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Original Articles.

ADDRESS IN SURGERY—CANADIAN MEDICAL ASSOCIATION

EIGHTEEN CONSECUTIVE CASES OF OPERATION FOR PERFORATED GASTRIC ULCER.*

By F. M. Caird, F.R.C.S. (Edin.),

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Addressing, as I have the honor to do, a body of brother practitioners, I have sought to find a subject of general interest to all. I, therefore, direct your attention to personal experiences of a consecutive series of eighteen cases of perforated gastric ulcer, and in doing so crave pardon for inflicting upon you so much that is well known and commonplace.

We are ignorant of the direct cause of gastric ulcer. The ulcer may pursue a symptomless course, and there may be perfect health until the disastrous rupture into the peritoneal cavity takes place, and even then the diagnosis may be obscure. As a rule, however, there are very definite indications which lead us to a correct conclusion. A history of indigestion can nearly always be obtained, either of recent date and comparatively mild, or prolonged and intermittent. The dyspepsia is associated with pain after food and with vomiting, which often

*Read before the Canadian Medical Association, Halifax, August, 1905.

gives relief. The more classic evidences of gastric ulcer, hematemesis and melena, are usually lacking. Perforation may occur at any time, and under any circumstance, and is favored by muscular strain. Sudden intense pain, referred to the umbilical region, gives warning of the perforation. The patient becomes faint and collapsed, has to lie down, and generally vomits. As a rule the passage of flatus ceases, and symptoms

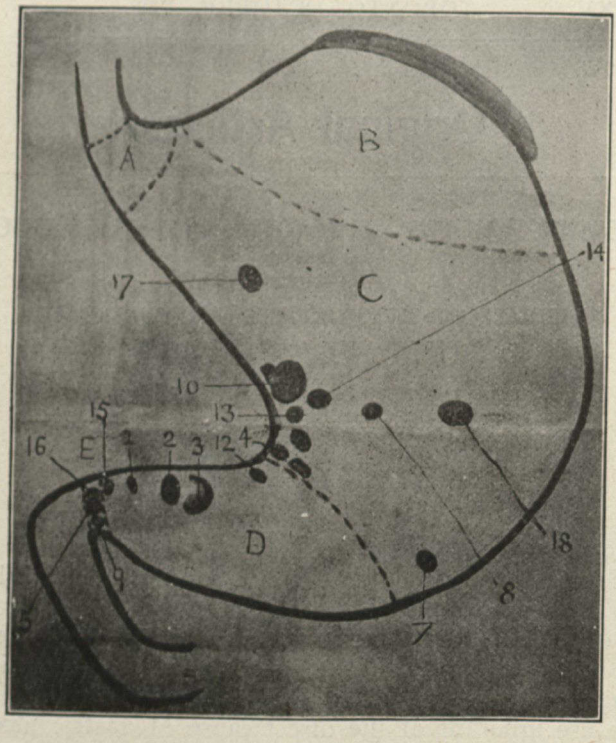
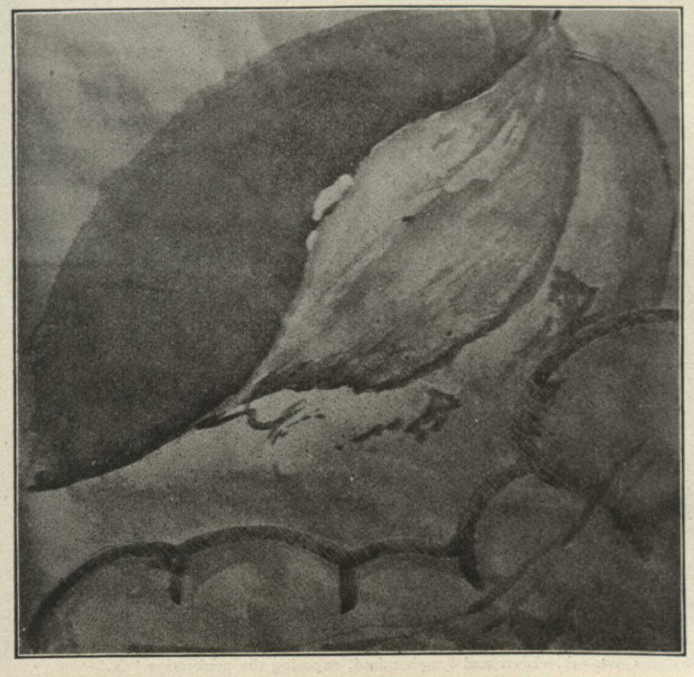


Diagram of stomach to show sites of perforation: A., Cardiac Portion; B., Fundus; C., Middle; D., Pyloric Portion; E., Pylorus. The figures refer to the cases 2, 7, 15, 16 on the posterior aspect of the stomach.

simulating those of obstruction may arise. Occasionally there is a movement of the bowels.

The initial condition of shock varies in degree and prolongation. Generalized abdominal pain is felt; the abdomen becomes board-like and rigid, no longer participating in the respiratory wave. The most useful indication of danger is

found in the shabby, rapidly quickening, pulse. Respiration increases and the temperature has a tendency to rise. On palpitation the abdominal wall is hyperesthetic, and marked local tenderness is evinced in the epigastric region and above the pubis. There may be diminished liver dullness. Rectal examination sometimes reveals tenderness, but there is rarely bulging in the Pouch of Douglas. There is not any difficulty or pain experienced during micturition. Careful notes should be taken when the patient is first seen. On re-examination it may be



CASE 14a.—Mass of lymph, uniting liver and stomach; perforation hidden.

found that the liver dullness has entirely disappeared. More especially is this noticed after the patient has been lifted or moved. The general symptoms tend to become rapidly aggravated and merge into those of general peritonitis.

Perforation of gastric ulcer, acute appendicitis, acute pancreatitis, and the rupture of carcinomatous ulcers of the intestine may mimic each other. Influenzal gastric pains, and the gastric colic associated with adhesions have occasionally led the surgeon

astray. A small exploratory incision may be required to clear up a diagnosis in doubtful cases.

The salient features which determine operation are the sudden onset of painful symptoms, the previous history of gastric ailment, the localized epigastric and supra pubic tenderness, along with the abdominal rigidity and changes in the extent of the liver dullness. To this we may add the progressive frequency of the pulse rate.

Perforations leading to acute symptoms occur mainly on the anterior aspect of the stomach where there is less chance of

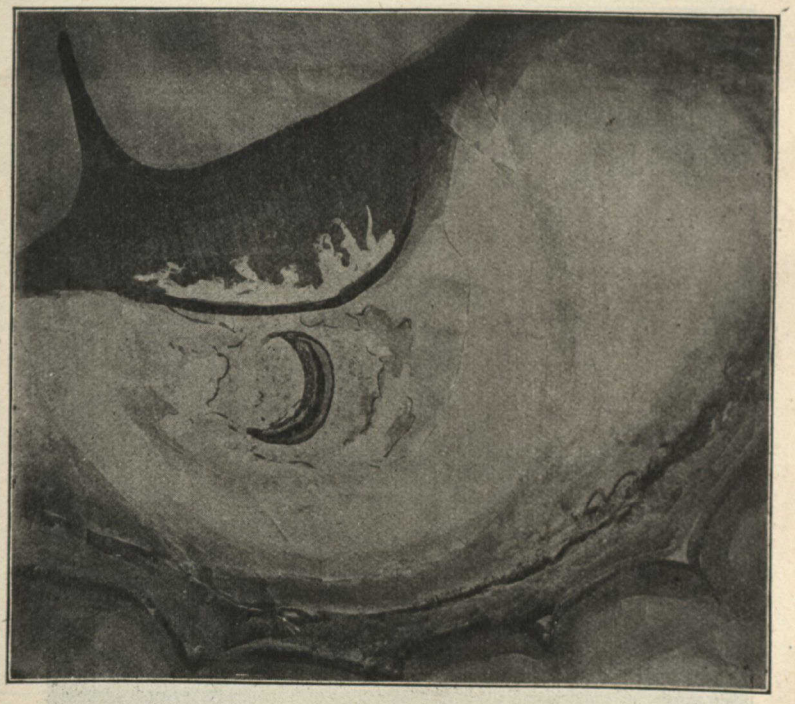
CASE 14b.—Liver and lymph raised, exposing the perforation "X."

adhesion to neighboring structures. They are most frequent towards the lesser curvature and the pylorous. There may be more than one perforation. The ulcer varies in type from the characteristic small sharply cut terraced form, with comparatively healthy surroundings, to the large ragged rent in the midst of a chronic indurated perigastritis with edematous serosa.

It would appear that as the acrid acid stomach contents escape into the peritoneal cavity that the whole serous membrane reacts, and a rapid effusion of an alkaline nature takes place

which neutralizes the acid secretion. The greater portion of the fluid found at operations is due to this source. Blue litmus paper acquires a deeper tint by contact with it, and is not reddened till close to or at the margin of the perforation.

The fluid abounds in greatest quantity in the vicinity of the rupture under the diaphragm. It accumulates markedly in the pouch of Douglas, and is there associated with the characteristic supra pubic and rectal tenderness. In posterior perforations it



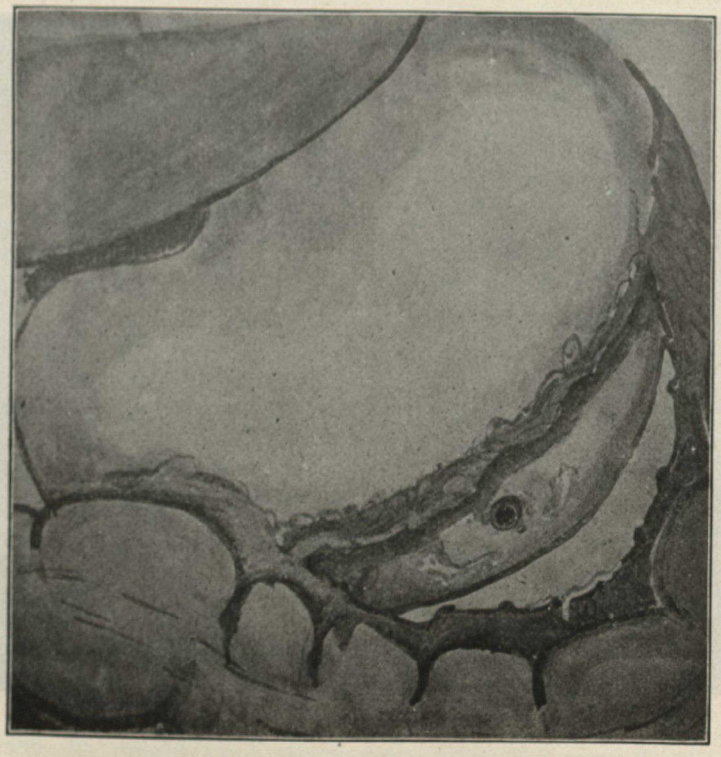
CASE 3.—Large anterior perforation, pyloric portion of stomach.

may be encysted in the lesser omental sac. The more dependent portion of the collections become rapidly purulent.

In peforated gastric ulcer we are already confronted with septic infection. We cannot therefore avail ourselves of the measures introduced by Mikulicz, the injection of nucleinic acid to create a prophylactic leucocytosis. As yet the method recently applied by the genius of Bier, in treating successfully acute and septic inflammation by means of local congestion is not available.

Our treatment at present consists in performing laparotomy, which enables us to prevent the further escape of gastric content. It allows us not only to get rid of what has already escaped, but in addition to cleanse the peitoneum by careful washing out. It enables us to close the rent and to establish free drainage.

To do all this a general anesthetic is required. When once the nature of the case is established it is wise to get free access

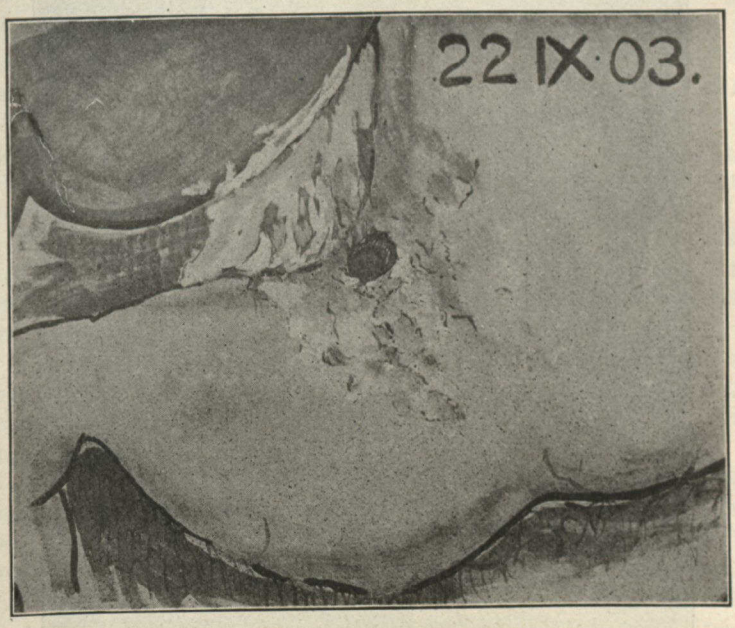


CASE 7.—Posterior perforation exposed by opening lesser sac.

by an extensive incision. We are guided in our search for the aperture by the lymph in its vicinity, by the nature of the escaping fluid, and the direction from which it wells. On identification the ulcer may be plugged with iodoform gauze, and we at once thoroughly wash out the abdominal cavity with sterilized salt solution. A counter opening should be made above the pubis and the glass nozzle of a douche introduced while the ulcer is

being closed. Excision of the ulcer is not to be recommended. It means loss of time and loss of blood without corresponding gain.

