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HALIFAX,  
NOVEMBER

NOVA SCOTIA.  
1910.

No. 11

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WORLD OF MEDICINE.

**Recent Progress in Anesthesia.** James Taylor Gwathmey, New York, reviews *Medical Record*, October 8th, 1910, the various forms of anesthesia that have been brought forward recently to take the place of the old methods of general anesthesia. The author has experimented on the administration of anesthetics at various temperatures. He finds that in animals death is more easily produced with the anesthetic at a low temperature. Warm chloroform and ether are safer than cold. The use of oxygen increases the value of the anesthetic as regards life. Electric sleep, while perfectly safe, is not clinically practicable at present. The sequestration method by ligating the limbs and thus shutting off temporarily a part of the blood in circulation allows of the use of less of the anesthetic, the patient being placed in a sitting posture. It is of especial value in operations on the head and throat. Anesthetic shock may be so great as to cause death alone. The importance of preparation of the patient for the operation is dilated upon. Morphine is important when used preparatory to operation for quieting the nervous system. It lessens vomiting by depressing the vomiting center. The latest and best development in pulmonary anesthesia is the use of oxygen and nitrous oxide. Anesthesia may be produced with less of the drug by rectum after it has been begun by the

mouth. Air or oxygen may be passed through the anesthetic, thus making the anesthetic safer. Spinal analgesia is valuable because the patient is able to assist by coughing, etc.; the action is very speedy and the services of an assistant are not necessary.

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**Agar-Agar in Constipation** J. L. Morse, Boston (*Journal A. M. A.*, Sept. 10), advocates the use of agar-agar in the constipation of children. It is a substance prepared from hot water extracts of various species of *Gelidium* and contains about 60 per cent. of carbohydrates, chiefly in the form of galactosan and pentosan. Saiki obtained negative results as regards its digestibility, only about 10 per cent. of the polysaccharides being utilized and the agar generally passing through the intestinal canal unchanged. He found it very resistant to the action of the ordinary intestinal bacteria. Agar-agar not only absorbs water, but also retains it in its passage through the bowels, increasing the bulk of the feces and preventing the formation of hard masses. This, together with its resistance to bacterial decomposition, suggests its use in that form of constipation due to complete digestion of the food and complete absorption of the water from the intestinal tract, rendering the stools very hard and dry. It has been used with good results in this class of adult pa-

tients by Mendel, Schmidt, Gompertz and others. In adults the dosage given has varied from one-half to one ounce daily. No habit is induced and it is not necessary to increase the dose. In fact it may sometimes be decreased with good effect. It has so little irritant action on the intestine that it is advisable to add a little cascara. Morse recommends such a mixture for the constipation of children associated with small dry stools. He has given it to a number, ranging in age from  $2\frac{1}{2}$  to 8 years, with very satisfactory results. Children of 4 or 5 years need as a rule about 2 teaspoonful of dry flakes weighing about 1 dram altogether. The dose is rather indefinite, but fortunately no harm can result from either an underdose or an overdose, and after a week or two the amount necessary for an individual child is easily fixed. The only difficulty he mentions in its use has been in inducing the children to take the agar agar, and he has found it easiest to give it mixed in with some cereal food. Schmidt cautions against using it in a too finely divided form, as the rapid swelling from moisture in the stomach might cause colic and diarrhoea. Morse, however, does not mention this in connection with the treatment of children, and only incidentally in speaking of the physical qualities of the substance.

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**Polio-myelitis.**  
H. M. McClanahan, Omaha (*Journal A. M. A.*, October 1), gives an account of the Nebraska epidemic of poliomyelitis of 1909, based on personal letters received from 58 physicians, a number of whom he has also seen personally. The epidemic was far more extensive than that in New York, as this report alone covers 999 cases, and the author is satisfied that

neither Dr. Orr's report previously made, nor the present one covers all the cases that actually occurred. The chief object McClanahan had in view was to determine the clinical varieties, and the reports yield the following results: Cerebral type, 107; bulbar type, 86; polyneuritic, 113; ordinary, 495; unclassified, 188; total, 999. Four-fifths of all the cases occurred during the months of July and August, which were unusually warm and dry. Fifty-five per cent. of all the cases occurred in the counties of Polk and York, with a total population of 31,000, and the greater number of the cases occurred in an area of 20 by 24 miles. It was pre-eminently a disease of the rural districts. After a Fourth of July celebration at Stromsburg, Polk County, it swept over the adjoining country. There were other centres in Webster, Nance, Valley, Custer and Dawson counties, with considerable areas of intervening country without any reported cases. The disease was of course, erroneously diagnosed to a considerable extent. Some cases could not be diagnosed from true meningitis except by lumbar puncture. So far as he can learn the meningococcus was not found in any of the cases. The New York report shows that we must form a new conception of the disease. We must recognize that it is a general infection involving the gastro-intestinal tract, the lungs, liver and other organs; that the toxin has a peculiar affinity for the nervous system; that it may involve only a part of the spinal cord or may spread to any part of the cerebral spinal axis. The extent of permanent paralysis would depend on the degree of degeneration. In some cases the cell infiltration is removed by absorption and complete recovery occurs. His reports show that nearly all the fatalities were due to

bulbar paralysis and that this may occur in cases otherwise mild. Hence in all cases we have this to fear. Diarrhœa was the exception, constipation the rule. The most surprising fact in the report, however, is the number of complete recoveries. McClanahan estimates that probably 25 per cent. would be a very liberal estimate of those who were permanently paralyzed. He closes with the following suggestions: "This is an infectious disease. The evidence that it is contagious is accumulating. The only safe procedure is to treat it as we would measles or scarlet fever; namely, isolate the patient. We should realize that it is a general disease, that it may involve any part of the nervous system, that the bulbar type is usually fatal, and that our treatment should be directed toward prompt and sufficient elimination."

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**Edema of the Palate.** The occasional seriousness of edema of the soft palate in spite of its apparently trivial appearance as a symptom, is pointed out by L. S. Somers, Philadelphia (*Journal A. M. A.*, September 10). A simple local uvulitis has no serious significance except that edema of any portion of the upper air passages may extend itself to the larynx with all the seriousness that that implies. Acute uvulitis, however, is not infrequently associated with general conditions like rheumatism or influenza, or with local conditions like peritonsillar abscess, and in some cases the palate may bear the brunt of the inflammation. It also may occur from direct traumatism and some people seem to be especially vulnerable in this part, edema of the palate occurring frequently from various causes. It is sometimes a prodromal symptom of rheumatism or gout and may be found preceding lumbago, sciatica,

etc. The arthritic diathesis seems sometimes to play an important role in producing edema of the palate. In severe types of faucitis, like erysipelas or septic infection, uvular edema is almost always an accompaniment and of serious import. In chronic specific infections it may occur, as in tuberculosis and syphilis, and be significant of destructive local lesions with grave general debility. It is a suspicious symptom or an indication of kidney disease and the danger of laryngeal involvement is always present, and in angioneurotic edema the swelling of the palate may be enormous and require active treatment at once. It may precede urticaria or accompany it. Swallowing of corrosive substances may also be a cause and it may be a symptom of certain drugs like cocain or scopolamin. Edema of the tip of the uvula is not uncommon and causes little concern. Hawking or vomiting or nocturnal mouth breathing may produce it. Why edema of the uvula should occur under so many conditions, some of slight importance and others of the most serious, is accounted for by the author, partly by the structure of the part, the bulk of the uvula being composed of loose-meshed areolar tissue, in which slight congestion may be readily accompanied by edematous swelling. The symptoms vary from slight tickling to suffocation, and great annoyance is frequently caused because of the feeling of clearing the throat and constant hawking. The recumbent posture aggravates the symptoms and the patient may not be able to lie down for fear of suffocation. The important point to be considered is its great significance in some cases and the necessity of at once treating the underlying causes. Cases illustrating the production of the symptoms from the various causes are reported.



**Otitis  
Media.**

In discussing the subject in the *Journal of the American Medical Association* for August 27. Hiram Woods says "that physicians are becoming keener in their appreciation of early ear disease and consultations regarding a possible otitic origin of systemic conditions are greatly increased. Some facts thus developed seem to him worthy of discussion. The general belief in regard to otitis media is that the ear involvement is a sequel to infection elsewhere, and among these infections is influenza. To justify the diagnosis of primary otitic infection we would have to find first, systemic evidences of infection; second, objective evidence of ear disease; third, absence of local disturbances that might be a cause and, fourth, relief of constitutional symptoms and cure by treatment confined to ear drainage. If primary otitic infection is a reality and if it is capable of producing systemic infection it is our duty to insist on the necessity of including the ear in routine examinations for the cause of such symptoms. It does not always show itself in the order of exciting cause, pain and other subjective symptoms before the discharge makes diagnosis certain, and without them nothing but routine examination by a competent physician can demonstrate the cause of the general illness. Akin to primary otitic infection are the delayed ear complications of various diseases sufficiently distant in time to throw doubt on the causative relation. Such latent otites have one important bearing on every-day otology. Specialists should impress on general practitioners that they are frequent and the patient should not be dismissed as well until the ears have been examined. In this way some cases of deaf-

ness can be avoided. A feature which often puzzles not only the physician but his consultant, is the meaning of prolonged fever in extremely light cases of otitis media. Notes of three cases are given. If this fever is due to the ear it is the physician's duty to get complete drainage. If not, it is his duty to know. One may have to employ a mastoid operation, which must be avoided if the need of it does not exist, and it is sometimes a puzzling question of diagnosis. Woods lays some stress on the leucocyte count in this condition, as with it and the temperature we have pretty reliable guides regarding an otitis as a cause of systemic disturbances as distinguished from essential fevers. There is always the possibility of another lesion with the ear trouble. In deciding if mastoid drainage is needed, he thinks that the amount of the otorrhoea is an important guide which is often neglected. A question which he would like to hear discussed is what is the line of demarcation between the safety of tympanic and the necessity for mastoid drainage? Is there anything outside of time and profuse discharge to guide us? He reports a case of convulsions occurring in otorrhoea and relieved by incision. He has heard of other such cases. Two other cases of what he has called referred pain, in one in the neck along the sternocleido-mastoid muscle and in the other in the right parietal occipital region, were cured by treatment and incision. He thinks that they were referable to an unusual connection between the tympanic nerve and the other branches of the glosso pharyngeal nerve through the petrosal ganglion. In conclusion he says that an improved attitude toward ear troubles on the part of medical practitioners has brought about a

definite change in otologic practice, at least in his own. In private work, chronic otitis media, which was formerly much seen, is rare, and even acute otitis media allowed to go on to ulceration of membrane is not very frequent, but constitutional symptoms due to ear disease without gross evidences of the latter, are more common. The moral of it all is that aurists must be good enough physicians to make differential diagnosis.

