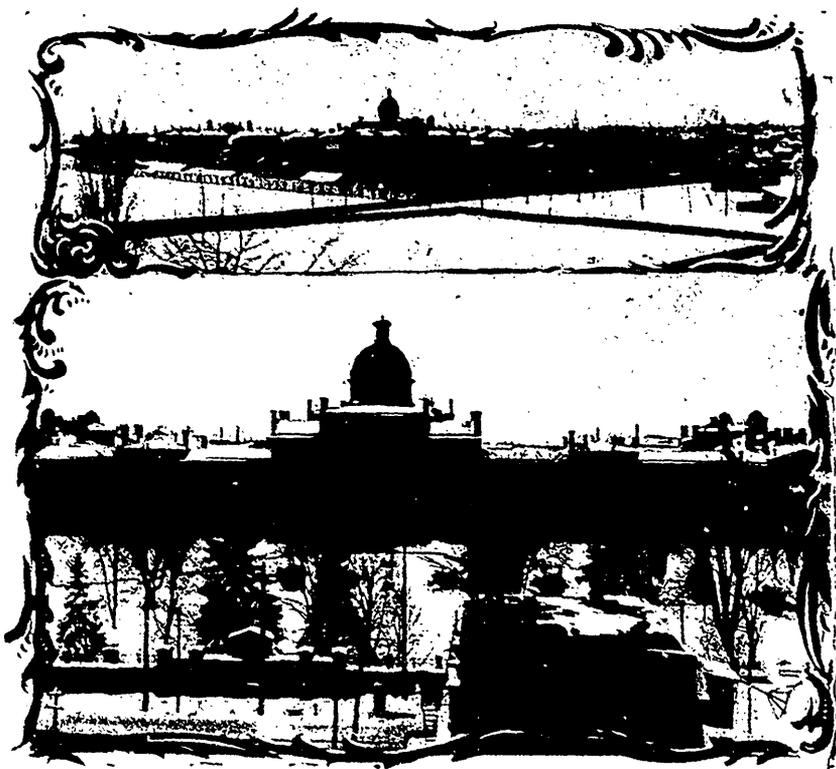
Many additions have been added to the original buildings, and though the grounds have been more than once curtailed, the extent of the accommodations has been repeatedly increased. There are fire-escapes and an efficient fire service, consisting of three large reservoirs, one with a capacity of 12,000 gallons in the main dome, filled from hydrants connected with the city power, and an ample supply of hose, besides a large number of chemical cylinders.

Excellent means are taken for ventilation. The laundry work and culinary operations are all conducted in separate buildings by improved machinery. Equal care is shown in the hygienic management.

No idiots or imbeciles are admitted. The treatment has changed radically in the last twenty years.

All restraint of any kind was abolished on the 6th of January, 1883, and the results have been in every way satisfactory. Going much further than this, it may be said that every effort is now made to amuse the patients and to render their lot an agreeable one.

To this end a library of 1,400 volumes has been collected, récrea-



VIEWS OF ASYLUM FOR INSANE, TORONTO.

tion grounds have been provided. In the summer, picnics, and in the winter numerous concerts and fortnightly balls have been devised for their diversion. There are also a number of work-shops, where, during the daytime, the patients may find wholesome employment, and where some indeed have learned a trade.

The following may be mentioned: The kitchens, the stables, the tin shop, the stove shop, the upholstering shop, the tailor shop,

the engineering shop, the blacksmith shop, the carpenter shop, the paint shop, the book-binding shop, the gardens, the sewing-room.

In this way perhaps 60 per cent. of the patients work at some occupation. A large number of them are very tractable and 160 are not kept under lock and key during the daytime.

There are two infirmaries for the care of the sick of both sexes, and each under the care of a regularly qualified nurse and distinct from the main building.

One hundred and ten are employed in the asylum and there are between seven and eight hundred patients.

The dietary and clothing have generally improved of late years. As few narcotics as possible are employed, the chief good being derived from sanitary measures and strengthening treatment—to build up again what has been worn out.