Where there is much perigastritis with unyielding or a friable tissue, a series of interrupted Lembert sutures (silk) may be introduced at some little distance from the margin of the ulcer and tightened up en masse. Over these a second series may be required. Occasionally a preliminary stitch or two may be used to transfix the whole thickness of the ulcer, and so diminish its size.

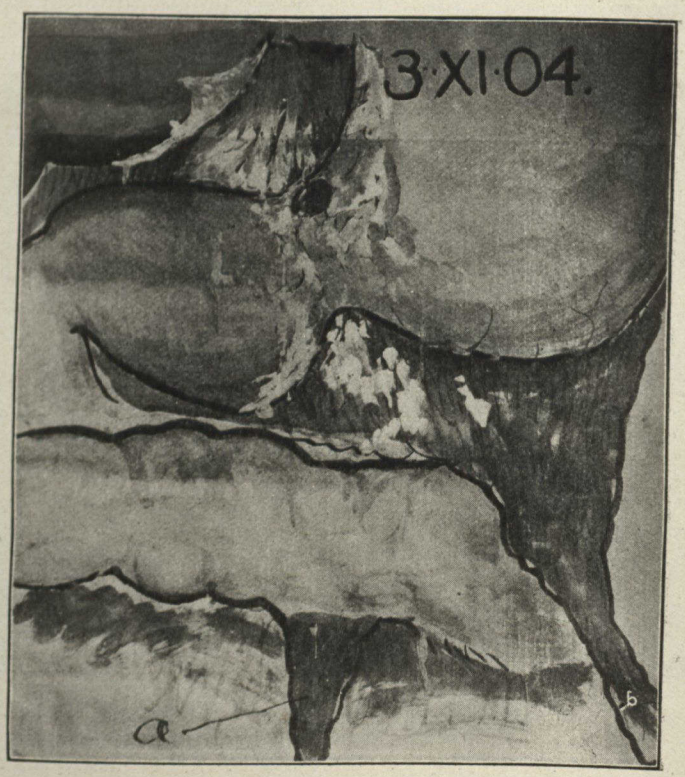


CASE 4.—Perforation near lesser curvature, early hour glass contraction of stomach.

A trace of iodoform may be rubbed in to favor plastic repair. If a gastro jejunostomy be required it is now performed. The flushing out should be completed by douching every peritoneal recess till the saline returns perfectly clear. Finally the abdominal wound is closed. We have always left a large Keith's tube in the pouch of Douglas, and have generally drained the site of perforation with a Mikulicz tampon and drainage tube.

The head of the patient's bed should be raised about six inches in order to favor the gravitation of any discharge from the dangerous absorptive region of the diaphragm towards the less susceptible pouch of Douglas.

Recovery is frequently uneventful. The chief factor affecting the issue is the nature of the organisms liberated within the peritoneal cavity and the power of tissue resistance to the toxins evolved. Fortunately we do not meet with organisms of excessive virulence within the stomach, and when there is no stagnation or fermentation of the gastric contents, the highly acid nature of the gastric secretion which we so frequently meet



CASE 14.—Second perforation in Case 4, fourteen months after last operation; marked hour-glass contraction; omental bands adherent to vicinity of umbilicus "A," and to lateral aspect of abdominal wall "B."

in such cases, inhibits the growth of most microbes. An additional source of sepsis may be due to the damage inflicted by the gastric extravasation on the viscereal peritoneum permitting the passage of intestinal organisms. Hence the value of a speedy recognition of the serious nature of the lesion, and the success which is likely to crown an early operation.

Naturally the size and position of the perforation, the date and the nature of the last meal, and the amount of material which escapes into the peritoneum are obviously of moment.

The chief prognostic is the pulse. A rate of 120 is to be feared, 130 and over to be dreaded. Temperature is of less value. The course after operation may be full of anxiety, requiring the exercise of extreme watchfulness and care. The pronounced thirst due to the loss of fluid by the peritoneal effusion may be allayed by rectal salines administered every four hours. The urine should be carefully examined and morphine given as indicated. If the pulse fail in strength and fullness and increase in rate, intravenous saline transfusion is most beneficial. One litre may be given, and when improvement is maintained thereafter for a couple of hours, even if there be a subsequent flagging of the pulse, transfusion may be freely repeated with every prospect of success.

Vomiting, if severe, persistent or accompanied by hematemesis is best combatted by gastriclavage.

There were eighteen cases, thirteen female and four male. The patients varied in age. Most were between twenty and thirty years; the extremes were twelve and a half and seventy-one.

Three to twenty hours had elapsed between perforation and operation in fourteen cases; of these, eight recovered, six died. Between twenty-one and thirty hours, two recovered, one died. One case recovered fifty hours after rupture.

The rapidity of the pulse as a prognostic is emphasized when we observe that in five of the fatal cases the pulse was over 130 before operation. We lost, however, one where the pulse was only 112, but the patient was seventy-one years old.

There were seven deaths in all; four females and three males. It was impossible to save Case 9, whose omentum was already gangrenous, or Case 16, with uremic due to advanced congenital cystic disease of the kidneys.

It will be seen that the mortality is not excessive, and that an early diagnosis may do much to render operation for gastric ulcer highly successful. There is no reason why the judicious country practitioner should not act in emergencies, and by a comparatively simple operation, not in itself dangerous, save lives that otherwise might incur still greater risk were they sent to a distant hospital.

Some points in regard to history, leucocytosis, micro-organisms, and after complications, may be ascertained from the

accompanying table. The plates serve to illustrate the appearance and position of the perforations. It would ill-become us in this section to meet without paying our tribute of reverence to the memory of the late Professor Mikulicz Radecki of Breslau.

In Mikulicz the alert glance, so full of sunshine, the deft, dainty yet powerful hand proclaimed the artist. His wondrously versatile scientific work, his earnest quest of truth, his whole life history breathed forth the catholic spirit of a true humanity.

A pupil of Billroth, a follower of the principles laid down by Lister, he was the pioneer and perfecter of aseptic methods. Carried off in the day of his strength by that disease the fell ravages of which he had himself done so much to mitigate, he has left an enduring fame as a great surgeon.

	Name. Age. Occupation. Date of operation. Event.	Previous History.	Onset.	Provisional Treatment.	Condition Prior to Operation.	Local Condition.	Operation.	Aftercourse.
1	Mr. W. L., 21; cabinet maker; 16, xii, '01; 26 hours: recovered.	Indigestion, several years; pain across stomach for 3 weeks.	Sudden, 2 hours after hearty breakfast, severe pain causing him to fall down; vomited shortly after and later twice or thrice.	Opium by mouth, and morphine.	P. 100; T. 100.8; R. 26; pain and tenderness over recti, especially tender above and to right of umbilicus; liver dullness less, quite gone within an hour; rectal enderness.	Small ulcer, anterior near pylorus; perigastric clear fluid and lymph.	$CHCl_3$; upper part of abdomen dried out; pelvis washed out; drainage.	Good recovery.
2	Miss A. G., 23; domestic servant; 14, x, '02; 50 hours; recovery.	Two years' ago pain after food and anemia; well since.	Sudden pain at left costal margin, left shoulder and axilla, when lifting a couple of pails; had to lie down; vomited once blackish fluid.	Whisky poultices.	P. 125; T. 99; R. 26; tumid abdomen; general tenderness, maximum at left costal margin.	Large ulcer near pylorus on posterior wall.	Ditto.	Good recovery.
3	Miss L. T., 22; domestic servant; 21, iv, '03; 4 hours; recovered.	Five years indigestion; hypogastric pain for 3 days.	Sudden.		P. 126; T. 100.6; R. 30; general acute tenderness; no liver dullness.	Large ulcer on anterior walls near pylorus and lesser curvature; much clear fluid, lymph and potato.	Whole peritoneal cavity dried out; drainage.	Good recovery.
4	Miss M. Y., 21; housemaid; 22, ix, '03; 24 hours; recovered.	Three years' dyspepsia; hematemesis at New Year; passed blood by rectum from 17th to 20th Sept.	Sudden, violent, pain and vomiting; action of bowels this morning.	Morphine.	P. 128; T. 100.6; R. 24; Great abdominal pain, felt also in chest and shoulders; rigid abdomen; general tenderness pronounced above umbilicus; liver dullness much diminished.	Small round ulcer, anterior, near lesser curvature, five inches from pylorus; slight tendency to hour glass contraction.	Ditto.	Good recovery; symptoms again came on, fresh rupture, 3, xi, '04; see Case 11.
5	Mrs. W., 37; 25, xi, '03; 17 hours; died.	Indigestion all her life; great tea drinker; during last six months increased pain radiating from the back to the abdomen, relieved by vomiting.	Sudden pain and collapse.		P. 145; T. 103; R40; very tender tumid abdomen; no liver dullness.	Large ulcer anterior aspect of pylorus.	Laparotomy with cocain and adrenalin; $CHCl_3$ in small amount; posterior gastro-jejunostomy since pylorus was narrowed after suture of ulcer; ditto.	Improved somewhat; then had to be transfused; died twelve hours after operation. Sectio: Roughening of diaphragmatic pleura, no leakage at sutures.

	Name. Age. Occupation. Date of Operation. Event.	Previous History.	Onset.	Provisional Treatment.	Condition Prior to Operation.	Local Condition.	Operation.	Aftercourse.
6	Miss McE., 25; 31, i, '04; 18 hours; died.	Old indigestion.	Sudden, severe pain.		P. 124; T. 99.8; R. 36; does not look very ill; tender epigastric and supra-pubic regions; groins less so; rigid abdomen.	Small perforation, anterior, near lesser curvature.	$CHCl_3$; whole peritoneal cavity washed out; drainage.	Did well till following afternoon, when pulse rose, coffee ground vomiting came on, pelvis washed out; result negative; died 18 hours after operation.
7	Miss N. B., 25; domestic servant; 20, ii, '04; 10 hours; recovered.	For some years pain and vomiting after food; very anemic during last 2 months; has vomited after every meal last week.	Awakened by sudden epigastric pain and bilious vomiting; bowels have acted once.		P. 102; T. 100.2; R. 24; abdomen rigid; general tenderness, marked in epigastrium; liver dullness slightly less; some rectal tenderness; leucocytes 7000.	Small ulcer, posterior, near greater curvature in lesser sack distended with fluid; no fluid in general cavity.	Ditto.	Sickness and hematemesis next day; stomach washed out; vomiting ceased; transfusion necessary at night; good recovery.
8	Mrs. H., 40; 13, iv, '04; 6 hours; died.	Pain after food and vomiting for some time.	Sudden epigastric pain and collapse.		P. 140; T. 100.8; R. 40; abdomen rigid and exceptionally tender.	Small ulcer, anterior aspect cardiac end midway between the curvatures.	Ditto.	Transfused at intervals of 4 to 6 hours; she held her ground for 24 hours and then sank, 32 hours after operation. Sectio, general peritonitis.
9	Mr. M. Y., 48; laborer; 26, x, '04; 24 hours; died.	Eight years indigestion; pain and vomiting after food; intemperate; a daughter died of perforated gastric ulcer.	Sudden vomiting of and passage of black matter at stool; acute epigastric pain.		P. 132; T. 97; R. 30; fixed abdomen, tender, especially over pubis; no liver dullness.	Small clean cut ulcer near posterior aspect of pylorus; coffee ground like fluid in peritoneum; gangrenous omentum.	Distended stomach emptied with trocar and canula; removed gangrenous patches; ditto.	Transfused after operation; broncho-pneumonia, purulent sputum; rise of temperature; death on 7th day.
10	Miss Y, 27; 18, x, '04; 17 hours; recovered.	Has been under treatment for gastric neuralgia; pain after food.	Sudden epigastric pain and vomiting.		P. 120; T. 100; liver dullness diminished.	Small ulcer near lesser curvature and pylorus.	Ditto.	Good recovery.
11	Miss M. Y., 22; housemaid; 3, xi, '04; 19 hours; recovery.	See former history Case 4; good health since operation for perforation; quite recently pain after food and vomiting.	Severe abdominal pain and vomiting.		P. 104; T. 98.4; R. 24, at 11 a.m.; did not look ill; slight abdominal pain and tenderness; abdominal respiration; liver dullness normal; at 3.30 p.m. P. 110, T. 101, R. 28; liver dullness gone.	Ulcer near old site; marked hour-glass contraction; many omental adhesions and bands.	Ditto; posterior gastro-jejunostomy.	Good recovery.