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**Bowel Surgery in Children.** S. G. Gant, New York *Journal A. M. A.* (October 15). gives his experience in 368 cases of bowel surgery in children, in a class of cases which he thinks are sometimes neglected or unrecognized. Not infrequently the physician does nothing but advise the mother to let the child alone and he will out grow the trouble, whereas an adult for the same reason should have an operation performed. The time has arrived, Gant thinks, when physicians should assume the responsibility of treating the anorectal affections of children as soon as diagnosed. This does not always mean an operation, for in many cases a cure can be effected by regulating the bowels and by topical applications. Surgical intervention when necessary should cause no anxiety, since in the vast majority of cases it can be easily performed, is devoid of danger, the postoperative suffering is slight and convalescence is short. Several tables are given showing the results, and the special points of technic are briefly mentioned. The age of the patients varied from birth to 12 years, the majority being over 6. The 5 deaths that occurred in the 368 cases are not attributable to the operation, because they occurred in infants afflicted with acute congenital

bowel affection 2, cancer 2, and diphtheric colitis 3, and were moribund or in deplorable condition when first seen. About one-half of the constipated infants and children examined suffered from mechanical obstruction of some kind, and he thinks that such conditions are much more frequent than is at present recognized, occurring in about 25 per cent. of cases. He describes a new method of entero-colonic irrigation by cecostomy, the steps of which are described as follows: "1. Through an incision made over it, the cæcum is brought into the wound and three purse-string sutures are introduced into its outer surface opposite the ileocæcal valve and the intestine opened within the suture line. 2. The Gant metal, or preferably rubber, entero-colonic irrigator, is pushed across the cæcum and guided through the ileocæcal valve into the thumb and fingers of the left hand, and is held there by an assistant until the infolding purse-string sutures are tied and a circular cone-shaped valve is formed around the tube. 3. The cæcum is scarified and two suspensory sutures are introduced at the sides of the irrigator and then carried through the abdominal wall by means of a long-handled needle, where they are tied, and across rubber tubings. 4. After the wound has been closed by the layer method the metal irrigator is retained in position by attached pieces of tape which encircle the body, but when the rubber tube is used it is fastened in the same way, or to the skin by an adhesive strip after the irrigating tubes have been closed with cravat clamps. 5. The dressings, including an outer covering of rubber tissue, are now applied after having been split to allow the irrigator to project through

them." He has employed this operation since January, 1906, and published it in 1908. Since that time, however, slight improvements have been made in the technic. It has been done on adults 22 times in the direct treatment of inflammatory, ulcerative, parasitic, specific and other affections, involving all parts of the intestines, and the results have always been most flattering. It has been used in 3 cases on children under 12 years of age, and he thinks it has a wide range of usefulness and should take precedence over enterostomy, colostomy, appendicostomy and ordinary cecostomy in this class of cases. He gives a number of conditions in which he thinks it advisable, also calls attention to its value in the investigation of various intestinal diseases to determine the amount and nature of the intestinal juices and discharges, and the diagnosis of angulation, etc.

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**Ehrlich's "606" in Syphilis.** H. J. Nicholds and J. A. Fordyce, New York (*Journal A. M. A.*, Oct. 1), report experience with Ehrlich's "606" in the treatment of syphilis. They first give an account of the researches which led Ehrlich to the discovery of the remedy. The animal parasites caused malaria, syphilis, etc., apparently can not be successfully attacked by immune sera. Hence the search for substances which would attack the parasites without injuring their host. In this line of investigation about 630 substitution products have been made and tested, of which only four gave promise of value possessing the required parasitotropic properties without at the same time being injurious to the organs of the host. These substances are: acetylatoxyl; arsenophenylglycin, or "418."

tryparosan, and arsen-obenzoil, or "606." Excepting the drug tryparosan, arsenic is the active principle in all the preparations, the other chemical groups present merely serving to fix this substance to the parasite. Thus for example it has been found that the acetyl group has a special affinity for trypanosomes, and the amino and hydroxyl groups an especial affinity for the spirochetes. Of course this could only be determined by animal experiments, and after the discovery that syphilis could be transferred to the lower animals, the end became the discovery of a drug which in a single dose would destroy all the parasites without injuring the host, and this has apparently been accomplished with "606." Patients who have resisted the action of mercury, or who could not from idiosyncrasy use it, have improved at once under the use of "606" to which no special idiosyncrasy has as yet been observed. The drug is described as a yellowish powder rapidly oxidizing in the air and hence put up in vacuum tubes. It dissolves in water with difficulty, making a strongly acid solution which is very painful on injection. Hence the substance is administered either as a neutral or as an alkaline salt. The administration is by injection deep into the muscle or veins, or beneath the skin. At present it is recommended that the administration be subcutaneous. "According to this method, the drug, in a dose which has varied up to the present from 0.3 to 0.6 grams, is dissolved in a mortar in from 1 to 2 c. c. of ordinary solution of sodium hydrate. Acetic acid is then added, drop by drop, until the base precipitates out in the form of a fine yellowish suspension. This precipitate is collected in from 1 to 2 c.c. of sterile distilled water, and there is added

either 1-10 normal sodium hydrate, or 1 per cent. acetic acid, as needed, until the reaction becomes precisely neutral to litmus. According as the reaction is or is not accurately neutral, the injection will be followed by much, little or no pain. It is moreover desirable to subdivide the precipitate as finely as possible, which can be done by rubbing. The suspension is then drawn into a suitable syringe and injected subcutaneously below the shoulder blades after previous cleansing and disinfection of the part. It often happens that there is slight pain lasting a few minutes following the injection, and in some instances a slight swelling arises on the second or third day following the injection, but no bad effects are produced. There may be slight rise of temperature and in some instances an urticarial eruption has occurred, but no specific toxic effects on the eyes, kidneys, or nervous system have been observed." The authors report their personal observations in detail. Fourteen persons received the injections and the results are also given in tabulated form. In two cases the doses were too small, but the other twelve apparently got rid of the parasites and there has been no relapse in four months, all the Wassermann reactions remaining negative. None of the patients received more than 0.3 grams and the first two much less. This is about half the dose now being used abroad, 0.6 grams being found non-toxic to man. The final word in regard to the drug will not be said probably for some years, but the authors say the fact remains that we have no drug the extraordinary effects of which in syphilis equals that of "606." The article is illustrated.

**The Importance of Examining the Teeth.** The practitioner is apt to regard the teeth as being the particular province of the dentist. This is a correct attitude, provided that his knowledge is sufficient to enable him to determine when the aid of the dentist should be sought. The latter can only treat cases when called upon to do so, and it frequently happens that irremediable mischief is done before he is consulted. The practitioner is in a position to give the necessary warning. He may, moreover, by judicious advice be the means of preventing disease, and thus obviating pain, inconvenience, and deformity.

#### DEVELOPMENT OF THE JAWS.

The development of the jaws is a complex question, but it may be assumed that two very important factors are the preservation of the temporary teeth and the determination of nutrition by the sufficient exercise of the masticatory muscles. Both these factors are regulated by the kind of food eaten by the child. People do not usually go to their dentist for instructions regarding their children's diet, and it therefore behoves the practitioner to be himself in a position to give sound advice on this question. Dr. Sim Wallace has constantly indicated the kind of diet that should be prescribed, and his attitude with regard to the relation that exists between dental caries and diet is summed up in the following quotation: "The cause of the present-day susceptibility to dental caries is that the natural foodstuffs are, to a certain extent, deprived of their accompanying fibrous parts and prepared and consumed in a manner which renders them—especially the carbohydrates—liable to lodge and undergo acid fermentation in the mouth, while from

the same cause and the induced conditions the acid-producing micro-organisms of the mouth lodge and multiply, and augment the rapidity and intensity of the acid fermentation." He pleads for the abolition of "pap" diet after the eruption of the temporary molars and for proper regulation of the foodstuffs, in order that work may be given to structures whose obvious mission is work, and that the teeth may be cleansed by natural means, as opposed to the artificial cleansing brought about by the tooth-brush.

### THE MILK TEETH.

It is by no means uncommon in private and hospital practice to hear the condition of temporary teeth regarded by parents and practitioners alike as a matter of no moment. That is an attitude that cannot be too strongly condemned. The association, so frequently found as to be almost constant, of enlarged and septic tonsils and adenoid growths in the nasopharynx with carious teeth is so striking that one must regard the teeth as the probable primary focus. Certainly the condition of the mouth should receive attention before any operation on the throat is performed. Acute and chronic adenitis may be caused by carious teeth or neglected roots, and the tubercle bacillus may gain entrance by the same channels.

Parents frequently look upon the first permanent molar as a temporary tooth, and this mistake is easily understood when it is remembered that this tooth is the first permanent tooth to erupt, has no predecessor, and takes its place with the temporary teeth. It is a most important tooth, and should be carefully preserved.

### PAIN AND TOOTHACHE.

The frequency with which trigeminal neuralgia is found to originate from some dental lesion is well known. But the cause may not be obvious, and is often only revealed by careful investigation. Local pain may be entirely absent, thus making diagnosis more difficult. The patient, too, is on this account inclined to be sceptical as to the dental origin of the pain. The causative lesions are various, but a decomposing pulp in a tooth free from caries, a chronic pulpitis set up by an amalgam filling, a localised pyorrhœa alveolaris and an apparently efficient crown are among the most obscure. A frequent site of referred pain is the ear, and many an earache has been cured by the extraction of septic roots. Trismus is a symptom not met with very frequently, but its presence should suggest the possible impaction of a lower wisdom tooth, for this is by far the commonest cause of this condition. There is, in connection with swellings about the mouth due to teeth, a popular superstition that nothing should be done till the swelling has gone down. Delay has been productive of much deformity, life has been endangered, and in a few cases death has resulted. Tardy eruption of the temporary teeth is commonly found in rickets.

### SYPHILIS AND THE TEETH.

In hereditary syphilis premature eruption is sometimes found, but tardy eruption is probably more common. The form of the teeth is of considerable value in the diagnosis of congenital syphilis. The proper appreciation of the malformations that have a diagnostic significance depends on the recognition that the disease is a constitutional and not a local one, that its action is manifested during

the last months of intra- and the first months of extra-uterine life. The action of syphilis before the time mentioned is usually signalled by abortion, and it is for this reason that characteristic lesions of temporary teeth are so seldom seen. That they do occur, however, must not be forgotten. The tooth in the temporary dentition most frequently affected is the second molar. The teeth whose crowns calcify during the last months of intra-uterine life and the first months of extra-uterine life are the first permanent molars, the permanent incisors, and canines. These, therefore, are the teeth which should be inspected where syphilis is suspected. If malformations are found they must be symmetrical and multiple or they have no diagnostic significance. The teeth most characteristic of congenital syphilis are known as Hutchinson's teeth. The upper central incisors are most commonly affected, but a similar deformity may sometimes be observed in the lower incisors. In its typical form the tooth is broader at the neck than at the cutting edge. The cutting

edge exhibits a crescentic notch formed by the rapid destruction of the thin friable tissue which bridged the deficiency at the time of eruption. Other malformations are cuspal atrophy affecting the first permanent molar and the canines, and erosions which may be sulciform or pitted. The premolars and second and third molars, calcifying as they do at a later date, are nearly always exempt.