In spite of the large number of incurables admitted, the percentage of cures varies from 25 to 45 per cent. of those admitted during each year.

Medical men who have the insane in their care should urge early asylum treatment.

The asylum has an excellent mortuary where autopsies are frequently held.

It is generally to be desired that the name asylum, against which popular prejudice is very strong, should be changed to hospital.

In the Toronto Asylum for Insane there is a school for nurses where lectures are given by the medical staff every year. A class from the medical departments of the medical colleges of Toronto also meets here, the superintendent being Professor of Mental Diseases in Toronto University.

Clinical instruction is found much more satisfactory than theoretical in the study of nervous diseases.

E. H. S.

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### TORONTO'S ACADEMY OF MEDICINE.

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WE hail with pleasure the recently circulated idea of establishing in this city an Academy of Medicine, by bringing about an amalgamation of all of our medical societies. Unquestionably, "in union lies strength." During the past few years there have been established in Toronto several societies for the discussion of subjects of interest to all practitioners, but the great objection to the larger number of these societies has been that they have been

started and maintained as close corporations, and to be admitted to membership has been, to say the least of it, not an easy task. Unfortunately there exists in certain sects of the profession in Toronto a spirit of cliquism, which is absolutely fatal to the fraternal spirit which ought to reign supreme, and we earnestly hope that by the establishment of an Academy of Medicine, of which all practitioners in good standing may become members and feel quite free to take part in the varied discussions, this spirit will give way to one which will have as its motto, "the uplifting of the profession and the good of mankind."

W. A. Y.

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### UNION BY THE FIRST INTENTION IN LAPAROTOMIES.

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THIS question, which has become of considerable surgical importance owing to the great number of operations done for abdominal diseases, was ably discussed from the standpoint of surgical pathology by Dr. Manley in the February number of this journal, and a second article by the same writer appears in the current number. An essay on this subject, written by H. Fritsch, from the standpoint of operative surgery, appeared in *Deut. med. Wochenschr.*, 21 October, 1897, No. 43, p. 681. The essayist contends that a surgeon desirous of obtaining union by the first intention in laparotomy incisions ought to attend strictly to the following rules:

1. The patient should be prepared more carefully for operation than is done at present. The preliminary bath should last at least half an hour, a kilogramme of carbonate of soda being placed in the bathing tub. Prior to the bath the abdomen and genital parts of the patient should be lubricated with soap. Compresses steeped in a bland antiseptic solution, intended to soften the scarf skin, are retained on the abdomen of the patient during the twelve hours preceding the operation.

Just before the operation is begun the skin is lubricated with soft soap, and, after being washed, it is shaved or rather scraped with a razor. This is followed by washing the skin with an alcoholic solution of soap, and finally with a solution of corrosive sublimate, 1-1000.

2. The edges of the incision should not be separated by the fingers. The fingers wound and tear the fat cells, and thus favor gangrene of the wounded parts. An abdominal retractor, made

with smooth borders, should be employed when inspection of the operative field is required.

3. Before beginning to introduce the sutures, all shreds or bands of torn or hanging cellulo-adipose tissue should be removed with the scissors. In a septic operation when pus has flowed over the edges of the incision, after the peritoneum is sutured, a superficial layer of tissue should be removed from both edges of the cut before they are united.

4. Suturing should always be done with a double thread running from the interior of the abdomen outwards towards the surface of the skin. If passed in the other direction, the needle may draw into the subcutaneous tissues, staphylococci, which are situated deep in the glands of the skin and which antiseptics cannot reach.

J. J. C.

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#### IODINE IN TREATMENT—CHOICE BETWEEN THE IODIDE OF POTASSIUM AND THE IODIDE OF SODIUM.

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A DISTINGUISHED clinician, M. Bricquet, in *La Presse Médicale*, 15 Janvier, 1898, indicates the classes of cases in which iodine should be used per orem, and also the preparation of the drug which should be used in each case.