	Name. Age. Occupation. Date of operation. Event.	Previous History.	Onset.	Provisional Treatment.	Condition Prior to Operation.	Local Condition.	Operation.	Aftercourse.
12	Miss B. K., 21; 19, xii, '04; 48 hours; died.	Epigastric pain after meals, shooting to back and shoulders, followed by vomiting of undigested food, eighteen minutes duration; better for a year, worse for last 12 months.	Severe epigastric pain and vomiting.		P. 168; T. 100.2; R. 32; whole abdomen very tender; tumid; no liver dullness.	Large ulcer near middle of lesser curvature; much fluid; flakes of lymph and food stuff.	$CHCl_3$; peritoneum washed out; drained.	Good recovery.
13	Miss H., 34; 17, i, '05; 9 hours; recoverd.	Two years ago had for two months pain after food; good health since; 14 days ago slight return of pain.	Sudden, severe epigastric pain.		P. 100; T. 100; R. 28; anxious expression; rather rigid abdomen; pain in hypogastric and left hypochondriac regions; maximum tenderness between umbilicus and ensiform cartilage and above pubis; liver dullness gone.	Small ulcer, near lesser curvature towards cardiac end; edematous extra peritoneal tissue.	Ditto.	Good recovery.
14	Master A. P., 12½; 15, ii, '05; 12 hours; recovered.	Pain after food for last twelve days, and slight cold.	Felt very ill; no great tenderness; vomited but passed a quiet night.	Hot fomentations.	P. 130; T. 101.2; tender abdomen; no liver dullness.	Small punched out, near middle of lesser curvature.	Ditto.	Signs of right basal pneumonia on 3rd day, on 8th day both lungs affected; P. 126, T. 103, R. 48; after an anxious time got well; oxygen inhalation.
15	Mr. T. W., 71; dairyman; 14, iv, '05; 9 hours; died.	Three years ago an attack of vomiting, pain and constipation; one year ago a second was an umbilical and double inguinal hernia.	Sudden sickness and vomiting of reddish material.	Opium.	P. 112; T. 98; R. 36; tenderness above and below umbilicus; liver dullness diminished.	Posterior aspect of pylorus, large ulcer; gas fluid and gastric contents in quantity.	Ditto.	Died 8 hours after operation. Sectio: peritonitis, suturing intact.
16	Mr. J. F., 32; laborer; 5, v, '05; 18 hours; died.	Intemperate; no data.	Sudden abdominal pain; distension.		P. 136; T. 98; R. 40; patient had a peculiar dazed look; was not clear headed and had dusky complexion.	Ulcer on anterior aspect of pylorus; much fluid; pure cultures colon bacillus.	Ditto.	Rapid sinking; symptoms of uremia; bladder empty. Sectio: Advanced congenital cystic disease of both kidneys, cysts in pancreas and mesentery, hypostatic congestion both lungs, peritonitis.

	Name. Age. Occupation. Date of operation. Event.	Previous History.	Onset.	Provisional Treatment.	Condition Prior to Operation.	Local Condition.	Operation.	Aftercourse.
17	Miss C. K., 35 ; 3, vi. '05 ; 13 hours ; recovered.	For last 14 years intermittent attacks of sharp pain after meals in epigastrium and between the shoulders ; vomiting since Xmas ; well till last night ; drinks much tea.	Sudden epigastric pain and vomiting.		P. 120 ; T. 99 ; R. 26 ; abdominal tenderness ; liver dullness less.	Ulcer, anterior aspect ; cardiac portion, 2½ inches from lesser curvature; cultures from near rupture gave many colonies of streptococcus pyogenes, and a few of staphylococcus aureus; from the pouch of Douglas, pure culture staphylococcus pyogenes.	$CHCl_3$; peritoneum washed out ; drained.	Left sided pleurisy ; aspirated 10th June ; Frænkel's pneumococcus ; improvement ; empyema followed ; resection of rib ; strept. pyogenes ; still draining ; abdomen whole.
18	Mrs. C., 29 ; 29, vii '05 ; 14 hours ; recovered.	For several years pain after food, relieved by next meal ; well since March.	Sudden sharp shooting pain epigastric and umbilical regions and down left upper arm, it passed off completely but returned worse i 6 hours.		P. 140 ; T. 100 ; R. 24 ; pinched look ; knees drawn up ; tense painful abdomen ; most tender in left hypochondriac and iliac regions ; liver dullness normal ; leucocytosis ; 8,000.	Large ulcer middle of anterior aspect rather nearer greater curvature ; much gastric content and fluid ; bacillus of colon type in culture from pouch of Douglas and from near stomach; from latter site also a few cultures of a streptococcus.	Ditto.	Good recovery.

PRESIDENT'S ADDRESS.*

By W. D. Brydone-Jack, M.D.C.M. (McGill), Vancouver.

Mr. Chairman and Gentlemen,—The British Columbia Medical Association was organized in 1900. It is unnecessary to go into details of the formation; most of you have heard them before; but I would like to compliment the founders of the Association on the excellent constitution, by-laws and code of ethics compiled at that time, and would recommend that a copy should be placed in the hands of every medical man when he receives his license to practice in British Columbia, and I might add, a copy of the scale of fees in which I might suggest that only the minimum charge be put down, so that it would read from such and such a price.

The objects of the Association as set forth in the constitution are well worthy the earnest consideration of every medical man. For your information permit me to read them over.

1. The cultivation of the science of medicine and surgery.
2. The advancement of the character and honor of the medical profession.
3. The elevation of the standard of medical education.
4. The promotion of public health.
5. The furtherance of unity and harmony among its members.

The question that I would like to ask you is, How shall all these objects be best obtained, collectively and individually?

In order to make our Association a success, and so partially attain our objects, it is necessary that the members should be given something in return for their membership, and that the Association should comprise the whole of the medical men in the province. It is a matter of impossibility for all the medical men of British Columbia to attend our annual meetings, and if they pay a membership fee for the support of the Association they should receive some of the benefits of membership. At present the benefits to absentees is nil, therefore there is no object in their belonging to any of the Canadian Associations whether local, Provincial or Dominion. A society cannot be run without

*Delivered before the British Columbia Medical Association, July, 1905.

funds, and the subscriptions of those who do attend are manifestly insufficient to pay ordinary running expenses.

Our Canadian, Provincial and Local Associations all have the same objects in view, they are all actuated by the same motives, viz., the betterment and the advancement of the character and honor of the profession at large and the individual practitioner, the promotion of public health, and the cultivation of the science of medicine and surgery.

It seems to me that as all these associations have thus a common object and a common motive they should in some manner be blended together so as to further enhance their usefulness, and that some means should be devised whereby our objects would be better achieved than at present.

There is only one way by which this can be done effectually, and that is by uniting together, but in order to combine our forces we should have a link that will keep us united, and the link that I would propose would be a medical journal, which would publish the expressions of thought not only of the individual, but of our local, provincial and Canadian medical fraternity.

The plan that I would propose is this, that the Canadian Medical Association should be the head, that they should appoint the editors and make arrangements generally for the publication of the journal, and that the editors should be responsible to the Canadian Medical Association and its officers for the efficient performance of their duties. The provincial association would appoint sub-editors, whose duty it would be to assist generally in the publication, having regard more especially to their own districts or province.

The local association would appoint assistant sub-editors, whose duty it would be to report local meetings and local matters of interest to the sub-editors, and other matters of interest to the profession generally.

In this way a journal could be easily compiled which would be interesting to the members, at a minimum expense. As time went on and conditions warranted it, honorariums could be arranged for those taking an active part.

A paper of this kind would form a powerful lever in moulding the profession, in furthering any project that had for its object the betterment of the profession, more especially such a project as Dominion registration, etc.

I would further suggest that portions to be determined by the editor be printed in French.

In connection with the blending together of these associations

arrangements might be made whereby the local and provincial associations might have a properly credited representative at the Canadian Medical Association, one who could with authority voice the sentiments of his constituency, so to speak.

By means such as this a medical man practising perhaps in some remote district would be able to keep in touch with the rest of the profession, would know what was taking place in other parts of Canada, and all would work for the common weal of the profession.

Looking at the matter from a financial standpoint an arrangement such as outlined above might be made to prove of great benefit to all our organizations.

I do not know the exact number of practitioners in Canada, but presuming that six thousand paid to the Canadian Medical Association $2 each, this would give them, say, $10,000 for the journal and $2,000 for the Association, and this number ought by judicious management, be largely increased.

Then say: For the Canadian Medical Association journal and membership of the Canadian Medical Association, $2; for membership in provincial associations, $1; for membership in local association, $1; for membership in protective association, $1; making a total of $5 in all. Or a joint stock association might be formed under the auspices of the Canadian Medical Association, and each subscriber would be a shareholder.

Again, this would be an advantage in other ways. A medical man to be a member in full would have to be accepted by all associations, and this would possibly prevent some of the difficulties that have hitherto arisen.

There is great need of united and concerted action amongst the medical fraternity We are too prone to let things take their course in the hope that nature and time will overcome all difficulties. This may do well enough in certain forms of disease, but we must not forget that in this case we are dealing with human beings who may possess brains as well as bodies that have been warped and twisted perhaps from early environments, perhaps from defective education, perhaps from the effects of disease, hereditary or otherwise, and we must recognize these facts in endeavoring to attain our objects and apply our treatment accordingly. We must recognize the psychological side of the question as well as the physical, the one is as important as the other.

Our legislators and the public generally require to be educated in the knowledge that medical men from time immemorial

have devoted their time, their health, nay their very lives to the promotion of the public health and welfare, and that frequently without hope of reward. The public at large are indebted for their lives day by day to the conscientious work of the scientist practically applied. The question will arise in the minds of thinking men, how can the immense stores of knowledge of life in all its aspects which have been gleaned already by the industry of medical men, be best utilized for the benefit of the human race; how can our knowledge be still further increased, and how best applied for the betterment of our race.

The medical men are doing their share and more of the work. Are our legislators and the public generally helping us as they should, nay, are they not rather placing stumbling blocks in our way?

A great deal may be done in the way of educating the people by means of lectures, societies, associations, etc., but I believe that the proper place to start is among the children, more especially those that attend our High Schools.

A medical man, or several, should be chosen and paid by the Government; of course, the medical men should have special qualifications for work of that nature. They should thus be enabled to prosecute their studies, and researches along these lines, in the prevention of disease, and I feel assured that in time not only the communities which would adopt such a plan, but the medical men as a whole would be materially benefited. We should press for a Department of Public Health, and the Minister of this department should rank with equal power as possessed by other Cabinet officers.

Some of you may consider my ideas somewhat Utopian, but I feel assured that if the profession present a united front all these things will be given unto them, and many more. Let us then, as a united body, see to it that we collectively and individually receive from our country that recognition and consideration that our work entitles us to.

While in New York recently I noticed that they had a system of medical inspection of schools, that lectures were given in connection with the Public Schools on various subjects, especially foods.

2. What vaccination has done for the world.
3. Prevention of consumption.
4. The care of the eyes.
5. Colds—their prevention and treatment.

That there were numerous societies, such as societies for propagation of moral and social reform. There is right here a

great need of sexual education and social prophylaxis generally. There is need of medical supervision and education in our schools, and there is need of medical supervision in all public utilities.

The wealth of a country in general consists of all consumable utilities which require labor for their production, and can be appropriated and exchanged. These utilities may be divided into inner and outer utilities; further subdivided into free and economic.

It is with the economic utilities that we are principally concerned, and that should have a certain amount of medical supervision. Again, it is the duty of the Government to assist the formation in both the higher and lower regions of the industrial world of profound convictions as to social duties, and some more effective mode than at present exists of diffusing, maintaining and applying those convictions; and who more fit to undertake such tasks than the fully qualified, fully trained medical man.

By social duties here I mean those duties that we owe to our God, our country, our neighbors, and ourselves more especially, in their relation to health and disease.

This is, comparatively speaking, a new country; we are laying the foundations of a great Canada. It is for us, for our organizations, and for our associations to determine what the position of the medical man shall be in the future. Whether we shall have the status of honor that our studies, our years of application and research, our endeavors to uplift and benefit the human race directly and indirectly entitle us to, or shall we have a bare right to existence and a battle for life.

Let us return now for a few moments to a brief consideration of the objects of this association, as they affect our province and ourselves.

(1) Are we as an association doing what we can in the cultivation of the science of medicine and surgery? Are you individually working to that end? Are you giving to the rest of the profession the benefit of your experience, of your failures and successes. I would ask you to answer these questions in your own minds, and I would like to be able to speak thus to those who are absent as well as those present.

(2) and (3). As regards these, the advancement of the character and honor of the medical profession, and the elevation of the standard of medical education. We all feel assured that our present Council of the College of Physicians and Surgeons are doing all that can be done at present, but I am sure that I am only uttering their sentiments when I say that they want the

active and individual support not only of the association, but of each medical man in the province of British Columbia.

(4) The Promotion of Public Health.—Dr. J. C. Fagan, the Secretary of the Provincial Board, has done pioneer work in this direction; he has overcome many difficulties in the face of much opposition. Dr. F. T. Underhill is doing pioneer work along these lines in the City of Vancouver. The necessities for this work are many and unfortunately grossly apparent, and I would like to speak at some length upon this subject, especially as I have always taken a great personal interest in it, but I will not take up your time further than to ask you to loyally support both our provincial and our civic health officers in their adoption of measures for the promotion of the health of the community. I would mention more particularly pure milk and food supplies, inspection of meat, treatment and care of the tubercular, etc.