The mouth should receive proper attention as a preliminary to operations, for the removal of obvious septic foci is only a reasonable procedure. In cases of infective arthritis the condition of the mouth should be carefully investigated, and too much trust must not be placed in antiseptic mouth-washes, for pyorrhœa needs rigorous and systematic treatment.

Other conditions in which the teeth need consideration are dyspepsia, chlorotic anæmias and pernicious anæmia, ulcers of the tongue and consequent epithelioma, affections of the maxillary antrum, and middle ear disease.—*The Hospital*.



# ETIOLOGY OF CAISSON-DISEASE.

By P. CONROY, M. D.

Charlottetown, P. E. I.

(Read before the Maritime Medical Association, St. John, July, 1910.)

**A** DISEASE, peculiar to workers in pneumatic caissons, or compartments containing compressed air, designed for the accommodation of men engaged in placing structural supports under water, is known as Caisson-Disease.

The etiology of this strange malady is still a matter of much conjecture. The generally accepted theory of its causation is that the affection is due to the plugging of the blood vessels of the spinal cord by bubbles of air.

That this theory is insufficient to explain the symptoms, course and termination of the disease is admitted by most authorities.

The disease according to Osler is characterized usually by paraplegia, more rarely by a general palsy which supervenes when workers in compressed air return to the surface. The symptoms are especially apt to occur if the change from the high to the ordinary atmospheric pressure is made quickly. The symptoms may come on immediately the change is made, or they may be delayed several hours. Pains in the muscles, which divers call the "bends," pains in the knees, elbows, shoulders, epigastric pain, and vomiting, are the most common of the lighter symptoms. In extreme cases we note attacks resembling apoplexy—the patient rapidly becoming comatose, and death occurring in a few hours.

In the case of paraplegia the outlook is usually good, the attack passing off in a few hours, or days, or weeks.

The explanation usually given of

this condition is, as Osler states, "by no means satisfactory." In some cases the paraplegia persists in one or both limbs during life.

Professor Starr considers the symptoms due to a disturbance of function in the nervous system, caused by bubbles of air in the blood-vessels of the cord acting as emboli, and producing a stasis in these vessels with consequent disturbance of function and nutrition in the nervous tissue supplied by these vessels. "It is quite remarkable however," says he, "to find in a study of several hundreds of cases of caisson-disease presenting nervous symptoms, that the large majority of these cases recover even though they had at the outset presented symptoms of a cerebral or spinal nature, which if not due to this cause, would have presented a very unfavorable prognosis."

Recoveries, according to the same author, have also been recorded in many cases where the symptoms were largely cerebral. "It is evident therefore," says he, "that in the cases of apoplexy or paraplegia occurring in connection with caisson-disease, the prognosis is very different from that in cases occurring under ordinary circumstances."

Professor Starr also states that in all the various types of spinal lesion occurring as the result of exposure to caisson-disease recoveries have been recorded, and that the explanation for such recoveries is to be found in the fact that in the collateral circulation in the spinal cord the anastomoses of the spinal blood vessels are very complete, and we must believe that the

circulation is resumed in the vessels which have originally been obstructed by the presence of the air within them.

That this explanation is merely conjectural is clearly evident from its wording.

It was my privilege a few years ago to have been engaged as medical attendant to several hundred caisson workers employed in the construction of the Hillsboro Bridge at Charlestown. The caissons for this structure were sunk at a very great depth, requiring at times more than three pressures of atmosphere. Many cases of "bends" developed, and examples of the disease in all its various manifestations were observed. In the order of frequency in which the symptoms occurred, was first to be noted. rupture of the ear drum, a purely mechanical effect, due to inequality of pressure upon that membrane, in the presence of an obstructed Eustachian tube. Next in order came myalgia, vertigo, epigastric pain, vomiting, paraplegia, hemiplegia, monoplegia, asphyxia, aphasia, temporary blindness, mania, convulsions and coma; the last named condition being followed by death in one case.

That the presence of bubbles of air in the vessels of the spinal cord is insufficient to account for these complex symptoms is plainly evident.

A more reasonable explanation of the causation of the disease must be forthcoming.

As already stated the disease is most apt to develop soon after the workmen emerge from the caisson and particularly so, when that change has been quickly made. The manner in which the "sand-hogs," as they call themselves, treat one another when attacked with paralysis, is most interesting, and the beneficial results of this treatment are most striking.

When a workman develops the disease he is quickly taken charge of by his comrades and placed in a hot bath. A course of vigorous rubbing is begun, and kept up by relays of self-devoted fellows, who remain at their work until the patient has recovered or until further treatment is deemed unavailing. The convalescent is then kept quiet in a hot room for several hours.

What rational application this treatment bears to the theory of mechanical plugging of the vessels of the spinal cord as a cause of the malady, is difficult to see.

The "sand-hogs" will brook no interference with the patient on the part of the doctor and will accept no medical advice or assistance. They rudely push one aside and with words more emphatic than polite, roughly declare, that "doctors know nothing about bends."

The development of symptoms of paralysis may be delayed several hours. In one case coming under my observation a group of men were returning from work. They had reached the landing and were on their way to their homes in a highly joyous mood. Suddenly one of the number fell powerless to the ground, his lower limbs completely paralyzed. His comrades quickly picked him up and carried him in all haste to the hospital. They at once placed him in a hot bath, and began a course of vigorous rubbing of his body. This rubbing continued for an hour or more, when their efforts were rewarded by the patient gradually regaining the use of his legs. A few hours afterwards he dressed himself and went away with his friends.

With the best equipped compressed air plants there is usually what is called a "recompression chamber," into



which those who develop the disease, are immediately placed.

That beneficial results do follow this practice, is established beyond doubt.

How is the efficacy of this treatment to be explained and what is the rationale of its application?

The explanation usually given is, that the disease is produced by a sudden expansion of air within the tissues, due to the sudden change in the surrounding air pressure, and that renewed compression with slow decompression removes the causative condition.

It must be remembered that the disease occurs sometimes within the caisson, and therefore cannot in all cases be dependent upon the cause above stated.

It is well-known among caisson workers that there is increased liability to the disease when the bodily functions are out of order. The workmen know this by experience. They, therefore, discourage one another from going down when suffering from systemic disorders.

These precautions are inconsistent with the theory of mechanical obstruction as a possible cause.

Cerebral manifestations occur which cannot in any way be connected with disturbance of the blood supply in the cord.

A workman may pass unscathed through a whole season, or series of seasons, under identical conditions of air pressure, and yet suddenly, when least expecting it, receive a fatal stroke.

A mechanical cause, permanent and uniform in its operation, should always produce similar results on objects of like resistance. The operating cause being the same, the reason for the difference in the effects produced must be found in the different character of the object acted upon.

This difference of resisting power between individuals must be physiological and not mechanical.

After an observation of many cases of the malady in its various phases, my conviction is, that the disease is nothing else than a toxemia, due to excessive catabolism.

Let us consider the conditions under which the men are placed while at work.

The deeper the caisson is sunk, the the greater is the degree of air pressure required to resist the water. Compressed air is hot in proportion to the degree of compression.

In deep caissons there is always much difficulty in keeping the air at a living degree of temperature. The cooling of the caisson is effected by a system of cold water pipes placed within it.

In the midst of compressed air, combustion is carried on very rapidly. A candle burns within the caisson much more quickly, and with much brighter flame than on the surface. Large candles of special make are in consequence provided for the men.

Within the caisson there is no evaporation, so the cooling effect of evaporating perspiration is not experienced. This free perspiration is considered by the workmen an important and valuable safe-guard against the "bends."

When workmen first enter the caisson they experience a wonderful activity, and a stimulus to exertion, due to the excess of oxygen in the caisson-atmosphere, there is more rapid combustion of body tissue, or increased catabolism, this increased waste being in excess of that which the kidneys under normal conditions are called upon to deal with. The result is that the skin is taxed with this extra work of elimination, favored in its efforts by the high temperature and absence

of evaporation. Thus an equality of relation is maintained between disintegration and excretion.

When the change takes place to a normal atmospheric pressure with distinctly lower temperature, and the evaporation of a large amount of moisture, perspiration ceases, and the kidneys are left alone to do the work of eliminating the waste products so much in excess. Even after the person emerges from the caisson, excessive combustion still continues, kept up by the increased amount of oxygen within the circulation. When the kidney happens to be inadequate through disease or disorder, an abnormal amount of toxic material remains within the blood, giving rise to the different nervous phenomena commonly met with in uræmic conditions.

These peculiar manifestations usually occur at the time of transition from the high to the ordinary atmospheric pressure.

To obviate or counteract these effects it is necessary to keep up a free action from the skin. The importance of this fact, the "sand-hogs" have learned by experience, and they instinctively pursue treatment with that with that object in view.

When the patient is placed in a recompression chamber under high pressure, with the necessary accompaniment of high temperature, perspiration recommences, and the elimination of toxins is resumed.

The same effect is produced to a somewhat lessened extent when the patient is placed in a hot bath.

Retaining the patient in a highly heated room, with insistence upon quietness to restrict catabolism, as is always done empirically, supplies another valuable condition. The drinking of hot coffee in large quantities, is a routine practice always ob-

served by the men when they have finished their shift.

It is well-known that defective kidney action will produce a variety of symptoms affecting the nervous system—among which may be mentioned neuralgia, myalgia, mania, blindness, paralysis, convulsions or coma—phenomena analogous to those found in caisson disease.

In an effort to solve the question of the etiology of caisson-disease Dr. J. E. McWhorter, one of the surgeons to the Pennsylvania Railroad East River tunnel, made a careful study of cases of the disease coming under his care during a period of two and a half years. In an article upon the subject which appears in the *Journal of the Medical Sciences* for March last, he gives as a result of his investigation the fact, that in a fatal case of "bends" the right side of the heart was filled with a gas, eighty per cent. of which was nitrogen, and twenty per cent. carbon dioxide; also that green men showed the greater susceptibility to the disease.

That the right side of the heart should in these cases contain nitrogen in excess, is to my mind only a natural consequence of the continued inhalation of concentrated air.

Ordinary atmospheric air contains approximately four parts of nitrogen to one of oxygen. The presence of this excess of nitrogen found by Dr. McWhorter in the venous blood may also result from the fact, that air is forced into the circulation through the skin by the increased atmospheric pressure, and that the oxygen is taken up by the hæmoglobin, while the nitrogen remains separate.