In diseases of the circulatory apparatus iodine is useful in the greater number of cases of angina pectoris, arterio-sclerosis, aneurism, acute and chronic aortitis; it may also be useful in remedying circulatory troubles due to badly compensated valvular disease. In diseases of the respiratory organs the iodides are serviceable, particularly in the treatment of true asthma, in chronic cases of bronchitis due to la grippe, some cases of acute bronchitis, chronic bronchitis without expectoration, chronic pneumonia and pulmonary congestion. They may be useful in chronic coryza and ozæna.

As to infectious and parasitic diseases, medication by the iodidēs is of the greatest importance in syphilis and in actinomycosis. In the treatment of poisoning they are used in chronic poisoning by lead and mercury. The iodides have given the best results in the treatment of certain arthritic manifestations; in obesity, pains, sciatica. In surgery they may be used in cases of chronic arthritis, hyperostosis and iritis.

The iodides are useless in diseases of the digestive apparatus, liver and kidneys; in non-specific diseases of the nervous system,

in infectious diseases. Contrary to a rather common belief they have no action on the secretion of milk.

Should one prefer the iodide of potassium to the iodide of sodium or not? It is better to not be too exclusive in this matter, for each of these preparations has advantages and disadvantages. Speaking generally, one may say that the iodide of potassium should be preferred to the iodide of sodium, except in diseases of the respiratory passages and some cases of rheumatic pains. When the iodide of potassium is not well borne either at the beginning or during the course of treatment, one must fall back on the iodide of sodium, as the therapeutic value of the latter is but slightly inferior to that of the potassium salt.

In ordering a course of iodine it is always prudent to begin with iodide of sodium, which in general is better borne; when the patient is used to the drug the iodide of potassium may be substituted for the other. As after long use, the iodide of potassium has a depressing action, not caused by the iodide of sodium, it is advisable in cases of prolonged treatment to use the iodides alternately.

J. J. C.

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### FADS, FANCIES, FRUIT.

Few fads have proved fatal to their votaries, and some, at least, have produced good results. Americans would have been dead, buried, and waiting a final resurrection if all the "Sure Cure" fads had killed. Scotland has been almost cleansed by the regeneration of cold water baptism, still Hydropaths are many, and the slain are few. Cures have followed one another in rapid succession and although often in peril by fire, water, or famine, humanity has withstood all onslaughts, and if it were not for "heart failure," "appendicitis," or "one hour after a successfully performed operation," *obituaricians* would fall short of a dignified excuse for bowing their victims off this mortal coil. The newspapers and several medical journals have been discussing the latest fad—The Fruit Cure.

Many "cure fads" have in a great measure relied for their efficiency upon some form of diet. In fact, during recent years dietetics has formed an important study. Many kinds of fruit are included in the *menu* of this new cure, which no doubt will meet with great favor. Ripe fruit is pleasant to look upon, agreeable to the palate, and so brings its own recommendation with it. Physicians have always recommended its use as an article of every-day

food, and so will certainly in very many cases be in sympathy with those who believe in its abundant use. The varieties of fruit are so many that it would be difficult to find a patient to whom some one kind at least might not prove beneficial. Grapes, for instance, favor the formation of fat, and to some extent exercise a salutary action on the nervous system. Strawberries are believed to improve a phthisical patient. Malic acid is found in apples, pears, peaches, gooseberries and currants, tartaric acid in grapes, citric acid in lemons and oranges. Some authorities claim that cherries are good food for maniacs. What was "The first in peace, the first



**DR. R. A. PYNE**

*Recently Elected M.P.P. for East Toronto.*



**DR. SPENCE**

*Who Contested Toronto W. for Local Legislature.*

in war, and the first in the hearts of his countrymen" thinking of when he applied his little hatchet to cut off this specific balra from the participants in the political arena?