The furtherance of unity and harmony among the members is last, but not by any means the least important of the objects of this Association, and this can best be obtained by meeting together, discussing the matters of common interest, and thus knowing one another more intimately—by remembering that we all have common objects in view, and by working together in unity and harmoy for their attainment.

The establishment of a medical club and reading room, where members could meet and discuss questions of interest, and where books and journals of reference could be kept, would be of material assistance in establishing that feeling of equality and good fellowship which is a basis of unity of action and thought. Bacon says, "Equality and correspondence are the causes of harmony."

In conclusion permit me to quote the following from the "Merchant of Venice":

> "Look how the floor of heaven
> Is thick inlaid with patines of bright gold;
> There's not the smallest orb which thou behold'st
> But in his motion like an angel sings,
> Still quiring to the young-ey'd cherubims;
> Such harmony is in immortal souls;
> But whil'st this muddy vesture of decay
> Doth grossly close it in, we can not bear it."

Finally, I would thank those who have so kindly graced and honored this meeting, and would now draw your attention to the interesting papers, etc., which will be offered to you for consideration.

BILHARZIA HEMATOBIA.*

By R. Eden Walker, M.D.C.M. (Trin.), L.R.C.P. & S. (Edin.).

A word or two of explanation is due the members of this Association to account for my introducing to your notice a disease which is peculiar to the African continent, and which you might justly say does not greatly interest us in North America, so far removed are we from the natural geographical habitat of this small hematozoon. The advancement of science and civilization has, however, reduced distances, which were a few years ago insuperable barriers to an intimate intercourse between distant parts of the world, and it is now no uncommon occurrence to meet as citizens of our country those who have resided in districts where this disease is more or less epidemic. With regard to Canada, especially Western Canada, where so many of the regiments who went to aid the mother country in the late Boer war were recruited, this is particularly true. Within the past six months two cases of this, to me, rare disease, have come under my notice, both occurring in young men, who had previously lived in Manitoba, served in the South African campaign, and after the war returned to Canada, settling in British Columbia, and I have been induced to record the cases in the hope that they may be of interest to the profession, as doubtless others of our volunteers must have contracted this disease, and presented themselves to physicians throughout the country for treatment.

History of Cases.—G.C., age 30, previous to going to South Africa had always been healthy. No illness except measles in childhood. Family history, good; went to South Africa in 1900; returned to Canada for a short time and went back to South Africa in 1903; was taken ill in June of that year with what he called dysentery; although ill and unable to work for one week did not go to the hospital; had frequent bloody stools and at the same time began to pass blood in the urine. The bloody stools lasted several weeks and gradually passed off, although he has had several attacks of diarrhea since, when blood appeared in the stools. The blood in the urine, which was at first pretty constant, for the past year

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has been intermittent; it always comes at the end of micturition; hard work or violent exercise aggravates it. The patient at the outset lost weight, and for some time after the so-called dysentery he was in bad health, and could do very little.

Present Condition.—The patient presented himself for treatment for his urinary trouble. Complains of intermittent hematuria, especially after hard work. He has to urinate more frequently than normal, but complains of no pain or discomfort of any sort. He is otherwise in fairly good health, and able to do his work as a teamster. Has, as has already been stated, occasional attacks of diarrhea with blood in stools. Condition of urine: Color, pale straw, cloudy with small shreds of mucus and fibrin floating in it, some shreds bloody. Reaction acid; Sp. Gr. 1022. Sugar, none. Albumen present in varying qualities, at times a mere trace, at others causing a heavy cloud. Microscopically: Blood and pus cells in considerable quantities, and with low power ova of the Bilharzia can be seen. (I hope to be able to show them.) These ova are mellow, sled-shaped bodies, oval at one end, with more or less of a spire at the other. With a high power the embryo can be seen in the egg case.

CASE No. 2.—A St. L. C., aged 30; previous and family history good. Went to South Africa in 1900 when he had an attack of dysentery, and was ill in hospital for three weeks. This was probably true dysentery. In 1903 had a second attack of dysentery, with bloody stools and blood in the urine; did not go to hospital. The blood continued in stools for some time, and gradually passed off. The bloody urine was continuous at first, but of late has been intermittent in character. Worse after hard work.

Present Condition.—Has intermittent hematinic with desire to pass urine too often; no pain. Urine: Pale straw colored; cloudy; no shreds. Sp. Gr. 1020. Reaction acid. Albumen present in considerable quantity. Microscopically: Blood and pus cells, oxalate of lime crystals; ova of Bilharzia.

The history and clinical picture of these two cases is almost identical, and at first one might easily be led to think that we were dealing with some form of chronic cystitis, calculus, or Bright's disease; indeed, with regard to one of the cases mentioned, it was due to the discovery of albumen in the urine when making a urinalysis for life insurance that the true character of the disease came to light.

A few words as to the disease, and the parasite which causes it: The parasite which causes this disease was discovered by Bilharzia in 1851, and its habitat is the portal vein of man,

monkeys and dogs. The male worm is about half an inch in length, the female slightly longer and thinner than the male. The complete life history of Bilharzia is not known, but it is supposed to pass through the body of some other host besides that of man, etc. Repeated efforts to infect dogs or monkeys by feeding them on living embryo have been in vain; neither will the embryo hatch or live in blood or urine. The exact mode of injection is also unknown, but the best authorities are inclined to the view that the embryo may penetrate the anus, urethra or skin while bathing in infected streams. This accounts for the fact that young males are most frequently affected. So far as at present known the disease is confined to the African continent, being most prevalent in Egypt, Natal, and the eastern parts of South Africa, although almost all parts of the continent are more or less affected. The symptoms which present themselves are much as found in my cases, beginning either with blood in the urine or stools, or in both; when the neck of the bladder is affected much pain may intervene.

Secondary symptoms are calculus formed with the detritus as a nucleus, pyelitis, hepatic abscess and peritonitis.

Bilharzia is found in various parts of the body, but its powerful focus seems to be the smaller branches of the portal vein, and the harm wrought seems to be chiefly by the blocking of the smaller vessels by the countless ova which are thrown off by the female, causing chronic congestive inflammation and the formation of new growths.

Prognosis depends somewhat on the amount of infection. Long residence in an infected country makes the cure less certain. In boys the disease seems to cure itself at puberty. In most cases in adults the prognosis is not so good.

Little can be done in the way of treatment. I found urotropine, grs. vii., improve the condition of the urine, and lessen the amount of pus and blood; but when we consider that the chief seat of the disease is the portal vein we can hardly expect medication of any kind to be curative.

OBSERVATIONS ON TUBERCULOSIS IN NEW ZEALAND.*

By W. Stephen, B.A., M.B., Vancouver.

Mr. Chairman and Gentlemen,—My remarks will deal principally with the crusade against tuberculosis in New Zealand. My excuse for reading the paper is the all-importance of the fact that a united, well directed and effective crusade should be made against the scourge in British Columbia. During my practice of some five or six years in New Zealand I witnessed the different stages of the crusade there. 1st. The stage in which the public were indifferent and ignorant on the subject, and the medical profession stood as paralyzed, without hope, and saying that effort was useless. 2nd. The stage of agitation in which a few enthusiasts kept pegging away with but indifferent success and many discouragements from their fellow-brethren. 3rd. Came the opportune moment, when a wave of enthusiasm and hope spread over all—the authorities, the medical profession and the public—and unitedly there is a thorough systematic attack on the enemy, carrying on their banner the motto, "We mean to practically win the fight against the enemy in twenty years."

British Columbia has had its first stage. Thanks to the energy of Dr. Fagan and others we have had our second stage, and now the time seems at the flood for a wave of enthusiasm and hope to carry us to a systematic effort, in which unitedly the legislature, the profession, and the public will join hands in an energetic continued attack against the great white plague.

Before proceeding to the main subject I wish to dwell for a moment on three points that were emphasized by watching the effects of tubercle amongst the native Maoris, as, whilst practising in a seaside town and district I had the appointment from the Government to medically attend all natives within a radius of thirty or forty miles of the town. The natives are specially susceptible and fall an easy victim, the scourge spreading through them almost like a devastating fire, and I could not help noticing the following points:

Tubercle is a House Disease.—Whenever I saw and knew a house or houses to be infected then I knew there would be and saw a funeral procession of deaths, one after another; but

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I also saw that if the natives lived in a house that had not been infected then they never took consumption.

2. The Frequency of Infection.—We are accustomed to think there is not much danger of being infected, but we forget how well fortified we are to resist sucessfully, and how many times we have been infected that we know not of. The native who falls an easy victim if infected, if he goes to live in an infected house, almost certainly becomes infected in a very short time. As an instance: A native girl returned from the hospital, and went for two months to live with a native family who were previously healthy. She infected five out of a family of six; two of them dying before she did. More than once have I seen young men who had lived with white settlers or amongst natives whose houses were not infected, and then go and live with natives whose houses were infected; and just so certainly would they fall victims.

3. The Influence of Heredity.—There is no doubt that there are certain types of families who are more susceptible to consumption than others, and in examining their whole lineage we will get a larger proportion of consumption than normal. But formerly, and even yet, in the lay mind, and in the mind of many medical writers this type is always looked upon as the result of heredity, meaning that the weakness towards consumption is due to the fact that their forefathers had been attacked by this enemy. I wish you to notice how is it possible that this agrees with the following: The native is very susceptible and falls a quick victim to tuberculosis. Why is this? He lives the open-air life; he is strong and robust. Measles to the natives was at first a very malignant disease, but heredity in a short time made it the mild disease that it is to us. Is it not so that heredity has produced in the white race a partial immunity to tubercle. Whereas the native has no help from heredity, as it is a new disease to them, unknown to them before the days of the white man.

To return to the main subject of the crusade.

Several years ago New Zealand was threatened with an invasion of Bubonic plague; it found the health regulations very ill adapted to meet such a foe; then the public health was looked after by separate local health bodies whose medical health officer was a local doctor in private practice. This is a very unwise and useless method, as, if he does his duty, he injures his private practice. Moreover, one local body not doing its duty made null and void the efforts of all the others, so it was necessary to

have central direction and authority. At one sweep Sir Joseph Ward was instrumental in doing away with the imperfect old and enacted a complete new health department, which to my mind is the most perfect in existence..

A short epitome of it is as follows: 1st. Public Health Department with a Minister of Public Health. 2nd. A supreme and chief medical health officer for the whole colony, who is commander-in-chief of all forces. 3rd. Divisional health officers. The whole of New Zealand is divided into about seven larger geographical areas and a few smaller ones, and over each of these areas is a health officer with his sanitary instructors. All these give their full services to the work. All local medical health officers are abolished. Local health bodies work in unison with and under the direction and guidance of the divisional officers who are supreme in all matters relating to public health. There is a just division of expense between the government and local bodies. The Public Health Department made a most efficient crusade against Bubonic plague, and when the crusade against Bubonic plague was over they had machinery in good order to make a crusade against the great white plague of tuberculosis

At this time the public was becoming aware of the dangers of tuberculosis, particularly the inhabitants of health resorts, and after a certain amount of agitation it was decided to conceive and carry out an efficient and prolonged attack against the scourge.

They decided that a well conceived plan must include the following points:

1. United effort of legislature, health department, medical men and public.

2. Public must be educated in the true knowledge of the disease, particularly as to its spread.

3. Every case of the disease in the colony must be known and kept track of as long as it is a source of danger.

4. Every case being a focus of danger, then every case must be efficiently treated, both to bring about cure when possible, and in any case so as to be no danger to others. Treatment comes under three heads: (a) Sanitorium for early incipient cases. (b) Home treatment where it is efficient. (c) Additions to the local hospital for local needs.

5. Disinfection of all houses that are infected.

6. Regulations to prevent consumption coming to the colony.

7. The economic question—a wise distribution of the burden between central and local bodies.

Before taking up each of these points seriatim I might state that in New Zealand the community do a great many things not done in other countries; they own and work for their own benefit most of the public utilities; they own their own railways, postoffices, telephones, telegraphs, etc.

They have different ideas from us as to the duty of one to another in society. Their system might be called fraternalism. They have succeeded, almost to a Utopian extent, in removing all those unjust laws and social conditions which allow one man to rob and prey upon his fellow-man. This being so it is easy to make the burdens of the community fall justly on all, and this being so the community can easily undertake to do anything that is for its own good, for the burden will fall justly. They looked on the subject of tuberculosis, not from an altruistic standpoint, but from one of public utility. We know now that the strong and weak both may be affected by tuberculosis. All cases are a danger to the community, and it may be my accident to be the next to be infected. Then why not as a community, for our own benefit, grapple with the subject. Why not now pay a premium so that if I am the next to be infected I have a hospital at my control, not as a charity but as a right. And moreover, each premium paid helps to lessen my risk to infection. To take up the points seriatim:

1. It is very necessary to have the co-operation of all the lgislature, the public health department, the medical men and the public. Only by united effort in which all are interested, and in which all help, can we ever succeed in such a task. The chief health officer is commander-in-chief, the other health officers are the divisional commanders, the Nogi and Kuroki under Oyama; the medical men are the scouts who bring all intelligence of the enemy to the commanders. And as in the present warfare, the soldier must be an intelligent one, though directed he must use also his own individual instruction; so we in this fight must have the patriotic, intelligent co-operation of the public.