The mere forcing of atmospheric air into the tissues does not separate its constituent gases.

The large proportion of free carbon dioxide also noted by Dr. McWhorter in the right heart, appears a natural result of the increased oxidation of tissue carbon.

Ordinary venous blood carries in solution from one to two per cent. per volume of nitrogen, and about two per cent. of free carbon dioxide. With the exception of this small amount held in solution, the latter gas is present in the blood in combination with sodium in the form of a soluble salt.

The great susceptibility of green men to the contraction of the disease, is in accordance with the law of the survival of the fittest, and depends upon the physiological difference in resistance between individuals.

It is an argument distinctly against the theory of mechanical causation.

Veterinary surgeons describe a disease affecting the horse, which in its peculiar characteristics closely resembles caisson-disease.

This affection in the horse is called Azoturia or Black-water. It is a hypernitrogenous condition of the blood due to over-feeding and want of exercise.

When the over-fed animal is given active exercise, an excessive oxidation of the surplus products within the circulation takes place, with the result that a large quantity of toxins is suddenly thrown upon the eliminatory organs. The latter being unable to cope with the sudden call upon their excreting capacity, a true toxæmia results.

The animal becomes seized with spasms of pain in the muscles, similar to the "bends." There is sometimes loss of power in the posterior extremities, tetanic convulsions and finally death by extreme muscular prostration. In other cases the animal over-

comes the primary and violent symptoms, but has remained paralyzed in one hind extremity. All degrees of severity of symptoms are observed, precisely as in caisson diseases, recovery being the rule, even in bad cases of paraplegia.

The analogy between the two diseases is obvious.

The treatment given to the horse is directed to the elimination of the morbid material by way of the skin. As in caisson-disease there are no special post-mortem appearances, the spasms and loss of power being due to the effect of toxins upon the nerve function.

If we view caisson-disease as a toxæmia, it reasonably follows that those who work in compressed air should, as an essential condition of fitness, be free from kidney impairment—that there should be no clogging of the excretory channels.

In the treatment of patients, instead of resorting to recompression, which produces its good results by virtue only of the heat engendered, the patient should be placed in a hot air chamber, or a vapor bath.

As a safe-guard against attack, the air in the lock, or that part of the caisson into which the men enter on their way to the surface, should be kept at the same degree of temperature as that in the caisson.

The passage way to the dressing room, as well as the room itself, should be kept highly heated, so that no sudden checking of perspiration could ensue.

With the observance of these precautions, I feel confident that no workman in normal health, would suffer any ill effects from being suddenly removed from the influence of compressed air.

# ABDOMINAL SINUS AND FÆCAL FISTULA.

By ERNEST W. CUSHING, M.D., L.L.D.

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WITH the vast increase in the number of abdominal sections which have been performed in recent years, it might be expected that a large number of patients, who have survived the operation, would have an imperfect recovery, and would finally need a secondary operation; and in fact this is the case.

The frequent occurrence of such unsatisfactory results is a matter of common knowledge to family physicians, who have to care for these sufferers, and is a reproach to operative surgery. The fear of a failure to obtain relief from suffering, even if life is not lost deters many patients and their medical advisers from seeking the relief that surgery offers.

One very distressing and sometimes very disgusting sequela of abdominal operation is the permanence of a sinus or fistula; such a result always reflects on the skill of the surgeon, although he may have done absolutely the best that was possible under the circumstances under which he was compelled to operate.

Thus sometimes these bad results are unavoidable, although in other cases they are unnecessary; but in all cases the utmost reserve and discretion should be used in expressing an opinion on the work of the surgeon who performed the primary operation. The more experience any one has had in operation and the more difficult cases he has stored in his memory, the less often will he be found willing to think, or say, that the operator was at fault.

It is not always possible to secure the best conditions for operating, es-

pecially in private houses. The original condition of the patient may have been so serious that he was fortunate to have escaped with his life after a grave operation, which could not be finished with all the accuracy desirable, owing to exhaustion or collapse of the patient. The intestine may have been weakened or perforated already by the disease, more particularly in cases of appendicitis or pyosalpinx; the disease may have been tubercular with involvement of part of the intestine adjacent to an abscess.

Strong adhesions, which had to be separated, may have bound the intestine together so that in spite of the utmost care the intestinal coats were injured, and owing to thickening of these coats, or bad general conditions, it may have been impossible to repair the damage.

Yet on the other hand it is useless to deny that careless or inexperienced operating is responsible for too many unfortunate conditions, which remain as sinus or fistula. Silk ligatures are often used where catgut would be preferable. The intestines are often handled roughly, injured, or even torn, by carelessness, rashness or ignorance.

Slow operating and loss of blood and too much ether reduce the patient unnecessarily to a condition demanding that the operating be stopped, even when it is not properly completed.

Finally it is not too much to say that among the multitude of operators there are too many who, not expecting intestinal complications, fail to provide the necessary needles, suture material, clamps, etc., even if

they have the skill and training required for operating on the intestine.

The persistence of a sinus implies that there is some foreign substance at the bottom of it, usually the knot of a silk ligature; sometimes a thread from a gauze pack, or a piece of the wall of a cyst, or of a pus tube, which has been left behind and which keeps on secreting. The presence of tuberculosis renders both fistula and sinus particularly rebellious to treatment.

Fistulae communicate with some of the excreting viscera and are divided accordingly into faecal, urinary and biliary.

Sinuses are not so common now as they used to be, for surgeons have learned to avoid them by using catgut or celluloid linen thread instead of silk, particularly in cases where there is a probability that the ligatures may be infected from the contents of pus-tubes, abscesses, etc. They use much smaller sizes of silk or linen thread than were formerly employed: drain less frequently and when drainage is used the technic is much more careful and thorough than formerly, so that ligatures are not infected during convalescence; neither are threads from the packing left inside.

If, however, a sinus forms and persists, it is highly probable that there is a foreign body present, and the first attempt should be to dislodge and extract the foreign body, and so stimulate and disinfect the sinuous tract that it will close if there be no foreign body present, or will so envelop the latter with healthy granulations that it will be buried and encysted without further suppuration.

There is no excuse to-day for using silk in the abdominal cavity. For everything except the fine stitching of the intestine catgut answers every purpose and for the finest work the

celluloid linen is vastly better than silk, because it cannot readily become infected.

The walls of a sinus or fistula are at first only the adherent coats of the intestine but in from six to eight weeks a strong tube is formed by organized exudates, which tube, however, contains so few blood-vessels that it cannot readily put forth granulations. The whole thickness of the tube may be as much as 1 cm.

Injections of peroxide of hydrogen or protargol keep the sinus clean and Tr. Iodine applied with cotton wrapped on a probe improves the granulations. The old-fashioned balsam of peru is also a very useful application.

Within six or eight weeks of the time of operation, it is safe and desirable to attempt to dislodge the foreign body by a crochet needle or a small curette. Even if the knot of ligature is not found the walls of the fistula should be gently scraped everywhere and sometimes this is enough to make the fistula close. If after repeated attempts of this kind the fistula remains for six months or more, it is time to consider more radical measures, especially if the patient suffer much discomfort or if symptoms of compression of the intestine appear. Then the sinus should be excised as described below for cases of fistula.

#### FISTULA.

When a sinus, instead of simply ending in a blind cavity, or leading to a knot or little foreign body, communicates with the intestine it is of course much more difficult to get it to close. Nevertheless this can be accomplished in the majority of cases.

Faecal fistulae are sharply divided into those which lead to the small intestine, so that the patient steadily

loses nourishment, and therefore slowly starves, and those which communicate with the cæcum or large intestine or rectum.

In general it may be said that the lower down in the bowel the fistulous opening is located the more likelihood there is that it will close spontaneously and the safer it is to wait until this closing occurs. Another division is into those fistulæ which are simple and those which lead to tubercular or malignant disease of the bowel, as only the first are likely to heal spontaneously while many of the second and all the third are unsuitable for operation.

A faecal fistula is usually a sequela of a difficult operation, rarely of a direct trauma, occasionally of an abscess which ruptures into the intestine and also externally. In operations on women who have tubo-ovarian abscesses it is not uncommon to find that the latter have opened into the bowel, or have contracted such adhesions to the intestinal wall that after the abscess sac has been enucleated a place is left bare of epithelium, and with infiltrated and weakened walls. It is not always possible to close such openings or to cover in such bare places satisfactorily, and considering the gravity of the operation and the general condition of the patient a recovery with a faecal fistula is a comparatively fortunate result, although sometimes more damaging to the reputation of the surgeon than a fatal result of the operation would have been.

In operations for appendicitis there are similarly many cases where the sloughing appendix has left an opening into the bowel, but the conditions may be such that the opening cannot even be found, much less repaired, and a faecal fistula is a necessary consequence.

Strangulated hernia with necrosis of the contents of the hernial sac is often necessarily followed by fecal fistula, since the condition of the patient forbids the resection and union of the injured intestine.

In certain cases fistula of the stomach is intentionally produced for the purpose of feeding the patient artificially, or an opening may be made in the colon when the lower bowel is obstructed. More recently such openings are made in the cæcum in order to irrigate the colon when the latter is diseased. The writer has used the appendix vermiformis for this purpose with great success in a case of multiple tubercular ulcer of the colon; the appendix was brought through an abdominal incision—its mesentery fastened in the wound and later the tip was cut off and through the appendix the colon was irrigated for a year or more until the patient recovered.

In general, when a faecal fistula exists and the point of injury of the intestine is not known the character of the faecal discharges give a pretty accurate indication as to the seat of the intestinal lesion. It may be said that the higher up in the bowel the injury is situated the more fluid and the less fecal in odor are the discharges, the less is the tendency to close spontaneously, and the greater is the danger of exhaustion of the patient from want of nutrition.

On the contrary when the opening is in the rectum or in the sigmoid flexure of the colon, although the condition of the patient is disgusting there is no danger to life, no injury from delay, and unless the case is malignant or tubercular it may be anticipated with much confidence that the fistula will close spontaneously. Even when the opening is in the cæcum, as in cases of appendicitis the fistula usually closes without operation.

## LARGE INTESTINE.

In fistulæ of the large intestine therefore it is best to wait a reasonable time, say three or four months, while giving the best of care to the patient and while treating the fistula with pains and precision. It should be washed out twice daily with an irrigator, from above downward, using a simple cleansing fluid, like sol. of permanganate of potash, and providing for the escape of the irrigating fluid by a rectal tube. By this means the fistula is kept free from lumps of fecal matter and from decomposing foreign substances, and the washing out of the colon greatly lessens the amount of the disgusting discharge through the fistula.