To some extent fruit stimulates the secretions by virtue of the acid and essential oils it contains; it also acts as a blood purifier. Its nourishing properties, however, cannot be great, as the proportion of nitrogen and carbon is too low, and of water too high to be of much nutritive value. One class of our community will take kindly to the fruit cure. We refer to the little Tommy Tuckers, the agile fence-climbers who hold sunrise breakfasts in your garden

and mine. But alas, if they begin too early while the apples are still green, there may be an oft-told tale in the words:

“Tommy took a bite, and Sammy a chew,  
And up to the angels their little souls flew.”

W. A. Y.

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“THE HABITANT.”

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DR. W. H. DRUMMOND, of Montreal, who is a member of the Medical Faculty of Bishop's College, Montreal, may be said to be the discoverer of the French-Canadian peasant—"the habitant"—for until he began to write his charming dialect poems nobody knew—nobody, at least, outside of the old Province of Quebec knew—what manner of man the French-Canadian farmer was. Dr. Drummond has now gathered together his fugitive pieces into a beautiful volume, which will be a source of real pleasure to anyone who has a feeling for the poetry of human nature. It is true that the poems are written in dialect, but the dialect is not difficult to understand, and the swing and lilt of the verse carries the reader over the obstacles which at first beset his path. The habitant, as we come to know him through Dr. Drummond's sympathetic verse, is seen to be a singularly simple and genuine character. He is not a scientific farmer, but he loves his Canadian home and has all the perseverance, industry, and thriftiness of his French forbears. He has something of the French gaiety of heart touched to a soberer note by the solemnity of Canadian forests and the immenseness of Canada's lakes and rivers. If he has a little of the Frenchman's love of politics he has something more than the average Frenchman's love of Nature, and enjoys his hard battle with the elements. One of the most charming set of verses in this volume is that which gives the peasant's estimate and picture of the character and life of "Ole Docteur Fiset," who has "got ninety year or so":

“But Docteur Fiset, not moche foinne he get,  
Drivin' all over de whole contree ;  
If de road she's bad, if de road she's good,  
W'en ev'ryt'ing's drown on de Spring-tam flood,  
An' workin' for nothin' half tam' mebbe !

“Let her rain or snow, all he wants to know  
Is jus' if anywan's feelin' sick,  
For Docteur Fiset's de ole-fashion kin',  
Doin' good was de only t'ing on hees min',  
So he got no use for de politique.”

We are glad but not surprised to learn that Dr. Drummond's volume has already met with conspicuous success. The copy before us is marked ninth thousand, and we understand that the sale is still rapidly proceeding. Dr. Drummond was recently entertained at supper by a number of medical friends in Montreal, and Sir William Hingston, who presided, expressed in a few felicitous words the justifiable pride at the distinguished position which the author has won for himself as the poet of Canada.—*British Medical Journal*.

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#### THE EMERGENCY BRANCH OF THE TORONTO GENERAL HOSPITAL.

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DR. CHARLES O'REILLY recently visited the Emergency Hospitals in one or two American cities with the object of getting the latest "pointers" regarding this work. It is intended that there shall be established somewhere down in the heart of this city an Emergency Hospital, in connection with the Toronto General Hospital, where accident cases shall be admitted and temporarily looked after. This scheme will naturally divide honors. The management of St. Michael's have become possessed of the idea that, owing to its location, it should absorb all the emergency work. Such will not be the case, now that the genial "Charlie" is after their scalp. Look out for squalls.

W. A. Y.

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#### THE PROPERTY BABY.

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A FEW weeks ago some of the medical men of our city received a ticket of admission to an Institute in New York where are being shown Infant Incubators "at work" (if we may so express it). We learn that this institution is carried on along scientific lines and upon a sanitary basis, consequently it should prove of interest and merit the approval of physicians. In London, England, so popular has the viewing of "Incubator Babies" become that 3,600 visitors gained admittance to an exhibition in one day. From a scientific standpoint, however, this exhibition at Earls Court was a fittingly-conducted one. *The Lancet*, London, in commenting upon it editorially, deplors the fact that this success attracted the attention of public showmen, and they, without knowledge or care as to the intricate scientific problem involved, have started baby

incubator shows on the same principal that a season ago they exhibited "two-headed girls" and "fat ladies." How morbidly curious are the public of this country, also. Midgets, elastic-skinned persons, ossified men, anything in fact that veers a degree from the perpendicular, becomes of interest, and is viewed by all sorts and conditions of mankind.