2. The public were educated as much as possible by an agitation in the public press, all points of public interest being published widespread in all papers. Placards were got up by the chief health officer, dealing chiefly as to how to prevent being a danger to others; these were posted in every railway station in the colony, also in every postoffice. Also every patient was supplied with all the concise literature on the subject for his own perusal.

3. To Keep Track of Each Case.—Tuberculosis must be a

notifiable disease. This is the law, and it is the duty of the doctors all over the colony to notify each case, also keep the central authorities posted at all times of any change of address of cases so that all may be kept track of. By this means each and every case in the colony is known and kept in view.

4. Treatment.—(a) It was decided to have government sanitoriums in suitable localities for the treatment of incipient cases; this is found to be the most effective as to cure; also all cases are free from causing danger to others, and it is by all odds the cheapest method. Cost to patient is free, or if patient is able a maximum of $5 per week is charged, the rest of cost is borne by the public community, *i.e.*, the government. There are, of course, private sanitoriums run on commercial basis for those who prefer them, and who are able to meet the expense.

(b) Home Treatment.—All cases in which the local doctor is satisfied that efficient home treatment, with all care to prevent danger to others, is carried out then this done, and it is important to realize that excellent results may be obtained at home, and with no danger to others, when due care is taken; for a large number must always be treated at home.

(c) This is a very large class, the incurable cases, in each local district who enter from ignorance or poverty, or from many causes combined are not able or do not get suitable treatment at home. It is this class that sows the seeds of death broadcast, and it is this class that should be cared for, for the sake of the welfare of the community. It has been decided that this class must be treated locally. It is unsuitable to take them away so that their dear ones cannot see them. It is also important that each local body should feel that it must undertake its own burden and not throw the responsibility on others.

5. It is compulsory to disinfect by approved means all infected houses. No landlord dare give for rent any house without a clean bill of health.

6. If New Zealand is going to look after all her own cases of tubercle then it is necessary that she be not a dumping ground for the tuberculous patients of other countries. Suitable laws are in force to prevent this taking place.

7. The Economic Question.—New Zealand has local hospitals in all districts; these are government hospitals; and the management, direction and support is by the government and local bodies combined. The management and cost of the care of tuberculosis patients is similarly borne jointly by a wise decision between the central and local bodies.

New Zealand as a community does many things which in

other countries is left entirely to charity. Every citizen there feels that the hospitals are his to which he has a right to go if misfortune overtakes him, and he is not there a pauper to whom charity is doled out. With such an efficient system, effectively carried out, there is no reason why in twenty years the percentage of cases of tuberculosis will not be reduced to a minimum.

INFECTIOUS DISEASES AND THEIR REMEDIAL AGENTS.*

By C. J. Fagan, B.A., M.D., Victoria, B.C.

It is only during recent years that the nature of infection has come to light and yet there is much to be learned. Observed facts are explained by novel theories and indeed our conceptions of disease have been modified and in some instances entirely changed. In the paper I present I have endeavored to give a short account of the principal ascertained facts, and of the general trend of speculation on the subject of infection and immunity, and I have tried to explain the action and practical value of the remedial agents which have been introduced in the form of serums, vaccines and toxines.

Our bodies are built up by groups of specialized cells, which mutually depend on each other for their normal development and continued healthy existence. The cells of the different organs have their different functions, the healthy performance of which, is necessary to the well-being of the whole, and so disease is nothing more than the result of impaired or perverted cell action.

An infectious disease results when a specific, pathogenic micro-organism which having gained admittance to the body and having found conditions favorable, grows and multiplies, and elaborates a chemical poison which induces certain characteristic effects.

It is a matter of common observation that all animals are not alike affected by the same disease, and that epidemics which decimate certain species are wholly without effect upon the health and life of others. To give a complete and satisfactory

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explanation of these observed facts would be a task entirely beyond me and indeed impossible within the compass of a single address. From what I have read I am satisfied that the question of immunity is not solved by any single theory, but depends upon many properties of the animal body. Meltzer in a paper read at the Congress of American Physicians and Surgeons in 1900 rightly says, "I maintain in the first place that in the struggle against bacteria the defence of the body is not carried on exclusively or chiefly by a single element. It is neither the body fluids, nor the leucocytes, nor the other cells alone which can claim the exclusive merit of maintaining the health of the body, but each and every one of them has its variable share in attaining the desired end."

It has long been known that in the case of many of the infectious diseases, persons who have suffered from one attack were to some extent protected from any recurrence. Inoculation from a mild case of smallpox was practised in the East long before it was introduced into Europe. From Turkey it was brought to England in the year 1721. In the year 1796 Jenner performed his first vaccination. His discovery was the result of observing that milk-maids very often contracted a mild disorder (cow-pox) communicated by handling animals when they were suffering from a peculiar vesicular eruption of the udders; and that those who had been thus infected were in future protected to a great extent against smallpox. It was of course impossible to give any explanation of the exact mode in which an individual who has suffered from one attack of smallpox, or other infectious disease, was protected against its recurrence so long as the true nature of infection was unknown. This knowledge is the fruit of the science of bacteriology.

The discovery by Pasteur of the cause of fermentation was the first step. The resemblance between an infective disease and the process of fermentation was seen to be very close. Thus the infection corresponds to the addition of yeast to a saccharine solution; the incubation with the time which elapses before fermentative changes are seen in the liquid; and the onset of the disease with the rise of temperature and evolution of gas seen when the solution begins to ferment. When Pasteur had identified the yeast fungus as the cause of fermentation, and before any pathogenic organisms were discovered, it was asserted by many scientists (Henle in 1840 and later Trouseau) that vegetable organisms were the causal agents in infectious diseases.

Davine, in 1850, was the first to discover a bacterium. He

isolated the bacillus anthax and showed that the disease could be conveyed by its means. This opened up a new and vast field of research and showed the way to our present knowledge of infective processes, and bacteria were soon identified as the cause of diphtheria, tetanus, glanders, tuberculosis, pneumonia, etc.

When the bacterial causation of infective diseases was firmly established, naturally various hypotheses were put forward to account for the way in which these organisms produce their pathogenic effects. Anthrax being the first discovered was the first to be investigated in this connection. Post-mortem examination showed these rod-shaped and comparatively large organisms, lying in the capillaries of most of the organs and appearing in places to block up the blood-channels. The suggestion was therefore made that a process analogous to embolism was the cause of the morbid symptoms. This view was disproved later when it was shown that in other infective diseases the bacteria are comparatively few and that in diphtheria and tetanus the organism remains localised. Another suggestion was that the parasites seized on the nourishment circulating in the blood and so starved the tissue cells. This of course was untenable for the same reason as in the first theory.

Another theory was that the micro-organisms may act either directly or indirectly as ferments, splitting up complex proteids in the tissue and producing among these split products the specific poisons which induce the characteristic symptoms of the disease. While it is well known that powerful poisons originate from the cleavage products of bacteria it is now accepted that in infectious disease, the micro-organisms secrete, as products of their vital activity certain poisonous substances which kill or injure the cells and so produce disease. This theory supposes that the formation of bacterial toxins is a synthetical, rather than an analytical, process.

Recovery and Immunity.

When bacteria were definitely established as the casual agents in a number of infectious diseases, enquiry naturally followed as to explanation of observed facts with regard to these diseases and on lines suggested by a study of the life history are peculiarities of the organisms. Thus the self limitation in acute pneumonia which tends to end suddenly about the seventh day and typhus fever on the fourteenth, etc., were fit subjects for enquiry, also why the micro-organism which caused the condition

should not live indefinitely in a soil which showed itself so suitable for its growth and development.

Pasteur advanced that as a plant cannot live for more than a certain time in a given portion of soil, so, bacteria use up all existing material present in a given animal body. This " exhaustive " theory of Pasteur was soon abandoned, as it was found possible to cultivate micro-organisms on medium from animals just recovered from a disease due to these same organisms.

Chauveau propounded a second theory, that the excretory products of living organisms are generally poisonous to the organisms themselves, and showed that the life of the yeast plant is arrested by the presence of more than a certain percentage of alcohol, which is formed by its activity. This theory was not accepted as it was supposed that in living animals the excretory products of bacteria were rapidly passed out of the system. During the last few years Emmerich and Low have proved conclusively that most of the pathogenic bacteria produce both in culture and in the living body soluble substances which are capable of digesting the organisms which produces them. There substances are called "enzymes." When then the bacteriolytic enzyme formed in the animal body has reached to a sufficient degree to dissolve the bacteria which produces it, further growth is impossible, and the disease is arrested. This explanation of the arrest of infectious disease is now accepted, but the discovery of Emmerich and Low goes further, for it shows how immunity to certain diseases is established. When animals are immunized by successive treatments with a micro-organism or its products the blood serum and other fluids obtained from the body acquire either bactericidal or antitoxic properties. In some instances the immunity secured is wholly antibacterial, while in others it is anti-toxic, depending on the micro-organism used.

We will first treat of bacterial immunity:—It may here be pointed out that toxin is prepared in two ways: First, we have the toxin prepared in suitable media from the organisms of tetanus and diptheria from which the toxin is freely thrown out with the surrounding medium. In the case of most of the other pathogenic bacteria as in typhoid fever, tuberculosis, cholera, plague, streptococcic and staphylococcic affections the toxins are not thrown out into the culture medium, but remain in the bodies of the bacteria themselves and are prepared by triturating the bodies of the bacteria and extracting the residue. When animals are immunized by injections either of this residue or the actual germ, a serum is produced which is not anti-toxic in the

sense of neutralising the poisons of the micro-organism, but which destroys the bacteria themselves. Such a serum is said to be "antibacterial" or "bactericidal" instead of antitoxic. In some instances this serum manifests its power by an inhibitory action on the growth of the germ, or by partially depriving it of its capacity of forming toxins or by completely dissolving and destroying the invading germ. Pfeiffer was the first to discover that if cholera bacteria are placed in the peritoneal cavity of a guinea-pig which has been immunized to cholera, the bacterial cells are dissolved by the peritoneal fluid. This can be plainly seen by removing with capillary glass tubes portions of the bacilli which will be found to be undergoing solution in the surrounding fluid. This then is how immunity to infection by certain species of bacteria is brought about.

We can now review the subject of acquired immunity to bacterial toxins. The diseases which stand out prominently as representatives of this class are diphtheria and tetanus, during the progress of which in the living body the bacilli do not become generalised in the system but remain localised at the point of infection where they form their toxins. The nature of diphtheria toxin was first demonstrated by Yersin and Roux but to Ehrlich is due the honor of having first advanced an acceptable theory as to how these poisons act and are counteracted. Ehrlich's explanations is now almost universally accepted and is contained in the views he expresses on the general subject of immunity. I may here state that this theory explains three obscure points:—

(a) Natural and acquired toxin immunity;
(b) Toxine action;
(c) Formation and action of antitoxine.

Ehrlich believes that the toxic action of toxin upon bioplasm is due to a chemical union, and assumes that the toxin molecule possesses two different combining groups, one which may be desigated as the "haptophore" group and another the "toxophore." He also assumes that the living matter of the living cells of the animal body consists of a huge molecule, or group of molecules, with a number of atomic groupings, or as they are termed by the organic chemist, side-chains, which are ready to enter into combination with other suitable atomic groups, under certain conditions. The atomic grouping of these side-chains is so constituted that they are able to fix to themselves certain definite food stuffs important to the cell life. The relationship of each functioning fixing group of the corresponding groups must be specific—that is, they must be adapted to each other as key is

to a lock or male and female screw. From this point of view we must regard the relation of the toxin to the cell.

Ehrlich then advances that the toxins become anchored to the cells by means of their haptophore groups, and should the cells not possess side-chains which fit these haptophore groups, the toxophore groups cannot become fixed to the cell, which therefore suffers no injury—that is the organism is naturally immune.

The formation of anti-toxin can now be explained. When a small amount of a bacterial toxin is introduced into the body of a susceptible animal, it, by virtue of its haptophorous groups, combines with some cell in the body.

If the toxin introduced is in sufficiently large quantity, a number of side-chains to a cell are engaged, and their physiological function is destroyed and the cell dies. If, however, the dose of toxin is sub-lethal, then but one of two side-chains are attacked, they are themselves killed and drop off, but the cell escapes. The cell then proceeds to put out a fresh supply of the particular kind of side-chains and as frequently happens in living bodies the repair goes beyond the original supply and the cell thus becomes furnished with an increasing number of side-chains capable of fixing the particular toxin. It is thus able to deal with a larger and larger amount of the poion in the blood around it. In this way animals gradually become able to tolerate much larger doses. As this process goes on the cell forms side-chains to a point of over compensation, and some of them free from union to the toxin are cast off into the lymph around the cell and ultimately get into the blood. These free side-chains constitute anti-toxin.