If the fistula is a sequela of an abdominal operation the stitches must be removed early from the wound, and the edges of the skin held as closely apposed as possible, by pieces of adhesive plaster having hooks near the face edges, so arranged that they can be laced together over a compress of oakum wrapped in gauze. Over this is placed a large amount of oakum, which is the best dressing as it absorbs well and covers the fecal odor with the tarry smell. Absorbent cotton is useless and gauze is little better for they don't absorb the discharges but let them run out underneath.

With good care the wound heals better than might be expected, and the skin does not show much irritation if carefully cleansed and protected with a bland ointment. The fistula itself is to be mildly stimulated with balsam of Peru, after the first week or ten days, and in general is to be treated like a simple sinus. If it does not contract and heal within a few months it will be necessary to operate for its closure.

## SMALL INTESTINE.

When the fistula communicates with the small intestine, as shown by the character of the discharges, it is of the greatest importance to find out whether it is situated so high in the bowel that the patient is losing nourishment, for in that case it is not possible to wait long for the reparative processes of nature to close the fistula. The color and odor of the discharge, the presence of partly digested food and the progressive failure in strength and weight of the patient are generally sufficient to give all the evidence required to show that it is not safe to wait, but expert chemical examination of the discharge will give more accurate information.

It may be remembered, however, that where the fistula permits the escape of the proper nourishment of the body, it will often, also permit of the introduction into the part of the intestine below the fistula, through a catheter, of concentrated and predigested food, so that with care and good nursing the patient may be nourished for a reasonable time.

The tendency of a fistula to close is proportional to its length. Where there is a long tract of fibrous tube which slowly contracts the fistula is apt to close, but when the opening in the bowel is close to the skin it does not have any tendency to close of itself. Under these circumstances it is safe and proper to try and close the fistula by a simple refreshment and accurate union of the skin and fascia, being careful not to wound the intestine which will be found adherent to the abdominal wall. It should be carefully separated a little way all round the incision, which should include the thickened edges of the fistulous opening. No attempt should be made to

sew the bowel. The general abdominal cavity is not entered, the stitches are accurately carried through skin and fascia and peritoneum; the wound is then carefully cleansed with peroxide of hydrogen and the stitches of silk worm gut are tied. The whole operation can be done under cocaine, or better under the chloride of urea and quinine. It is comparatively a slight operation but not always successful, for the stitches may not hold if the skin is inflamed, or if the fistulous tract was longer than supposed there may be collection of pus under the wound requiring removal of the stitches.

If the fistula cannot be closed in this way it will require operation by one of the two methods given below.

A fistula in the groin, following operation for strangulated hernia often cannot be cured by simple approximation of the skin and fascia, because the distal extremity of the intestine is not open. In such cases and in any other cases of fistula of the small intestine which are rebellious to the simple operation above mentioned, it is a simple and convenient operation to open the abdomen, and find the two parts of the loop of intestine which leads to the fistula. Without disturbing the adhesions of the intestine to the fistulous opening, the afferent and efferent portions of the loop are laid together and united by a lateral anastomosis. This is both easy and safe, because there cannot be any distension of the intestine at the point of anastomosis, for the fistula remains open; and yet by the short circuiting of the fecal current, there is no longer any outward pressure at the fistula which soon closes or may successfully be closed by sutures.

The operation, for simple sinus, or for fistula of the intestine, which I

devised and practised some 15 years ago, is as follows:

"The fistulous tract is cleansed and disinfected as well as possible, and is packed with a strip of gauze soaked in tincture of iodine, reaching to the bottom. The abdominal wall is well cleansed and painted twice with tr. iodine. An elliptical incision is made around the opening, wide enough to include all the scar tissue and inflamed or infected borders of the wound. This incision goes down to the aponeurosis of the muscles, and then the dissection is carried toward the fistula until this is isolated in a form of a tube about the diameter of the little finger. It is now well to envelope the excised skin and head of the fistula in a piece of gauze or rubber dam, which is to be tied around it snugly, but not too tightly, so as to securely isolate the fistula, but not to crush the friable tube.

After a further careful cleansing of the field of operation and of the gloves of the operator, the abdomen is opened by an incision long enough to work comfortably, and the coils of intestine adherent to the tube are carefully sponged and dissected away from the latter, and from each other, proceeding thus slowly and cautiously down to the bottom of the fistula. Care is necessary to avoid either wounding the bowel or opening the tube, which has a wall 1-10 to  $\frac{1}{8}$  in. thick, composed only of organized lymph.

If it is a simple fistula (sinus), it will lead down to a little hard mass which being enucleated from the intestine surrounding it and adherent to it is found to form the end of the sinus and to contain a foreign body, usually the knot of a ligature, or else a bit of tubercular fallopian tube.



If, as is often the case, this ligature was applied in mass to the broad ligament to tie the uterine artery it is well to remember that the ureter and the pervious part of the artery are near by.

If at the end of the sinus the tube is open or broken it is to be remembered that the drop of pus found there is virulent, and great care must be taken to wipe the spot and to disinfect it, preferably with tr. iodine. Luckily patients are comparatively immune to their own pus, having had a long time to get used to it, so they recover if proper care is exercised.

If the fistula is faecal, at the lower end of it will be found the place in the bowel with which it communicates and here there are two ways of proceeding according to the size of the opening and the part of the bowel involved.

If there be a small opening into the large intestine it may be possible to treat the fistulous tube like an appendix; that is to tie it close to the bowel, cut it away, disinfect the end with

pure carbolic acid, and bury the stump in the colon by drawing the walls of the latter over the stump with Lembert sutures.

In other cases it may be necessary to cut away the fistula flush with the colon, and after exsecting the hard edges of the opening in the intestine to close the latter in the customary manner with sutures."

In the experience of the writer, based on fourteen cases, all of which recovered, these operations are as safe, although not as easy, as any other major abdominal operation involving the intestine. They certainly are greatly appreciated by the patients who are relieved of a most distressing affection and restored to happiness and usefulness.

The writer knows of no statistics on the mortality of such operations, and would be glad to learn in a discussion of the subject what is the practice and success of others in presence of such conditions.

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# TWO CASES OF ACUTE INTESTINAL OBSTRUCTION.

By A. B. ATHERTON, M. D.

(Read before the Maritime Medical Association, St. John, July, 1910.)

Case I—Mrs. H. MacK. Aet. 57, Multipara.

Generally healthy. About three years ago had an attack of what I supposed to be hepatic colic. Since that time has been well up to her present illness, which begun early on the morning of the 16th of June, 1908, when she awoke feeling very weak and faint, and soon afterwards vomited a large quantity of dark blood having a strong intestinal odour, so much so that her daughter at first thought that it must have been discharged by the rectum. In a short time there was a large evacuation of tarry matter from the bowels. Some slight pain was felt in the epigastric region. During the ensuing day she was very pale and the pulse could scarcely be felt.

She gradually rallied, and during the next few weeks regained most of her lost strength and color. Occasionally she suffered somewhat from what was thought to be indigestion due to some article of diet. At times the pain was severe enough to require a dose of morphine. On August 7th, she was seized with worse pains than before, which were paroxysmal in character, and at times were accompanied by vomiting. This continued during the following night and I was sent for in the morning. As she had been constipated for a few days, I gave a large high enema, which brought away a few lumps of faecal matter. I then ordered an ounce of castor oil, which was vomited in half an hour. Soon afterwards another

large enema was administered, but without much result. The pains kept up all day and through the following night, being accompanied with more or less vomiting. Not even gas passed the bowels.

At my visit the next morning I found not much change in her condition. The abdomen was somewhat distended but not much tender on palpation. Pulse 80, and temperature about normal.

Considering that I had to deal with an acute obstruction, probably from a gall-stone, I advised operation and it was agreed to. She was therefore soon afterwards conveyed to the hospital, a mile or two away, and at noon the abdomen was opened below the umbilicus. On incising the peritoneum a pint or more of serous fluid escaped, and some coils of reddened and distended intestine presented themselves. In one of these I felt a hard round body, and on cutting in I found a large whitish gall-stone having a conglomerate appearance, and measuring in its longest diameter one and three-eighths of an inch, and about one inch in width and thickness. After removing the stone I closed the wound in the bowel by two rows of silk sutures, one passing through all its coats and the other a Lembert. The peritoneum and aponeurosis were united by sutures of catgut and the skin by silk-worm gut. No drain used.

For forty-eight hours she suffered very much from retching and vomiting, doubtless due to the anaesthetic, but otherwise seemed to do fairly

well. Some slight suppuration occurred in the wound, and about the ninth day a little yellow bilious matter appeared on the dressings, which soon became distinctly intestinal in character, and continued so. On Sept. tenth she was removed from the hospital to her home, a short distance away. At this time the intestinal discharge amounted to from half an ounce to an ounce in the twenty-four hours. It irritated the surrounding skin very much and the patient often complained of intense smarting. As no change occurred the following month, it was decided to make an attempt to close the opening in the intestine.

The sinus was first curetted and stuffed with iodoform gauze. Then an elliptical incision was made including the scar and opening of sinus, and after separating some adhesions the sinus was clamped close to the gut and it and the surrounding tissue removed. The opening in the bowel, which was more than a half inch in diameter. I now closed with two rows of sutures as before. A rubber tissue drain was placed down to a point just inside the peritoneum, and the abdominal wall united by tier sutures of cat gut for the deep layers and silk-worm gut ones for the skin.

As on the previous occasion, there was a good deal of retching and vomiting after the anæsthetic, and on the evening of the third day I found a mass of thickened omentum lying just beneath the skin, having torn through the cat gut sutures. I at once administered chloroform and opened up the skin and returned the omentum to within the peritoneal cavity, I then again sutured as before taking especial care to tie the cat gut securely.

The usual retching and vomiting followed, and the next morning the wedge-like mass of omentum occupied the same position as it had the evening before.

Chloroform was again given and I ligatured the whole of the thickened omentum within reach and cut it away. Then I put in through and through sutures of silk-worm gut. In addition to usual retching and vomiting, the patient on this occasion developed a violent cough. In spite of all this the sutures held all right. At the end of a week, however, a yellowish intestinal discharge again appeared and kept up as before.

In June of the following year she decided to have another attempt made to close the fistula. On the ninth of that month I again operated. I found some strong adhesions of the large intestine, which, on attempting to separate, resulted in a tear of the gut. This I closed in the usual way, and then resected a portion of the bowel including the fistula. The ends were united by a through and through suture, resulting in a tear of the gut. was used to suture the deep layers of the abdominal wound, and silk-worm gut sutures were passed through the skin, at the same time catching up the aponeurosis. A piece of rubber tissue was introduced as far as the peritoneum to drain the abdominal wall.

On the ninth day after the operation a slight yellowish stain appeared on the dressings and we feared a repetition of the former trouble, but in a day or two this ceased to show itself, and by the last of July the wound was soundly healed, and she left for home on August 3rd.