The physician's interest in such anomalies may be dignified by the idea of gaining scientific knowledge, but the interest of the public is to a great extent begotten by a longing for a novel sensation or to gratify mere idle curiosity. As a means to an end the invention of the infant incubator is valuable, but when occupied it is hardly an object to make a public circus of—the frailty of human life.

W. A. Y.

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#### JOSEPH O'DWYER, M.D.

It was with the most sincere regret that the medical profession all over the world heard of the death of Dr. Joseph O'Dwyer on the 7th day of last January. Dr. O'Dwyer had made a name for himself, which will be as lasting as that of Sir James Simpson, or even Jenner, by the discovery of the effects of Intubation. Many a life has been saved by his timely intervention, and many a now grown-up child can indeed call him blessed. Dr. O'Dwyer, whose portrait forms our frontispiece, was born in Cleveland, O., October 12th, 1841. Though part of his earlier life as student was spent at our own McGill University, the Doctor received the better part of his medical education at the College of Physicians and Surgeons of New York. He graduated in 1866. It was during his connection since 1873 with the New York Foundling Hospital, that he was afforded the opportunity for carrying on the principal part of his life's work. Dr. O'Dwyer died at fifty-eight years of age.

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ACCORDING to a newspaper report, Professor Schenk has sold the German rights to his book on sex-determination for \$10,000, with the rights in England and the United States still to be purchased.

THE first subscriber to the *Medical Press and Circular* was an Irish provincial surgeon. His name was entered as a subscriber in 1846, and from that date until the present he has never failed to pay his annual subscription fee.

## The Physician's Library.

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*Orthopedic Surgery.* By JAMES E. MOORE, M.D., Professor of Orthopedia and of Clinical Surgery in the College of Medicine of the University of Minnesota; Fellow of the American Surgical Association; member of the American Orthopedic Association; surgeon to the St. Barnabas Hospital; consulting surgeon to the Northwestern Hospital for Women and Children, to St. Mary's Hospital, and to the City Hospital, Minneapolis, Minn. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898. Agents for Canada, J. A. Carveth & Co., Toronto.

The author presents this work "as a text-book for students and a ready-reference book for practitioners," and at once puts himself on good terms with busy men by stating that, "Instead of giving in detail every method of treatment that has ever been employed, only such methods are given as in the writer's experience have yielded the best results." It may fairly be said that this good intention is rigidly carried out, and the student will look in vain for descriptions of obsolete methods of treatment that have ceased to have other than an historical value.

The introductory chapter forms interesting reading. The scope of orthopedic surgery is touched upon; but in this connection the reader is apt to gather the impression that the author is rather inclined to extend the boundaries of this specialty beyond the limits which are considered its proper limitations by most practitioners. Reference is made to the fact that when the author graduated in 1873, Bellevue was the only institution in the world that had a special chair in orthopedic surgery, and the author predicts that the time is not far distant when no medical faculty will be considered complete without such a chair, and when this branch of surgery will be as well recognized as ophthalmology is at the present time. The common practice of general practitioners at the present date of sending orthopedic cases to the instrument shops for treatment is strongly condemned. "Those who have neither time nor inclination to treat these cases are no longer excusable for sending them to the instrument dealer, for worthy professional brethren are to be found who have given themselves special training in this branch and who are willing and anxious to assume the responsibility." A just comparison is made between the instrument maker who considers himself competent to treat orthopedic cases, and the prescribing druggist; the proper office of each is to fill prescriptions, not to assume professional management of cases.

The author's definition of an ideal orthopedic surgeon is, "He who exercises the greatest judgment in drawing the line between cases that require operation and those that do not; who is equally skilful, on one hand, in applying the knife, and on the other, in applying the proper apparatus, and who is without prejudice in either direction." In a few well-chosen sentences the history of orthopedic surgery is briefly referred to; and the introductory chapter closes with half a dozen pages in which the most salient points in regard to diagnosis, prognosis, prophylaxis, therapeutics, mechanical appliances and the employment of plaster-of-paris are happily presented.