For the production of anti-toxin it is necessary to prepare a toxin of the highest possible virulence from certain strains of the bacillus. When the organisms have grown for about a fortnight on the culture fluid, the latter is passed through a porcelain filter; the bacilli are thus removed, and the filtrate is ready for use. The horse selected for the production of the anti-toxin is tested with mallein and tuberculin to ensure that it is free from glanders and tuberculosis. If healthy 1-2 to 1 c.c. of toxin is injected. The injection is followed by considerable local reaction causing a large swelling, while general constitutional disturbance and fever is present. Another injection is given when the disturbance is cleared up, and is repeated and repeated in gradually increasing doses till as much as a litre, or 35 ounces may be given at once without reaction.

The antitoxic power of the blood rises gradually, reaching its highest in about six months. The injection of each dose of toxin is followed by an immediate fall in the anti-toxic value of the serum, but this rises again in the course of a day or two to a point higher each time than that at which it previously stood.

The strength of antitoxin can only be measured by means of physiological tests, and for this purpose guinea pigs are used, as it is found they react in a very constant manner to the poison, those of the same weight being killed in approximately the same time by equal doses of a given toxin. A unit-dose of toxin is that amount of diphthereal poison which just suffices to kill a guinea-pig weighing 250 grammes, in four days. This is known as the "minimal lethal dose."

A unit of antitoxin is the smallest quantity, which being mixed with one hundred minimum lethal doses of toxin and injected into a guinea-pig, prevents the appearance of any toxic symptoms.

Clinical Department.

A Case of Tuberculous Ulceration of the Ascending Colon Simulating Appendicitis. G. GREY TURNER, M.S. (DURH.), F.R.C S. (ENG.), Surgical Registrar, Royal Infirmary, Newcastle-upon-Tyne, in *The Lancet*

In October last I was asked by Mr. J. F. Thomson to operate on a case of appendicular abscess. The patient was an unmarried woman, aged 34, who came of a fairly healthy family; four brothers and three sisters were alive and well, but her father had died at 70 years of age from cancer of the bowel, and there was no history of tuberculosis. She had always been of a bilious temperament and often had attacks of vomiting with severe headache and constipation. During the eighteen months preceding her illness she had been feeling "hangy" and "listless" without exhibiting any definite symptoms. On Oct. 9th, about 2 a.m., she was awakened by a severe pain in the right side of the abdomen and chest; there was no sickness at that time. After a cup of tea and some brandy the bowels were moved, and she felt more comfortable until the evening when the pain returned and was "fearful." Mr. Thomson was called in and diagnosed appendicitis; he gave her medicine which relieved the pain. With the return of pain she felt very sick, but only vomited once after a cup of tea. Mr. Thomson found a tender lump in the right iliac fossa which the patient had not noticed. From this time until the 13th, when I saw her, she continued to have pain in the right iliac fossa but there were no other symptoms and the pain gradually diminished though the lump did not. The patient looked white and run down; the pulse and temperature were normal though the latter had been as high as 102 deg. F. In the right iliac fossa was a very hard, tender mass about the size of a crown-piece. Two points struck me at the time—that Mr. Thomson had noticed the lump at the beginning of the attack and that it was unusually hard. Nevertheless I thought that we should find an infected appendix covered over by omentum.

Arrangements had been made for an operation at the patient's own home and it was proceeded with at once. I made an oblique incision four inches long parallel to the outer part of Poupart's ligament and the iliac crest as for a case of appendicular abscess. The appendix was normal and the omentum was not down in the neighborhood. There was a hard lump in the outer

and posterior wall of the cecum (as I then thought, but an examination of the part removed showed it to be above the ileo cecal junction, and therefore in the ascending colon); the subperitoneal tissues in the sulcus on the outer side of the colon were very edematous. The mass appeared limited to the bowel, for the latter could be easily rocked from side to side. There were no enlarged glands and no deposits on the surface of the peritoneum. The cecum appeared normal and there was no evidence of tubercle in the lower ileum. I was in doubt as to the nature of the mass. The sudden onset of the illness and the edema of the tissues around suggested an inflammatory origin, but the hardness of the lump made me very suspicious of new growth. I was further biased in favor of the latter supposition for I had recently seen two similar cases both of which turned out to be cancer. I was in doubt as to the best course to follow. If the mass was purely inflammatory it would be sufficient to leave in a drainage-tube and a gauze pack, treating the case as one would an infected area following appendicitis. If it was tuberculous then a lateral anastomosis would relieve the patient meanwhile, and give the ulcer time to heal, but if it turned out to be malignant the most favorable opportunity for removing the disease would be lost. I thought that the mass was most likely a new growth, and that the interests of the patient would be best served by its removal and this I decided to do.

There was no special difficulty in the operation and I had the assistance of a good nurse. The lower two inches of the ileum, the cecum, and three inches of the ascending colon, together with the termination of the mesentery, were excised. I closed the bowel ends and made a lateral anastomosis by direct suture. As a safeguard a drainage-tube was brought from the involved area out of a separate opening in the right flank. The parietal incision was sutured in three layers with chromic catgut. The patient made an uninterrupted recovery so far as the abdominal condition was concerned, the bowels were moved without medicine on the third day, she was well enough to be up at the end of a month and was out soon afterwards. The wound healed by first intention and appeared to be going on perfectly, but at the end of the fifth week a chronic gut suture worked its way out followed by several others. This gave the patient more concern than any other part of her convalescence, though after this little episode terminated the scar was as strong and sound as could be desired.

On examining the parts removed I found that there was a small diverticulum on the cecum just below the entrance of the ileum. On laying open the cecum and colon the hard mass was

found on the posterior wall of the latter just above the entrance of the ileum. It was composed of the indurated tissues surrounding a cavity beneath the mucous membrane, but it felt very much softer than it did *in situ*. I therefore began to fear I had removed the bowel whose only crime was the harboring of a simple ulcer. The cavity had a narrow mouth, so that it was not very obvious from the inside of the bowel, and its interior was about three-quarters of an inch in diameter and had sloughy walls. It lay in the submucous tissues and may have been lined by mucous membrane, but all traces of this had disappeared and no evidence of its presence was found on microscopical examination. I fully expected to find a foreign body as in the somewhat similar cases described by Bland-Sutton, but there was none. On microscopical examination the wall of the adjoining mesentery was carefully examined but showed no evidence of tubercle, and there were no other ulcers or indurated areas in the parts removed to suggest further microscopical examination. The whole appearance suggested that a diverticulum had become infected with tubercle, and at a later stage with sepsis. The presence of the diverticulum at the extremity of the cecum would support this view, for they are usually multiple, but I did not notice diverticula on the other parts of the colon incidentally exposed during the operation.

It is an interesting fact that there were no signs of tubercle elsewhere, and that the patient has very much improved since the operation. A careful consideration of this case leads me to think that the course of events was somewhat as follows: A diverticulum became infected with tubercle, and as a consequence became ulcerated. The contents could not be regularly removed by the actions of the bowel and decomposition arose. Thus to the tubercle sepsis was added and the acute symptoms were coincident with the onset of inflammation. The edema of the retrocollic tissues clearly showed the presence of acute infection, for it is a constant attendant of sepsis in the vicinity. Though, strictly speaking, the ulcer was in the colon and not in the cecum, it may probably be as accurately described as an example of typhlitis with commencing perityphlitis as many others that have been suffered to bear this nomenclature. If we consider the septic factor in this case as the important feature it may be looked upon as an example of a rare condition, since it is certain that typhlitis and its complications are, in the great majority of cases, due to disease originating in the appendix. Still, cases of true perityphlitis not of appendicular origin do occasionally occur and an example from perforation

of the cecum by a pin has come under my notice. From another point of view the case is interesting, for it shows how sometimes the addition of sepsis to tubercle may serve a useful purpose by drawing attention to the disease at a time when the local manifestation at least can be efficiently dealt with, just as a tuberculous ulcer in the appendix may rupture, so bringing on itself the ban of surgical interference. Further, the case is a useful reminder of the need for care in the diagnosis of swellings about the cecal region. The diagnosis of appendicitis is more often correct than that of any other abdominal disease and this is so much realized that any other suggestion is apt to be treated with but scant courtesy.

Within the last two years I have seen a couple of cases very similar to the one here recorded. In both there was a history suggestive of appendicitis and both were diagnosed as such, but in both a hard mass in the cecal region turned oct to be malignant disease of the bowel. It is not always easy to make the distinction, and I have more than once overstepped the mark and diagnosed malignant disease or tubercle of the cecum when the disease was inflammatory and originated in the appendix. Both malignant disease and tubercle may exactly mimic appendicitis, but it should give rise to suspicion when in a middle-aged person mild attacks are associated with the presence of a very definite hard lump; if a well-marked lump is found at the outset of an attack; if such a lump gets larger without becoming more tender; if there is evidence of intestinal obstruction, or if there has been much loss of weight. Of course, in any case of a suspicious mass in this neighborhood an operation for its elucidation and treatment should not be delayed. I have elsewhere drawn attention to the several ways in which malignant bowel growths may simulate appendicitis and they may be briefly summarized as follows:

1. A growth in the cecum may be associated with attacks like appendicitis. These attacks may be due to obstruction or to inflammation of the parts around, and this may go on to the formation of an abscess which may exactly simulate one due to appendicitis.

2. A growth in any part of the large intestine beyond the cecum may get blocked and if there is a competent ileocecal valve the cecum is the first part to feel the stress of the obstruction and at first all the pain is referred to this region. It is only as the attack passes off that the falling distension enables the lump elsewhere to be felt.

3. Primary malignant disease of the appendix may be the cause of the symptoms.

Therapeutics.

Uremia. When uremia develops, showing the failure in compensation of the kidney, venesection is indicated to rapidly eliminate the toxins, followed by an injection of the normal salt solution. When convulsions occur such preparations as caffein, scoparius, digitalis and convallaria are useful. If the heart is well compensated and does not enter into the cause of dropsy, the potassium salts, scilla and sweet spirits of nitre are recommended to aid the function of the kidney. Asthma is frequently a symptom denoting the presence of a toxemia and disappears with the improvement, by eliminants, of the heart and kidney. Sometimes it is necessary to resort to chloral or morphine hypodermically in small doses, or perhaps to venesection. Epistaxis sometimes occurs and indicates the necessity of lowering blood pressure. Diaphoretics are indicated very early in the treatment as promoters of elimination and thus relieving the work of the kidney. They should be employed regularly, depending chiefly on hot water or hot-air baths. As to the medicinal agents as diaphoretics, sweet spirits of nitre and liquor ammonia acetatis are preferable, using pilocarpin in emergency cases. Diuretics are of value only when the compensation of the kidney has failed and the urine is scanty and dropsy present. When indicated by poor heart's action and also to assist the kidney, the author recommends a hypodermic injection of morphine, followed the next morning by a hypodermic injection of pilocarpin. The author states that he has never seen any ill-effects follow the use of morphine when given in this way. The operation for stripping off the capsule of the kidney was not discussed by this writer—*J.A.M.A.*

Surgical Suggestions. A fracture produced by only slight violence should at once raise the suspicion of a malignant growth. In such a case a uniform dark shadow about the bone as seen in the fluoroscope is to be interpreted as a neoplasm rather than as callus, for recent callus is not opaque to the X-rays.

In the treatment of fractures of the forearm no consideration is more important than the avoidance of contractures of the fingers, by the intelligent use of splints and by means of early, active and passive movements.

Involuntary urination very often means a distended bladder, and in old men it should at once indicate an examination into the condition of the prostate. Vomiting, too, is often caused by distention of the bladder.

In the presence of anemia or of faintness, without other apparent cause, inquire concerning the passage of black stools. The condition may result from hemorrhages due to an ulcer or neoplasm of the small intestine.

Inflamed areas and abscesses about the knees of creeping infants should be examined for foreign bodies.

An amputation for malignant ulceration should not be performed until the possibility of its being merely a broken-down gumma has been satisfactorily excluded.

Tinnitus aurium, present only in the recumbent posture, is suggestive of aneurism of one of the posterior cerebral vessels.

After circumcision it is important to prevent adhesion of the reflected mucous fold of the prepuce to the corona glandis by the daily passage of a probe about the corona, and by the use of vaseline.

Individuals with bluish sclerotics, and with dark lanugo over the upper part of the back are usually of tuberculosis diathesis; and these signs are not inconsequential in making a diagnosis.

Surgical tuberculosis, no less than pulmonary tuberculosis, calls for the most careful general treatment, post-operative and otherwise.

The temptation should not be yielded to to incise a psoas, hip or other "cold" abscess, except in isolated instances and then only under the most rigid asepsis. The production of a mixed infection means chronic sinus, chronic invalidism and, often, amyloid disease.

Children who complain frequently of pain in the stomach should be examined for evidence of beginning Pott's disease. Such cases treated before the development of curvature usually yield very satisfactory results.

In the early months of pregnancy examinations should be made to determine that there is no retroversion or to treat it if it exists. A retroverted gravid uterus impacted in the curve of the sacrum always aborts.

In typhoid fever spontaneous rupture of the spleen may simulate intestinal perforation.