She has enjoyed the best of health ever since.

Case 2.— C. B., Age 19, female. General health has always been good. Menses regular up to three months ago, when they ceased. She thought herself pregnant and confessed that she had passed a stick at one time (four weeks previous to her present illness), up inside the vagina in order to produce abortion. She began to complain of abdominal pain on the 27th of March, and I was sent for on the following day. On examination I found the belly tender, especially below and to the left side. The uterus was enlarged, tender, and strongly anteverted. There was no dilatation of the cervix and no uterine flow. She continued to complain much the same for the next three days. On the afternoon of the 31st, regular labour pains came on and in the evening a three months foetus was expelled, enveloped in the membranes.

She continued to suffer, however, a good deal during the night, and by the morning the pain had got to be very severe, and paroxysmal in character, while frequent vomiting accompanied the paroxysms. The pulse had risen to 120, and the temperature was nearly 100 degrees. Her countenance had also taken on a bad expression, and the abdomen had become considerably distended. On enquiry, I learned that there had been a small stool on the 30th, but not even flatus had passed since then. At noon I had her removed to hospital, and at 3 p. m. I opened the abdomen in the median line below the navel. A thin omentum first presented itself spread out over the bowels and adherent in the pelvis. On raising this I found the intestine beneath somewhat reddened and glued together by slight adhesions. The uterus was about four inches in diameter and I saw no appearance of trauma anywhere. The tubes

and ovaries seemed fairly normal with the exception of some redness of the right ovary.

A coil of small intestine on the left side was redder and more distended than the others, and on following it up I found it led first to the left epigastrium and then to the right, where it seemed to be held down in a hole with bands of adhesions around. While pulling on one of these bands to bring it down into view it broke away. The same occurred with another one, and then I found I could withdraw the distended coil from the place in which it was caught, and the gas in it could be moved freely by pressure, which was impossible previously. I now opened one of the distended coils and inserted a glass tube and emptied it and the adjoining intestine of gas and liquid contents. This done I withdrew the tube and closed the opening with two rows of silk sutures. The abdominal wound was brought together by cat gut for the deeper layers and silk-worm gut for the skin.

At the end of the operation the patient was much collapsed, the pulse being scarcely perceptible and beating at about 180. A rectal saline was given but was not retained. A pint of saline was then transfused into a vein, and this was repeated a few hours afterwards, and with some good effect. During the following night the vomiting was very frequent. At my morning visit I attempted to pass a stomach tube, but she struggled and resisted so much that I was compelled to desist. The pulse had by this time come down to 140, but was still very feeble. The vomiting continued very frequent during the next twenty-four hours, the vomitus becoming first green and then of a dirty brown colour. After painting the palate

and fauces with a strong solution of cocaine, I again tried to pass a tube and this time with success. A large quantity of dark green material was washed out, and with immediate relief. She was then turned on side and at once fell asleep and remained so for four hours. After the sleep she felt much better. The pulse had fallen to 125 and was much stronger. The bowels moved several times during the day, and there was very little vomiting. On April 1st the pulse was 120 and of fair strength, and the temperature was running from normal in the morning to about 99 degrees in the evening. On April 7th the wound was dressed for the first time and the sutures removed. On the 29th she was able to leave the hospital for home feeling quite well.

Remarks—In connection with the first case reported there are several points worthy of notice. In the first place it seems rather remarkable that this large gall-stone should have ulcerated its way from the gall-bladder into the duodenum with so little disturbance, until it caused the hæmorrhage just as it made its escape into the latter.

Again, the strong faecal odour of the blood vomited was most striking, both to myself and to the patient's daughter. I imagine this was doubtless due to infection from the proximity of the transverse colon.

It seems to have taken seven weeks for the stone to pass from the duodenum to the lower end of the small intestine, where I think I found it at the time of the operation. The supposed indigestion pains were no doubt caused by the stone catching here and there on its way.

The giving way of the line of union in the gut after the first two operations was largely due I think to the severe retching and vomiting which followed, aided on the second occasion by the violent cough set up by influenza which was prevalent at the time.

I never remember seeing such severe and prolonged retching after an abdominal section as occurred in this case. The fact that more than a week elapsed after each operation before there was any discharge of intestinal fluid would go to show that the suturing of the gut had been fairly well done.

In the second case reported the coincidence of the pregnancy and abortion complicated matters, producing such a mixture of symptoms that it rendered it somewhat difficult to diagnose the condition present, but their increasingly grave character and the appearance of the facies abdominalis decided me to make an exploratory incision.

As far as I can judge the bowel was entrapped either in the foramen of Winslow or in some pouch in the neighborhood of duodenum. I did not extend the incision above the navel in order to ascertain the exact state of things, because of the bad condition of the patient. The bands of adhesions which I broke served to hold the bowel more securely in the hole through which it had passed, and after their rupture it was readily freed. It is probable that their formation was due to a local peritonitis set up by the occasional entanglement of a coil of intestine in this pouch.

The recovery of the patient was undoubtedly due in large measure to the saline infusions and washing out of the stomach after the operation.

# SOCIETY MEETINGS.

## ANNAPOLIS-KINGS MEDICAL SOCIETY.

THE regular meeting of the Annapolis-Kings Medical Society was held at Digby on October 19th, 1910, at 3 p. m., in the fine new court house.

Dr. P. W. Balcom, of Aylesford, being absent, the Vice-President for Kings Co., Dr. J. W. Miller, of Canning, presided. Dr. L. R. Morse, of Lawrencetown, acted as Secretary. *pro tem*, Dr. Read, of Middleton, being unavoidably detained.

The following members were present: Dr. J. W. Miller, of Canning; Dr. V. F. Connor, of Hantsport; Dr. W. B. Moore, Kentville; Dr. DeWitt, Wolfville; Dr. L. R. Morse, Lawrencetown; Dr. L. H. Morse, Digby; Dr. Hallet, Weymouth; Dr. Gallant, Meteghan; Dr. Archibald, Bear River, and Dr. Harris, of Barton, N. S.

A smaller number than usual were present, owing to sickness of some members and absence of some of the others, but all present were enthusiastic and expressed themselves as pleased to be able to hear the excellent programme provided. Dr. Morse, of Digby, and Dr. Read had been indefatigable in their efforts to have a good meeting and they were successful in all but having a large number present—better luck next time.

The minutes of last meeting were read and approved. Dr. Moore, of Kentville, for the biographical committee, reported progress and hoped in the near future he would be able to bring some interesting facts in connection with the medical profession of these two counties. Dr. DeWitt reported also. Misunderstand-

ing had arisen since Dr. Payzant was appointed historian — nothing had been done lately owing to sickness in Dr. Payzant's family, but he was sure that some valuable information would be forthcoming in the future.

### ADMISSION OF DIGBY COUNTY TO SOCIETY.

It was moved by Dr. Connor and seconded by Dr. Morse (Lawrencetown), that the constitution be changed so as to admit Digby Co. members of the profession into the Society.

The following changes in constitution and by-laws were also made.

Article I. The name changed to Valley Medical Society, including the counties of Kings, Annapolis and Digby.

Sec. 2. Article III, add words "Digby Co."

By-law, Rule I. Strike out "alternately" add "Digby in turn."

A communication from the Anti-tuberculosis League of Halifax county was read. Moved by Dr. Moore and seconded by Dr. DeWitt, that discussion be deferred until next meeting, and secretary be instructed to communicate with the secretary of the Halifax league in regard to co-operation, communication and action with other medical societies of the province. Also that notice of this discussion be made. that the subject be brought up for discussion in the next meeting of this society.

Meeting adjourned until evening session.

### EVENING SESSION.

A very interesting and instructive programme was offered by Drs.

White, McIntosh, and Walker, of St. John, and Connor, of Hantsport. The Vice-President, Dr. Miller, of Canning, again presided.

The first paper was on gastro-jejunosomy by Dr. W. W. White, of St. John. In a very clear manner he discussed the indications for operation and after treatment. Lane's and Carwardine's clamps were shown to the Society.

Discussed by Drs. DeWitt and Moore.

Dr. McIntosh's paper on auto-intoxication dealt with the different diseases of the eye as probably due to auto-intoxication, viz. corneal haze, spreading from the corneo-sclerotic junction, choroiditis, and other conditions apparently due to toxic absorption from intestinal tract. A free discussion followed taken up by Dr. Peters, Dr. Archibald and Dr. Merse (Lawrencetown.)

Dr. Walker, St. John, gave a very valuable, carefully prepared paper on "Uterine Displacements." The diagnosis, use and indications for use of

passary. Different operations for suspension, indications for operative measures were all fully discussed, and different conditions illustrated by diagram. Discussion of the paper by Dr. Morse (Digby), Gallant, DeWitt and Moore.

The last paper on the evening's programme was on "Typhoid Fever," by Dr. Connor, of Hantsport.

It was a very full discussion of this common disease, and elicited more remarks by more members than the former papers, probably on account of their greater experience with typhoid.

Drs. Moore, Peters, White, Walker, Hallet and others took part.

A vote of thanks was tendered to visiting St. John members, and responded to by them very happily; also to Dr. Connors for his valuable efforts.

Dr. Avery DeWitt, of Wolfville, was elected a member.

The meeting adjourned.

L. R. MORSE,  
Secretary, *pro tem.*



# DOMINION REGISTRATION.

## TORONTO MEDICAL MEN ALL IN FAVOR OF INTER-PROVINCIAL RECIPROCITY IN THE PROFESSION.

TORONTO doctors are much pleased over the announcement that Dr. J. B. Black, of Hants, N. S., will at the coming session of the Dominion Parliament introduce a bill embodying the main features of the bill of Dr. T. G. Roddick, who for years has been applying his efforts towards inter-provincial reciprocity in the medical profession, a Dominion standard of education, and a central examining medical board.

Dr. Temple, speaking of the proposed bill to-day, said: "I hope it will go through. It is something that should have been adopted long ago. Quebec medical men seemed opposed to it for some reason or other, just why we don't know. Under the proposed system the medical man would be relieved from the necessity of graduating or passing an examination in every province. All he would require would be to pay the provincial fee for a certificate to practice. As far as I am able to speak, it is the wish of the largest number of the best doctors in Toronto and Ontario that the Roddick bill should become law."

### PREJUDICE LOCAL.

Dr. Charles Clark, medical superintendent of the Toronto Asylum:—"I trust that the announcement concerning Dr. Black is right. It is something we have been fighting for years, and I hope some final settlement will be arrived at. Any prejudice against the bill has

been purely local. It will be of very great benefit to our young men going through the University, who will, if this bill becomes law, be permitted to practice in any of the other provinces of Canada. I hope that the bill will go through, and that no effort will be made to prevent it."