In reading the book through one can hardly fail to be struck with the degree of success that has crowned the author's effort to make the work at once

brief and complete. It may be doubted whether any work of the same size could better realize this ideal. A good many sentences might, by some, be considered arbitrary ; but these should rather be judged as utterances rooted in firm conviction and experience.

In a few particulars the work is disappointing. It is difficult to understand how an author whose views on most of the subjects discussed are fully abreast of the times, could give such a totally inadequate presentation of the subject of flat-foot. To say, "Many ingenious theories have been advanced concerning the cause of acquired valgus, but it is very evident that it is simply a breaking down of the arch of the foot" (p. 131), is not only a failure to recognize the true nature and extent of this very common deformity, but serves to direct attention to an element of it which is oftener absent than present, and is in nearly every case infinitely less important than another feature, namely, pronation, which is not even referred to.

The directions for treatment are equally inadequate ; practically nothing is suggested beyond mechanical methods of supporting the arch ; in some cases forcible correction under anesthesia is advised. Not a word is said of the invaluable therapeutic resources afforded by gymnastics and by training the patient to use his feet to the best mechanical advantage, both of which measures are of much greater importance than the best mechanical or operative treatment in all but the severer cases ; while as an important part of the successful management of the latter these measures are simply indispensable.

In the treatment of scoliosis the author very properly condemns the use of braces except in a few exceptional cases. It may be doubted, however, if his exceptions are well chosen. On page 44 we read, "These cases occur in young women who have soft bones, soft, flabby muscles, and who are growing tall very rapidly. In such cases it is well to make use of proper mechanical support until the bones and muscles have gained firmness and strength enough to do their work, and the patient has grown as tall as she is likely to." In the writer's judgment these are the very cases that demand treatment by developmental methods, and to postpone the employment of the methods until the patient is fully grown is to permit the escape of the golden opportunity for successful management.

But despite these and some similar defects the book can hardly fail to command the admiration of every fair critic. It abounds in terse sentences which bring into bold prominence many of the most important points in orthopedic surgery, presenting them in words sufficiently striking to compel the attention and impress the memory.

The book is well printed on good paper, neatly bound, and contains a large number of well chosen and clearly reproduced illustrations. II. P. H. G.

*The American Year-Book of Medicine and Surgery*, being a Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from Journals, Monographs and Text-Books, of the leading American and Foreign Authors and Investigators, collected and arranged with Critical Editorial Comments by Sam. W. Abbott, M.D.; John J. Abel, M.D.; J. M. Baldy, M.D.; Chas. H. Burnett, M.D.; Archibald Church, M.D.; J. Chalmers Dacosta, M.D.; Louis A. Duhring, M.D.; Virgil P. Gibney, M.D.; Henry A. Griffin, M.D.; John Guiteras, M.D.; J. R. Tillinghast, Jr., M.D.; Thompson S. Westcott, M.D.; Howard F. Hansell, M.D.; Barton C. Hirst, M.D.; E. F. Ingals, M.D.; Wyatt John-

ston, M.D.; W. W. Keen, M.D.; Henry G. Ohls, M.D.; W. A. Pepper, M.D.; Wardell Robor, M.D.; David Riesman, M.D.; Louis Starr, M.D.; Alfred Stengel, M.D. Under the general editorial charge of Geo. M. Gould, M.D. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898. Canadian Agents, Carveth & Co., Parliament Street, Toronto.