Before operating for pharyngeal adenoids or hypertrophied tonsils make sure that these are not merely an expression of status lymphaticus. If they are, do not employ an anesthetic. Also determine whether the patient is a hemophiliac. If he is, do not operate at all.

When applying a plaster dressing to the leg always include the foot if the patient is to be confined to bed; otherwise "drop foot" will develop.

In dealing with infections or injuries of the fingers amputation should be a *dernier resort*. This is especially the case with a thumb, the most important of all the fingers.

The painfulness of withdrawing packings that have dried in a wound may be avoided by soaking them with peroxide of hydrogen.

In an acute condition simulating intestinal obstruction, if a large mass can be felt in the abdomen think of omental torsion.

In excising a varicocele under local anesthesia, tie the upper ligature first; the pain of tying the lower ligature will then be abolished.

When operating for empyema thoracis it is a good rule to aspirate again when the pleura is exposed and before it is incised. This may save some embarrassment.

—*American Journal of Surgery.*

Hay Fever. Prousnitz (*Berliner Klinishe Wochenschrift*) says that without any doubt Dunbar has proven that hay fever is due to the pollen of graminaceæ floating in the air in the hay season. The antitoxine acts by diminishing the toxines, and the results of its use have been excellent.

Hypnotism for Morphine Users, Drunkards, etc. Berezinski (*Roussky Vratch*) would treat drunkenness, the morphine and tobacco habits by the employment of hypnotism, as there are no drugs which will cure these habits. He advocates sanatoria where these cases can be confined and treated hypnotically. He says hypnotism easily and readily cures the tobacco habit, but there is soon a relapse. In alcoholics twenty to eighty per cent. of cures have been effected.

Society Reports--Notes of Interest.

BRITISH COLUMBIA MEDICAL ASSOCIATION—SYNOPSIS OF SECRETARY'S MINUTES.

The sixth annual meeting of the British Columbia Medical Association was held in O'Brien Hall, Vancouver, Tuesday, July 18, 1905. Meeting opened at 10 a.m., Dr. W. D. Brydone-Jack, President, in the chair. There were present at the meeting forty members of the Association, and about ten visitors, chiefly members of the profession, who had lately been attending the meeting of the American Medical Asociation at Portland. The minutes of the previous meeting were read and adopted.

The following committees were then appointed: Audit Committee, Drs. Pearson, Monro and Lefevre. Papers and Business, Drs. Tunstall, Campbell and Keith. Credentials, Drs. McPhillips, Poole and Pearson. Nominating Committee, Dr. McPhillips, Weld and Pearson.

The following new members were duly elected: Dr. A. Lazelle Anderson, Wm. Stephens, McLellan, A. F. Fuller and C. A. McDermid, all of Vancouver; Dr. C. E. Doherty, of New Westminster.

The President's address was then read, and was much appreciated by all present.

Dr. Tunstall, in the absence of the author, then read a paper on "An Unusual Case of Intestinal Obstruction," by Dr. R. E. McKechnie.

The afternoon session opened at 2.30 p.m., and was fully occupied by the reading and discussion of the following papers: "Infection and Immunity," Dr. C. J. Fagan; "Nevus of the Eyelid," Dr. Glen Campbell; "Bilharzia Hematobia occurring in British Columbia," Dr. R. Eden Walker; "Tuberculosis in New Zealand," by Dr. Wm. Stephens.

At the evening session, 8 p.m., under the head of general business, the following resolution was unanimously carried: "That the British Columbia Medical Association consider that the notification of cases of tuberculosis is advisable, and that the Provincial Government be asked to put the regulations relative to this matter into effect."

The election of officers resulted as follows: President, Dr. Geo. E. Drew, New Westminster; Vice-President, Dr. O. Weld, Vancouver; Treasurer, Dr. J. D. Helmcken, Victoria; Secretary, Dr. R. Eden Walker, New Westminster. Next place of meeting, New Westminster, B.C., date to be left in the hands of the Executive to fix.

Mr. Grant, architect, then was introduced, and with the aid of lantern slides he gave a very interesting description of the construction, etc., of the new city hospital at Vancouver.

Col. Tracey, C.E., next gave an interesting address, also illustrated by lantern slides, on the septic tank system of treating sewage. No further business presenting itself, the meeting adjourned at 10.30 p.m.

On Tuesday afternoon a number of the members with their wives were entertained by an excursion on Burrard Inlet, and on Wednesday afternoon a number of members and ladies visited the Provincial Hospital for the Insane, New Westminster, and were entertained at a garden party by Dr. C. E. Doherty, the medical superintendent, and Miss Doherty. A most enjoyable afternoon was spent.

Phlebosclerosis.

Dr. Chas. F. Martin, of Montreal, at the annual meeting of the Association of American Physicians, read a paper on Phlebosclerosis, in which he stated that cirrhosis of the veins involved most frequently the veins of the lower extremity, the internal and external sapheni, a condition which occurred before thirty-five years of age mostly. In these cases there was an absence of arteriosclerosis, although this is a common affection, easily detected in over 60 per cent. of all cases. In a majority of the cases (14) examined, there were no evidences of inflammation, and Dr. Martin believed the condition functional from strain, exercise, etc.

Intestinal Indigestion.

Dr. George B. Fowler, New York City, at the 6th Annual Meeting of the American Therapeutic Society, stated that in treating this disease he denies his patients rich soups, steak, pork, chicken and turkey from storage houses, white potatoes (fried), sweet wine, cooked oysters, cheese, kidney, liver, and cooked tomatoes. Rice and hominy, he states, do not tend to create fermentation. He denies there is any difference in the digestive qualities between fresh and stale bread.

Physician's Library.

A Text-Book of the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of Medicine and of Clinical Medicine at the Medico-Chirurgical College, Philadelphia. Seventh edition, revised and enlarged. Octavo of 1297 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company. Canadian agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto. 1905. Cloth, $5.50 net; sheep or half morocco, $6.50 net.

A sale of over 22,000 copies and the attainment of a seventh edition seems sufficient recommendation for any book; in fact, Anders' Practice does not now need any recommendation—it is too well known. As in the former editions, particular attention is bestowed upon inductive diagnosis, differential diagnosis, and treatment. Regarding differential diagnosis, we notice with much satisfaction that the many diagnostic tables of simulating diseases have been retained. The clinical value of these tabulated points of distinction is beyond cavil. Numerous new subjects have been introduced, among which are: Rocky Mountain Spotted Fever, Examination of Patients for Diagnosis of Diseases of the Stomach, Splanchnoptosis, Cammidge's Test for Glycerose in the Urine, and Myasthenia Gravis. Certain other individual affections have been entirely rewritten and important additions have been made to the diseases which prevail principally in tropical and subtropical regions. The seventh edition of Dr. Anders' Practice maintains the reputation of the work as the best practice before the profession to-day.

The Pharmacopia of the United States. Eighth Decennial Revision. By authority of the United States Pharmacopial Convention held at Washington, A.D. 1900. Revised by the Committee of Revision and published by the Board of Trustees. Official from September 1st, 1905. Philadelphia: J. B. Lippincott Company, printers and binders. Agents: P. Blakiston's Son & Company.

This work is an extensive one of 692 pages, and is to United States medicine what the B. P. is to the English and Canadian profession.

A Text-Book of Clinical Diagnosis. By Laboratory Methods. For the use of Students, Practitioners, and Laboratory Workers. By L. NAPOLEON BOSTON, A.M., M.D., Associate in Medicine and Director of the Clinical Laboratories at the Medico-Chirurgical College, Philadelphia. Second edition, revised and enlarged. Octavo of 563 pages, with 330 illustrations, including 34 plates, many in colors. Philadelphia and London: W. B. Saunders & Company. Canadian agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto. 1905. Cloth, $4.00 net; sheep or half morocco, $5.00 net.

It must, inded, be a great gratification to an author when two editions of his work are required in one year. From such a reception it is evident that Dr. Boston's Clinical Diagnosis fills a demand. In this new second edition many new subjects have been added, including Biff's New Hemogelometer, Ficker's Reaction, an illustrated description of the Leishman-Donovan-Bodies, Ravold's Test for Albumin, Cammidge's Test for Glycerine, and Cipollino's Test. The subjects of cystodiagnosis and inoscopy are given more extended consideration, the practical usefulness of these methods having been clearly demonstrated. Throughout the text it has evidently been Dr. Boston's aim to emphasize in progressive steps the various procedures of clinical technic, illustrating such steps whenever possible. An unusual amount of space is given to the consideration of animal parasites, malarial and other blood parasites, skin diseases, transudates and exudates, and the secretions of the eyes and of the ears.

Saunders' Medical Hand-Atlases—Atlas and Epitome of Diseases of the Skin. By PROFESSOR DR. FRANZ MRACEK, of Vienna. Edited, with additions, by HENRY W. STELWAGON, M.D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Second edition, revised, enlarged, and entirely reset. With 77 colored lithographic plates, 50 half-tone illustrations, and 272 pages of text. Philadelphia and London: W. B. Saunders & Company. Canadian agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto, 1905. Cloth, $4.00 net.

It is with much pleasure that we review the second edition of Professor Mracek's admirable hand-atlas. That the work is a success and of practical usefulness needs no further proof than the demand for a second edition, not only in America but also in

Germany. The author has added some twenty-six new plates, fifteen of them colored lithographs, and all of exceptional merit, The text he has thoroughly revised to include the most recent dermatologic advances, especially along the line of histopathology. As in the first edition, there is evidence of the conscientious editorial work of Dr. Stelwagon, many additions being interspersed throughout the text.

Manual of Diseases of Children. By James Burnett, M.A., M.B., M.R.C.P. (Edin.), Registrar and Assistant to the Extra-Physicians, Royal Hospital for Sick Children; Senior Clinical Medicine Tutor, Extramural Wards, Royal infirmary, and Physician to the Marshall Street Dispensary, Edinburgh. Edinburgh: E. & S. Livingstone. Price, 6s. 6d.

We have found in an examination of this Manual of Diseases of Children, one that is practical, up-to-date, clearly written, whilst at the same time giving a brief outline of a subject not sufficiently and carefully studied by most practitioners. It is of all things a book that we can recommend to students who will be able to get hold of a good working knowledge of this department of medicine, readily and quickly. To those in the practice of general medicine, who are pushed for time, it will serve as a good guide in all it undertakes to enlighten them upon.

A Text-Book of Diseases of Women. By Barton Cooke Hirst, M.D., Professor of Obstetrics, University of Pennsylvania. Second edition, revised and enlarged. Octavo of 741 pages, with 701 original. illustrations, many in colors. Philadelphia and London: W. B. Saunders & Company. Canadian agents: J. A. Carveth & Co., Limited, 434 Yonge Street. Toronto. 1905. Cloth, $5.00 net; sheep or half morocco, $6.00 net.

Dr. Hirst may well be congratulated upon the publication of such a work as this, a second edition of which has just appeared. Written on the same lines as his "Text-Book of Obstetrics," to which it may be called a companion volume, it gives every promise of attaining a similar success. The palliative treatment of diseases of women and such curative treatment as can be carried out by the general practitioner have been given special attention, enabling physicians to treat many of their patients

without referring them to a specialist. Indeed, throughout the book great stress has been laid upon diagnosis and treatment, and the section devoted to a detailed description of modern gynecic operations is without doubt the most clear and concise we have yet read. In this second edition the revision has been thorough, introducing, however, only such matter that promises or has been demonstrated to be of permanent value. Forty-seven new illustrations have been added and thirty of the old ones replaced, the work now containing a collection of seven hundred and one beautiful original illustrations, many of them in colors. We take much pleasure in recommending Dr. Hirst's work to the medical profession generally.

Hand-Book of Physiology. For Students and Practitioners of Medicine. By AUSTIN FLINT, M.D., LL.D., Professor of Physiology in the Cornell University Medical College; Consuting Physician to the Bellevue Hospital, New York, etc. With 247 illustrations in the text—including four in colors—and an atlas of sixteen colored plates, including forty-eight original figures, taken from actual stained microscopical preparations. New York: The Macmillan Company. Price, $5.00.

Dr. Austin Flint has been actively engaged in teaching physiology to medical students since 1858, during which time he has always been well abreast of the advances in this branch of medicine. The present volume represents the instruction in physiology which he now gives in Cornell University Medical College, but it has been to some degree expanded so as to permit of extended study and reference. We are glad to see that the book eliminates the metric system as we have no use for it. As a student's handbook it is the equal of any; as a work of reference for busy practitioners, there is none better.

Memoirs of a Great Detective. Incidents in the Life of John Wilson Murray, Chief of the Detective Department of the Provincial Government of Ontario. Compiled by MR. VICTOR SPEER. Toronto: Fleming H. Revell, Richmond Street West. Price, $1.50.

Nearly every doctor in Ontario, if not in Canada, has during the course of his medical career, been called into court, some-

times as an expert, sometimes as an ordinary witness; sometimes in medico-legal, sometimes in civil cases. Some of these cases are historic, and at the time excited the greatest interest from medical men as well as others. Many of them are yet vividly stamped upon the memory of those of us who have read the newspapers for the past thirty years. The thought to compile, therefore, the incidents of these cases of one who was largely and in nearly all of them instrumental in working them successfully out, was a happy one, as Mr. Speer has given us a volume of truth far more attractive than the ordinary fiction. The book is intensely absorbing, written in a smooth style of diction, and records the lifework of a man who has done his level best on behalf of law and order in the Province of Ontario. It is as infinitely interesting to the medical fraternity as it will be to the lay public, and is another evidence of that trite saying, " Truth is stranger than fiction."