### PRESENT CONDITIONS ABSURD.

Dr. Norman Allen said: "It is the proper thing. It is absurd at present that a man who is a Canadian and has passed and secured his medical degree should be restricted to the limits of one province as the field of his operation. The uniform standard and the creation of a central board will be a great thing for the medical men all over Canada, as well as the students. It will enable our graduates to practise in the Northwest and British Columbia without unnecessary expense and inconvenience."

### A CASE IN POINT.

Dr. T. F. McMahon:—"Dominion registration is the thing. The best element of the medical profession has favored it for years. In all of the provinces there is a high standard of education, and it is ridiculous to think that a medical professor should be recognized as a great doctor on one side of the Ottawa River and be unable to practise and collect fees on the other side of the river, where the people and conditions are both the same."



## PERSONALS.

**D**R. E. A. Kirkpatrick, President of the Maritime Medical Association, has been confined to his house for over two months with evidence of duodenal ulcer. His many friends trust that he will soon fully recover from his long and serious illness.

Dr. A. I. Mader, of this city, passed the last examination at Edinburgh entitling him to a Fellowship of the Royal College of Surgeons, Edinburgh.

Dr. F. A. F. Corbett, of Parrsboro, was united in marriage on the 23rd inst. to Miss Mabel Dean MacLeod, daughter of Mr. A. E. MacLeod, of the same place. The NEWS extends its congratulations.

Dr. E. Kirk MacLellan, whose brother, R. W. MacLellan, met such a tragic death from an accident on the football field, has started practice in this city. Dr. MacLellan recently practised his profession at Mahone.

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## DIETARY STUDIES.

The results of studies as to the diet of undernourished school children in New York City are given in an article by E. M. Sill, New York, in *The Journal A. M. A.*, November 26. He has followed the plan of Atwater, keeping account of the kind, composition and cost of all food materials eaten during ten days and computing the fuel value for each individual, determining the composition of each material used, by analysis, and determining its nutritive ingredients. Thirty-four East Side families, representing the average population of the district, were observed. The family income ranged from an amount not sufficient to obtain the absolute necessities of life, to an amount that should be ample for their needs and equal to what other persons live on comfortably. He compares these with other studies made previously and finds that all the dietaries studied could be improved as regards nutrition and expense, and he gives details illustrating this. The bulk of the nourishment in the diets was obtained from meat, milk and bread and rolls purchased from the bakery. It would have been better economy if they had bought the flour and baked the bread with the fire used

for cooking other things. He remarks especially on the lack of proper instruction as to diet and cooking, and thinks it should be given in the schools for the benefit of future generations. For the education of mothers at the present time, something can be done by lectures, cooking classes, etc., but more can be reached through large organizations, such as the W. C. T. U., the Salvation Army and the labor organizations, as well as the press. Articles should be written setting forth, in simple language, proper diets, methods of cooking, proper nutrition and the laws of growth. A great deal can be done by individual and group talks to mothers and children in the dispensaries. The nutrition of young children is especially important, for improper and unscientific feeding from the time of birth to maturity is one of the most fruitful causes, both directly and indirectly, of disease, disability, incapacity for work, susceptibility to infection and lack of resistance to disease already contracted. Many children who are put down as dullards are such through malnutrition and require nourishing food before they study books to feed the mind.

# OUR PORTRAIT GALLERY.

## DR. P. R. INCHES.

**W**E note in a recent issue of a St. John paper the following which will be of interest to the profession generally throughout the Maritime Provinces.

Dr. P. R. Inches, who has just re-

After holding their fortnightly meeting the doctors adjourned to the residence of Dr. Inches, in Germain St., taking him completely by surprise. After a few remarks, Dr. T. D. Walker, the president of the St. John



DR. P. R. INCHES.

turned from a trip abroad, was honored by the members of the medical profession in the city last evening, who as an evidence of the esteem and good will in which he is held by them, presented him with an address expressing their pleasure on seeing him in their midst again so hale and hearty.

Medical Society, read the following address:

To P. Robertson Inches, M. D., M. R. C. S.

We, the members of the St. John Medical Society, wish to welcome you on your return from a well earned holiday abroad. As a society we are

especially glad to have you amongst us again, remembering the interest you have always taken in our proceedings, and your adherence to its highest ideals.

We desire, as well, to pay a tribute to your faithful work through a long and successful career, in which you have endeared yourself to your patients, and won the confidence and esteem of the community.

We would respectfully express to you our warmest wishes for your future welfare.

(Signed),

T. D. WALKER, *President.*

W. WARWICK, *Secretary.*

Dr. Inches responded feelingly, thanking the doctors. He gave a brief description of journeys in the old country. Light refreshments were served.

Dr. Inches' reception by his colleagues must surely be gratified at the close of forty years of hard labour. The News cordially adds its tribute of

respect. Dr. Inches has always been friendly to the News and the first article which appeared in our columns was contributed by the genial doctor, viz., his address as President of the New Brunswick Medical Society, in 1888.

Dr. P. Robertson Inches was born in St. John, N. B., of Scottish parents.

He graduated at University of New York in 1866, and afterwards studied in Edinburgh and London.

Has practiced in St. John since 1870.

He has been a member for many years of the Medical Council of New Brunswick. Has always been an active member and is a Past President of the St. John Medical Society.

Has been prominent in the St. Andrew's Society, and is also a Past President of that charitable organization.

He married in 1876, a daughter of the late C. K. Fiske, of Massachusetts and St. John, and has a family.

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### DR. F. J. SHEPHERD.

**A**MONG the able men who have made McGill university a widely recognized centre of scientific medical teaching, the subject of our present sketch occupies a conspicuous place. Son of the late R. W. Shepherd, and Mary C. de Les Derniers, Francis J. Shepherd was born at Como, in the province of Quebec, in 1851. He received his early education in the High School, Montreal. He began his medical studies in Halifax, N. S., and graduated M. D., from McGill University, in 1873, and continued his studies at the University of Vienna and other centres in Germany, France and England. Returning to

Canada he was appointed demonstrator of anatomy at McGill, in 1875, and in 1883 succeeded to the Professorship of Anatomy, and he is now dean of the Medical Faculty of the University. He has been for many years on the surgical staff, and is now Senior Surgeon of the Montreal General Hospital. He has been President of the Canadian Medical Association, a Vice-President of the International Dermatological Congress, and is a Fellow of the American Surgical Association, and of the International Society of Surgery.

In 1905, on the occasion of the quarter-centenary of the Royal Col-

lege of Surgeons of Edinburgh, he was admitted an honorary Fellow of the college, amid a brilliant company which numbered such famous men as Lord Lister, Von Bergmann, Czerny, Kronlein Terrier, Halsted, Keen, and W. J. Mayo." In the same year he received the L.L. D. of the University of Edinburgh, and in the following year the L.L. D. of Harvard.

author of the *American Text-book of Surgery*.

In addition to being a distinguished anatomist and a brilliant surgeon, Dr. Shepherd is recognized as one of the ablest dermatologists on the continent. And his tireless activities do not end here. No notice of Dr. Shepherd could be complete without reference to his well-known position in



FRANCIS J. SHEPHERD, M. D., McGill.  
Hon. F. R. C. S., Edin. Hon. LL. D. Edin. and Harv.

Besides numerous contributions to anatomy, in the *Journal of Anatomy and Physiology*, etc., he is the author of many articles in various journals, as the *Montreal Medical Journal*, *The Lancet*, *The Annals of Surgery*, on surgical subjects, notably on the surgery of the thyroid gland and on intestinal surgery. He is a joint

the world of art. His students who have so often admired the rapid and artistic crayon work which illustrated his lectures will be prepared to know that the professor of anatomy is also an authority on art. He was president for some years of the Montreal Art Association, and is now a member of the Art Advisory Committee of the

Dominion government. He is generally regarded as one of the soundest art critics in the country and he is the fortunate possessor of a very valuable private collection, chiefly of the modern Dutch school.

One of Dr. Shepherd's great achievements was the collection of a museum of human and comparative anatomy. It was the best in Canada, and many of the specimens were unique. The disastrous fire at McGill, in 1907, destroyed this splendid collection. It must have been a very grievous blow to see the result of so many years of painstaking labour, to saying nothing of expense, thus ruined and irretrievably, in an hour. But, with indomitable energy, Dr. Shepherd is hard at work again collecting and arranging material in the splendid new building which is now rising on the ruins of the old college.

If we were asked to name in a single word the chief feature of Dr. Shepherd's personality, we should say it is alertness. Physically and mentally he is alert. He has a wide outlook on life, but there is nothing hazy about his vision and his keen eye pierces like a rapier through sham and incompetence. We do not envy the student of anatomy who, neglecting the sedulous use of scalpel and forceps and trusting to books and pretty pictures, presents himself for examination by Dr. Shepherd. But brusque though he may be in manner, and not at all disposed to "suffer fools gladly," his heart is warm and kind,

and he follows the career of worthy students with evident pleasure.

We know a man who in his student days had to undergo an operation by Dr. Shepherd. And when the treatment was over, and he produced his meagre pocket-book (it seems to us that students' pocket books were much more meagre in those days than now), and asked for his account, the surgeon refused to take anything, telling him, in kindly banter, to come and settle it when he had made his fortune. That fortune is still to make, but a wanderer, smoking his pipe by his camp-fire under South African stars still dreams of a lucky find of diamonds and the purchase for the kind hearted surgeon of a Ruysdael or a Rembrandt.

The Halifax School of Medicine, to which so many of us in these Maritime Provinces owe allegiance has suffered a staggering blow from the club of the Carnegie Foundation Report, but whatever the result may be, we shall always take pleasure and pride in the reflection that the brilliant anatomist and surgeon of Montreal is on our list of alumni.

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NOTE :—Owing to one of those unaccountable accidents which may happen to the best regulated publication, the names of the brothers Mayo accompanying their portraits, were transposed in our September number. We are very sorry indeed for this, and would suggest to our readers, to correct the error *now*, by pen and ink, before the matter escapes memory, transposing the initials W. J. and C. H.

We also have to apologize for the non-appearance in the October number, of the portrait and sketch of Dr. Inches of St. John, which we are now able to present to our readers in the present number.

# Lactopeptine Tablets

A cleanly, convenient and very palatable method of administering Lactopeptine, especially for ambulatory patients.

The tart, pineapple flavor, renders these tablets as acceptable as confections. They are particularly valuable as "After Dinner Tablets," to prevent or relieve pain or distension occurring after a heavy meal.

EACH TABLET CONTAINS 5 GRAINS LACTOPEPTINE.

SAMPLES FREE TO MEDICAL MEN.

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Combines in a palatable form the antiseptic and anti-tubercular properties of Creosote with the nutrient and reconstructive virtues of Liquid Peptonoids. Each tablespoonful contains two minims of pure Beechwood Creosote and one minim of Guaiacol.