So great and so rapid are the advances which are made from year to year in every branch of medicine, that it would seem to be impossible to keep quite abreast of the times without one renewing his knowledge from time to time by becoming a subscriber to such a magnificent compendium of the most recent facts in medicine as this year-book of Dr. Gould's. If the author never had his name connected with but this one work, he would have made a name for himself which would become world-wide. Medical literature has now grown to such proportions that it becomes quite a task for the physician of average means to know just where to best invest his money in order to get the biggest returns. Books are coming out almost daily on every subject, the majority of them having doubtless their good points, the trouble, however, being that they either consist of a series of volumes, which are too cumbersome for the busy physician to wade through, or else they are more in the form of a hand-book, where the description is, on the other hand, too limited. When, however, one can get each year a book of moderate size, and which is at the same time not too bulky, written by a man with the brain-power of George M. Gould, and with such a staff of contributors as those associated with him in the Year-Book, every line almost being re-written once in twelve months, it becomes almost a duty for the practitioner to, if necessary, deny himself otherwise and be the possessor of a work of which anyone may be proud. The Year-Book of 1898 is indeed a wealth of both medical and surgical literature, giving as it does an epitome of new and progressive truths for the past year. We would wish to specially refer to the excellence of the chromo-lithographic reproductions. They with the mechanical excellence of the work are of a degree of excellence not excelled in any literature. The book has 1,021 pages, which are devoted to not only medicine, surgery and gynecology, but also give the most recent information in dermatology, materia medica, pediatrics, pathology, physiology, etc. One of the most important points of the greatest worth in this year's volume are the editorial comments, which are bracketed. We might even say that the 1898 Year-Book is a library in itself.

*The Practitioner's Hand-Book of Treatment, or The Principles of Therapeutics.*  
By the late J. MILNER FOTHERGILL, M.D., M.R.C.P., Physician to the City of London Hospital for Diseases of the Chest, Victoria Park Foreign Associate Fellow of the College of Physicians of Philadelphia. Fourth Edition, edited and in great part re-written by Wm. Murrell, M.D., F.R.C.P. London: Macmillan & Co., Limited. New York: The Macmillan Co., 1897. Canadian Agents, A. P. Watts & Co., 10 College St., Toronto.

The last edition of this work was exceedingly large, showing that the author's views on this subject met with the approval of the profession as a whole. Few practitioners there are to-day who do not know of Fothergill's "Hand-Book of Treatment," very many of whom have reason to look back to those days in their student life with the greatest of pleasure when they received their first practical pointers on Therapeutics from reading the earlier editions of this book.

Such progress has been made in this department of medicine since the death of Dr. Fothergill nearly ten years ago, that it became necessary to almost re-write it. This work fell to Dr. William Murray, of London, and well indeed it has been done, that gentleman having been careful to retain to as great an extent as possible the original author's style and method of presentment. We cannot do more than recommend practitioners to purchase this the latest edition of Fothergill, as they may rest assured that in doing so they cannot misspend the small amount. It can be purchased from A. P. Watts & Co. at 10 College St., Toronto.

*Outlines of Rural Hygiene.* For Physicians, Students and Sanitarians. By HARVEY B. BASTORE, M.D., Inspector for the State Board of Health of Pennsylvania. With an Appendix on the Normal Distribution of Chlorine, by PROF. HERBERT E. SMITH, of Yale University. Illustrated. Philadelphia, New York, Chicago: The F. A. Davis Co., Publishers. 1897.

A very useful book to any of the classes of persons mentioned above, but especially useful, we should think, to the large class of intelligent non-professional readers who live in the country, and who know little of the means by which disease is to be prevented.

The remarks on wells, cisterns and public water supplies are well put and practical. The same can be said of the chapter on the disposal of house wastes and sewage. The chapter on "The Soil," is probably the most interesting in the book, but Thuring's views on cellar construction are quoted with good effect. The curious fact mentioned about the presence of arsenic in the Forest Farm Cemetery Creek, at Buffalo, will not be very good news to our friends the embalmers, but may serve to hurry on the advent of formaldehyde as an embalming fluid. Ventilation and heating are rather briefly touched upon. The style is clear and simple. The author should try again and give his readers more matter.