DOSE—One to two tablespoonfuls three to six times a day.

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Formaldehyde, 0.2 per cent.	} Active balsamic constituents
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Pinus Pumilio,	
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Myrrh,	
Storax, Benzoin,	

SAMPLE AND LITERATURE ON APPLICATION.

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# Duncan, Flockhart and Co.'s Capsules of the Formates

## (Co. 342) Format Comp.

R	<b>Sodium Formate</b>	- -	<b>2 Grs.</b>	}	<b>DOSE</b> One or two Capsules three times a day, followed by a copious drink of water.
	<b>Potass Formate</b>	- -	<b>2 Grs.</b>		
	<b>Calcium Formate</b>	- -	<b>3 Grs.</b>		
	<b>Quinine Formate</b>	- -	<b>1 Gr.</b>		
	<b>Strychnine Formate</b>	-	$\frac{1}{50}$ Gr.		

This form of administering the Formates is one largely in vogue for increasing tone in those who go in for physical exertion, such as athletes and men who are very actively engaged, who are merely run down and not suffering from any illness, but require a sharp tonic. The Formates are also useful in the treatment of Chronic Rheumatism.

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SAMPLE ON REQUEST.

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—*British Medical Journal.*

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FOR SALE BY ALL DRUGGISTS.

SAMPLE ON APPLICATION.

## NOTES ON SPECIALTIES.

### THE HYPODERMATIC TABLET AS AN EMERGENCY AGENT.

If there is one class of therapeutic agents which more than another should be chosen with discretion and judgment, the hypodermatic tablet represents that class. When he administers a preparation hypodermatically the physician wants prompt action, and he wants to be certain that he is going to get it. To have that assurance he must use a tablet that is active, that has definite strength, that dissolves promptly and wholly. Cheap tablets, poorly made tablets, tablets concerning which there is the slightest doubt as to medicinal quality, may well be left alone. And there is no need to err in the matter of selection. Hypodermatic tablets of the better sort are easily obtainable. Perhaps the brand which comes readily to mind is the brand which is exploited so extensively to physicians under the familiar caption of "Five Seconds by the Watch." The makers, it is hardly necessary to add, are Messrs. Parke, Davis & Co., who guarantee their hypodermatic tablets unequivocally as to purity, solubility, activity and stability.

\* \* \*

### AN UNCONVENTIONAL COUGH SYRUP.

There are "cough syrups" without end. Some of them, it is needless to say, have little or no therapeutic value. Conversely, there are some that no physician need hesitate to prescribe. One of these—Syrup Cocillana Compound (P. D. & Co.)—is so exceptional in many particulars as to be worthy of special mention just now, when coughs are so plentifully in evidence. By its name no one

would recognize it as a preparation for "coughs" and "colds," and this, in connection with its general efficiency, constitutes one of its chief claims to distinction. It is a product which the layman knows nothing about. It does not encourage counter-prescription or self medication. It was designed especially with reference to the needs of the prescriptionist.

The formula of Syrup Cocillana Compound, which of course is plainly printed on the label, is quite unusual. Let us briefly consider its components: Euphorbia pilulifera—serviceable in the treatment of chronic bronchitis and emphysema; wild lettuce—a mild and harmless narcotic, useful in spasmodic and irritable coughs; cocillana—valuable expectorant, tonic laxative, exerts an influence on the respiratory organs similar to that of ipecac; sprup of squill compound—serviceable in subacute or chronic bronchitis, as an expectorant, and as an emetic in croup; cascarn—the bitter glucoside of cascara sagrada, useful for its laxative action; heroin hydrochloride—a derivative of morphine and extensively prescribed in the treatment of cough, especially of bronchial origin; menthol—stimulant, refrigerant, carminative and antiseptic, serviceable in coughs of pharyngeal origin.

Syrup Cocillana Compound would seem to be worthy of extensive prescription.

\* \* \*

### HEALTH PROVERBS.

Never buy patent medicines.

"Sanitary instruction is even more important than sanitary legislation."  
—Earl F. Derby.



"Without health, life is no life."—*Dr. Rabelais.*

"Hygiene can prevent more crime than any law."—*Hugo Munsterberg.*

"A state which will not prevent what can be foreseen is open to indictment."—*Munsterberg.*

"There is a budget which we pay with frightful regularity; it is that of unnecessary disease and premature death."—*Irving Fisher.*

"The preservation of national vigor should be a matter of patriotism."—*President Roosevelt.*

"National hygiene and preventive measures can rid mankind of disease."—*Metchnikoff.*

The function of the physician is to guide the patient while nature cures the disease.

Unreasoning credulity is the foundation upon which patent medicines rest.

"If it is Christian to cure, it is Christian to prevent. If it is Christian to cure children's diseases, it is Christian to provide clean streets. A sanitary inspector may be as religious as a church visitor."—*Rev. Herbert Welch, President Ohio Wesleyan University.*

"Now, do take warning by me. I am set up by a beneficent Providence at the corner of the road, to warn you to flee from the hebetude that is to follow. So remember to keep well; and remember any thing rather than not to keep well; and I again say, *anything* rather than not to keep well."—*Robert Louis Stevenson.* (He died from tuberculosis.)

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**BRASS SIGNS**

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21 Adelaide St. W., Toronto

## SOMETHING TO REMEMBER

An Unsuccessful Remedy is Never Substituted

Whenever a substitute is offered it goes without saying that it is not as good as the original and that the original must produce satisfactory therapeutic results and have created a demand; hence the many imitations seeking to live upon its reputation for mercenary reasons only—



### Hayden's Viburnum Compound



the original Viburnum Compound) has for over twenty-five years given uniformly satisfactory therapeutic results when administered in cases of Dysmenorrhea Threatened Abortion and other gynecological and obstetrical conditions where indicated.

To any doctor not familiar with the results following the administration of the original H. V. C. samples, formula and literature will be sent upon receipt of card.

*Suggestion* :—Always give Hayden's Viburnum Compound in boiling hot water.

**New York Pharmaceutical Co.,** BEDFORD SPRINGS,  
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In those intractable cases of Rheumatism and Gout, Hayden's Uric Solvent will afford prompt relief.

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ESTABLISHED 1873 - Members Montreal Stock Exchange

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Medicines should never be used except upon the advice of physicians.

"The Scotch," said Secretary Wilson of the Department of Agriculture, "are certainly a witty people. Now, there was a visitor in the little town of Bowdoin who on looking about saw no children, but only grown men and women. He wondered at this and finally, meeting a weazened old man in the street, inquired, 'How often are children born in this town?'"

"'Only once,' the man replied, as he proceeded on his way."—*Therapeutic Record.*

\* \* \*

#### PITHY SENTENCES FROM OLIVER WENDELL HOLMES.

The 29th August was the one hundredth anniversary of the birth of Oliver Wendell Holmes. In view of the fact that the medical profession's

interest in Dr. Holmes is perennial, it seems an opportune time to publish a few short sentences from his writings:

"A good clinical teacher is himself a medical school."

"The best a physician can give is never too good for the patient."

"The less pretension you make, the better they will like you in the long run."

"It is a terrible thing to take away hope, even earthly hope, from a fellow-creature."

"Your estimate of your own ability is not the question; it is what the patient thinks of it."

"What I call a good patient is one who, having found a good physician, sticks to him till he dies."

"Physic means, properly, the natural art, and physician is only the Greek synonym of naturalist."

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and ONLY GENUINE.

**A** COMPLETE food in which the nourishment of pure milk and choice malted grain is made available in a soluble powder form. The modified condition of the protein renders it easily digested by infants and invalids, ensuring perfect nutrition and eliminating the dangers of milk infection. An agreeable, sustaining and easily assimilated food in Diarrhœa, Dysentery, Cholera Infantum, Gastritis, and all febrile diseases, as well as for consumptives, convalescents, and Surgical Cases. Readily adapted to the varying conditions of patients, and available in the most serious cases.

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A limited number of habit cases received in separate departments.

- Separate hydrotherapeutic plant for ladies and gentlemen.
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Dr. A. T. HOBBS, Medical Superintendent

"The one prevailing failing of the medical art is to neglect the causes and quarrel with the effect."

"The public will give every honest and reasonably competent worker in the healing art a hearty welcome."

"The life of a physician becomes ignoble when he suffers himself to feed on petty jealousies and sours his temper in perpetual quarrels."

"If you cannot acquire and keep the confidence of your patient, it is time for you to give place to some other practitioner who can."

"The profession of medicine could not reach its full development until it became entirely separated from that of divinity."

It is often a disadvantage to a young practitioner to be known for any accomplishment outside of his profession."

"Nature, in medical language, as opposed to Art, means trust in the reactions of the living system against ordinary normal impressions."

"The American atmosphere is vocal, with the flippant loquacity of half-knowledge, and half-knowledge dreads nothing but whole knowledge."

"Art, in the same language, as opposed to Nature, means an intentional resort to extraordinary abnormal impressions for the relief of disease."

"The hygienic map of a state is quite as valuable as its geological map, and it is the business of every practicing physician to know it thoroughly."

"Disease (dis-ease), disturbed quiet, uncomfortableness — means imperfect or abnormal reaction of the living system and its more or less permanent results."

# Glyco-Thymoline

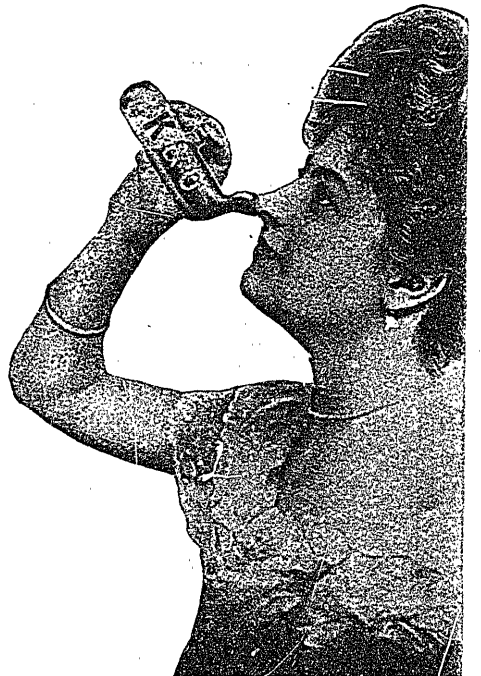
IS INDICATED FOR

## CATARRHAL CONDITIONS

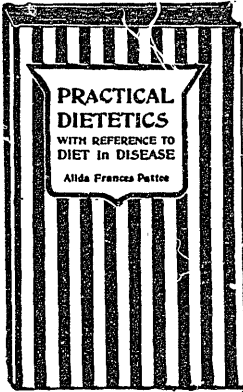
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