J. J. C.

*A Clinical Text-Book of Surgical Diagnosis and Treatment.* For Practitioners and Students of Surgery and Medicine. By J. W. MACDONALD, M.D., Graduate in Medicine, Edinburgh University; Licentiate of the Royal College of Surgeons of Edinburgh, etc. With 328 illustrations. Philadelphia: W. B. Saunders, 925 Walnut Street. 1898. Canadian Agents: J. A. Carveth & Co., 413 Parliament Street, Toronto. Cloth, \$5.00.

The study of surgery is truly a very wide field, and to be considered in detail would take up many volumes. The task of the author on such a subject is no small one, especially if he attempts to boil down his subject. To do so, however, and present to the reader the subject of surgical diagnosis in one volume is no easy task. Dr. Macdonald's work, as published, is one of exceptional merit, and puts into the surgeon's hands a work which will enable him to treat his cases in a manner which will do justice to his patient as well as himself. The work teaches the reader particularly how to examine a case of injury in a systematic manner, leaving nothing undone and guarding against all contingencies. The author excludes from the book the surgery of the eye, ear and skin, and leaves those subjects to the care of specialists. The work indeed presents the most recent surgical knowledge.

*Elements of Latin.* For Students of Medicine and Pharmacy. By GEORGE D. CROTHERS, A.M., M.D., Teacher of Latin and Greek in the St. Joseph

(Mo.) High School; formerly Professor of Latin and Greek in the University of Omaha; and HIRAM H. BICE, A.M., Instructor of Latin and Greek in the Boys' High School of New York City. 5½ x 7½ inches. Pages xii-242. Flexible cloth, \$1.25 net. The F. A. Davis Co., Publishers, 1914-16 Cherry Street, Philadelphia; 117 W. Forty-Second Street, New York City; 9 Lakeside Buildings, 218-20 S. Clark Street, Chicago, Illinois.

This small book is one which is bound to prove useful to students of medicine and pharmacy, giving as it does in small space "those principles of Latin etymology and construction which are essential to an intelligent use of the terminology of pharmacy and medicine." It will most assuredly be the means of rendering much more simple the requisition of the Latin tongue so essential to correct prescription writing by which a physician is most apt to be judged.

*The Care and Feeding of Children: A Catechism for the use of Mothers and Children's Nurses.* By L. EMMETT HOLT, M.D., Professor of Diseases of Children in the New York Polyclinic, etc. Second edition, revised and enlarged. New York: D. Appleton & Co. 1897.

This small work contains a wealth of information in compact volume. It consists of a series of queries and answers on such important subjects as bathing, clothing, the airing of the nursery, ventilation, and, most important of all, infant feeding. The booklet should be in the hands of every mother as well as children's nurses.

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#### PAMPHLETS, REPRINTS, ETC., RECEIVED

Official Hand-Book of Information relating to the Dominion of Canada. 1897. Published with the approval of Her Majesty's Secretary of State for the Colonies, and by the authority of the Minister of the Interior, August 1897. Ottawa: Government Printing Bureau.

F. A. Davis & Co., of Philadelphia, Pa., expect to have in the hands of the profession, before many weeks, Sajous' "Annual and Analytical Cyclopaedia of Practical Medicine." This work is one which will prove to the practitioner more than up-to-date. It will contain 500,000 words and will indeed represent a new era in medical literature. It is in reality a digest of the very latest literature on all departments of practical medicine, everything new up to within a few weeks being included in the book. We heartily recommend the work to the profession as being something of exceptional value.

*Vital Statistics of Ontario.* Report relating to the Registration of Births, Marriages and Deaths in the Province of Ontario, for the year ending 31st December, 1896.

*A Modern Pathological and Therapeutical Study of Rheumatism, Gout, Rheumatoid Arthritis and Allied Affections.* By EDMUND L. GROS, M.D., of the Faculty of Paris. New York: Morrison Print. 1897.

*State Statistics.* Twelfth Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. Volumes I. and II. Cloth, 8vo; pp. 547 and 647 respectively. Harrisburg: Clarence M. Bush.

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THIRTY-ONE patients have been treated at the Pasteur Institute, of Baltimore, since it was opened last April.