Abdominal Operations. By B. G. A. MOYNIHAN, M.S. (London), F.R.C.S., Senior Assistant Surgeon to Leeds General Infirmary, England. Octavo of 695 pages, with 250 original illustrations. Philadelphia and London: W. B. Saunders & Company. Canadian agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto. 1905. Cloth, $7.00 net.

It has been truly said of Mr. Moynihan that in describing details of operations he is at his best. This, his latest work, therefore, will be widely welcomed by the medical profession generally, giving as it does in most clear and exact language the prelimiary technic of preparation and sterilization, as well as the actual *modus operandi* of the various abdominal operations. Mr. Moynihan's reputation in this field is international, and this work, stamped with the authority of a rare experience, is undoubtedly to become the recognized standard. Peritonitis and appendicitis, the latter of such present importance, have been accorded unusual space in a work of this kind; and the subject of chronic gastric ulcers is also excellently detailed. Throughout the entire book numerous cases have been quoted from both the author's own practice and those of other distinguished surgeons. The beautiful illustrations are all new and have been drawn especially for Mr. Moynihan's work under his personal supervision. The book is a valuable production and adds greatly to the reputation of its eminent author.

The Canadian Medical Protective Association

ORGANIZED AT WINNIPEG, 1901

Under the Auspices of the Canadian Medical Association

THE objects of this Association are to unite the profession of the Dominion for mutual help and protection against unjust, improper or harassing cases of malpractice brought against a member who is not guilty of wrong-doing, and who frequently suffers owing to want of assistance at the right time; and rather than submit to exposure in the courts, and thus gain unenviable notoriety, he is forced to endure blackmailing.

The Association affords a ready channel where even those who feel that they are perfectly safe (which no one is) can for a small fee enrol themselves and so assist a professional brother in distress.

Experience has abundantly shown how useful the Association has been since its organization.

The Association has not lost a single case that it has agreed to defend.

The annual fee is only $2.50 at present, payable in January of each year.

The Association expects and hopes for the united support of the profession.

We have a bright and useful future if the profession will unite and join our ranks.

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And Ontario Medical Journal

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COMMENT FROM MONTH TO MONTH.

Dr. R. A. Reeve, Dean of the Medical Faculty of the University of Toronto, has been elected by his confreres of the Local Branch of the British Medical Association, to the office of President of that august body for 1906. The choice is a happy and in every way a satisfactory one. Ever kind, always courteous, a model man to fashion deportment by, Dr. Reeve will bring to the office all the requisites of a popular presiding officer; and under his wise, earnest, pacific administration, the annual meeting in Toronto next year will be assured a pronounced success. In every way his hands will be supported loyally, and it is safe to say the working out of the details of arrangement for the reception of visitors and their entertainment, will be carried along with vim and enthusiasm, when all know that a gentleman of the finest calibre commands. Every officer elected, as well as every one not an officer, will feel it incumbent upon him that the occasion will demand something of him, and each and every one will be sure to contribute something towards the success of the meeting in whatever way he may be called upon to contribute.

The other day in the Toronto Police Court the presiding magistrate in hearing a case for the collection of wages due, stated every man was entitled to what he earned. The thought or statement, which is only a rational and equitable one, should be wafted into that court where once in a while a physician is called upon to sue a delinquent debtor, so that the wisdom of the remark might permeate through and through the presiding officer therein. It is well known that physicians do a great deal of work for which they are never paid; and that now and again, where just claims are prosecuted, they are not always successful. The practice of medicine is a profession wherein its members dare not seek for work in the open market. Physicians cannot prosecute a commercial business nor ply a trade, and in all cases their services are asked for, and consequently should be recompensed accordingly. So patent is this that there is absolutely no exception to the rule that the services of all physicians are engaged by their patients, and so long as such patients keep the engagement intact of their own accord, these selfsame services should be paid for accordingly. It seems too bad, then, when a physician does take action in a court of law that his action is not always sustained. There can be no other moral law than the right to every dollar that every man earns regardless of what trade or profession he belongs to, and people who engage a physician should be made to pay that physician when required to.

The *Toronto Globe* recently delivered itself of a very commendable article on the good physician, particularly as he has been known for a great many years in Toronto East. The occasion was one which led to some very fine sentiments from the pen of the editor of one of the foremost newspapers on this continent. No one in the medical profession can quarrel with these sentiments, although it is a well-known fact amongst the members of this profession that a great deal of humanitarian work is done annually wherever a physician breathes the breath of life. We are not flashing this from any tower. All we wish to do is to say that the medical profession will appreciate this testimonial that its aims are not all harsh, nor mencenary. We believe, however, that there is a great deal of misplaced charity, and our inability often to separate the chaff from the wheat militates against the profession of medicine financially. In general the public does not appreciate this. They think that there it not much difference in treating a poor man who is not able to pay for nothing, and another man who is able to pay for the same

service. If, they say, my doctor treats John Jones, who is a poor man, for nothing, why should I pay, when I am only a little better off in this world's goods than John Jones, and so on and forever. In fact, the financial part of the practice of medicine has resolved itself into this, that if a patient does not choose to pay his doctor in a year or two the account is overlooked, and the doctor goes on his way looking for pastures new and green. There is no question then that we are doing ourselves and our families a great injustice. If it remained at that, all might be well and good; we would not be doing any injustice to our neighbors. But is this so? When a doctor arrives at that time in the practice of medicine when he can afford to allow the financial end of his profession to drift or look after itself; when he takes what he gets from patients and never asks them for any more, we would like to ask is he dealing righteously and honestly by his brother practitioner who is often young, and often requires the money. This very point will sooner or later call for a revision of ethics, because the past order of things is passing away, and a new order with some commercial sentiment incorporated is approaching.

Most people have a very crude understanding of the ways and purposes of hospitals, and if the medical profession ever undertakes to enlighten them concerning them, the latter generally get fibrillary twitchings. There is a certain proportion of the community which believes that the word hospital means free bed, free board, free room rent, and above all free medicine and free doctor's attendance. It is sometimes necessary, though sad and painful, to enlighten these people. Of all things connected with the word hospital, the most fixed delusion is that you can get accommodation—or ought to get accommodation—in these institutions, a bed to yourself, a whole ward to yourself, with a nurse or two thrown in—and especially and most important of all—your doctor's attendance for the rate you pay to the hospital per week. It is remarkable that intelligent men, and the more intelligent they are, the worse they are, in all walks of life, in law, in religion, in education, in agriculture, are full of the idea that to go to the hospital means that you do not have to pay the doctor who attends you in such institution. In their poor benighted bosoms they have the idea that the hospital pays the doctor or, at least, he gets his fee from the government, but they never mention upon which government the poor doctor is to graft. Why should doctors, then, treat the paupers of any com-

munity or municipality, when such ideas are grounded in the feelings of that community? They evidently believe that it is morally right for the doctor to be paid for his trouble by the hospital or the government. Such being the case should not every municipality pay for the treatment of its own indigent sick?

The patent medicine industry in the United States these days is getting some pretty hard knocks. High class periodicals in New York and Philadelphia refuse their advertisements, and are not content with so doing. They ceaselessly wage a war upon the nefarious and dangerous trade in nostrums. But by far the greatest blow yet struck, a veritable solar plexus punch, is that just dealt by the Internal Revenue Department of the United States Government. This department has sent out official notices that on and after December 1st, 1905, all patent medicines containing a considerable proportion of alcohol—and most of them do—will be classed as spirituous liquors, and will be subject to the rules and regulations applicable to spirits under the Internal Revenue laws. Under the new regulations it will be impossible to obtain these preparations from dealers, as the sale of spirituous liquors are not permitted. Canada cannot too soon follow suit.

News Items.

THERE were 2,200 deaths in Ontario during August.

DR. KANE, of Gananoque, has located in Sturgeon Falls.

DR. ROBERT AGNEW, of Clinton, has left for Innisfail, Alta.

THERE were 497 births in Toronto in September and 309 deaths.

DR. LAPTHORN SMITH, Montreal, has returned from a trip to England.

THERE were forty-two cases of typhoid fever in Toronto in September.

SINCE the beginning of 1905 there have been 275 births in Kingston, Ont., and 286 deaths.

DR. RIDDELL, Crystal City, Man., and formerly medical health officer of Manitoba, is dead.

THERE were eight marriages in the Yukon in August and five deaths.

DR. E. PELLITIER, Montreal, is attending the International Conference on Tuberculosis at Paris.

DR. GEO. A. SCHMIDT, of Stratford, is now practicing in the C.P.R. hospital at Copper Cliff, Ont.

THE death is announced of Dr. Louis J. A. Simard, one of the leading physicians of Quebec City.

DR. MCEACHREN, who formerly practised in Elmvale, has finally decided to settle in Calgary, N.W.T.

DR. E. C. HANNA, of Thorold, has been appointed house surgeon at the Western Hospital, Toronto.

DR. C. R. MOXLEY, of Kingston, is now associated with Dr. E. Richardson and will be located at Markstay.

DR. S. F. MILLEN, left Cottam for New Liskeard, in New Ontario, where he will practice under Dr. Field.

DR. J. ALEX. HUTCHISON, Montreal, has been appointed chief surgeon to the Grand Trunk Pacific Railway.

DR. P. J. MCCUE, son of James McCue, of Melancthon, is now practicing his profession at Nairn Centre, Ont.

DR. K. D. PANTON, of Milton, left last month for Portland, Oregon. He intends to practice in an Oregon town.

DR. CAMPBELL is to be a resident of Brooklin, Ont. He intends having a drug store as well as his medical office.

DR. E. L. ROBERTS, of Langton, has formed a partnership with Dr. Bowlby, of Simcoe, and is now practicing there.

DURING the past four months in Toronto the Victorian Order of Nurses has made 2,210 visits, 196 being all-night visits.

FOR the first nine months of 1905 Toronto paid for 181 patients in her hospitals, as against 151 for the same period during 1904.

THE Toronto General Hospital and the Hospital for Sick Children have changed the hours of outdoor clinics from 1.30 p.m. to 9 a.m.

PREMATURE births in Montreal in 1904: Legitimate, 229; illegitimate, 49. Still births: legitimate, 425; illegitimate, 54. In the foundling hospitals the number was 494, making a grand total of 1,237.

DR. D. N. CAMPBELL, who went to British Columbia about two years ago, has returned to Niagara Falls, and will practice there.

DR. WILLIAM GARDNER, Montreal, has been elected second vice-president of the College of Physicians and Surgeons of Quebec.

A NEW hospital has been opened at Caughnawaga, the Indian village near Montreal, which will accommodate forty persons.

SUBSCRIPTIONS are being received in Hamilton, Ont., for the purposes of a consumption sanitarium; $20,000 has already been subscribed.

DR. BRUCE WHITE, Millbrook, has been appointed ship's surgeon for the C.P.R.'s steamer running between Vancouver and Hong Kong.

A PROVINCIAL medical association is being formed in Saskatchewan. Dr. G. A. Charlton, of Regina, is the provisional secretary-treasurer.

DR. J. WILBERT BRIEN, who has been associated with his uncle, Dr. J. W. Brien, of Essex, the past couple of years, will locate in Windsor.

THE death is announced of Dr. John M. Purcell, of Halifax, at the age of forty. He had been assistant city medical health officer for several years.

THERE were 229 deaths in Winnipeg during the month of September; the births were 181. Thirty-seven of the deaths were caused by typhoid fever.

THE College of Physicians and Surgeons of Quebec have decided to petition the legislature to establish the five-year course of medicine in that province.

DR. W. H. F. ADDISON, one of the house staff of the Toronto General Hospital, has been appointed lecturer in histology in the University of Pennsylvania.

DR. C. A. HODGETTS, secretary of the Ontario Board of Health, has returned from Boston, where he attended the annual meeting of the American Public Health Association.

DR. J. STUART PRITCHARD, who graduated in medicine this summer, is now located at Doncaster, York county, as physician in charge of the James Bay Railway construction hospital.

DR. F. J. WEIDENHAMMER, B.A., of Elmira, has returned from Chicago, where he spent the last two months, taking a post-graduate course in surgery at the Rush Medical College.

THE Toronto Board of Health is having Dr. Sheard, the medical health officer, consider the advisability of applying for legislation to compel physicians or other authorities to report all cases of tuberculosis.

THE Toronto Clinical Society opened for the season on the evening of the 4th of October in the Ontario Medical Library Building, when Dr. Adam H. Wright delivered the annual presidential address.

THE Toronto Medical Society opened for the season on the evening of the 5th of October. Dr. Ralph Hooper delivered the presidential address and Dr. Matthew D. Mann, Buffalo, contributed a paper on Obstetrics.

DR. WALTER MCMURTRY, of Port Hope, honor graduate of McGill University, has gone to London, England, where he will study for a year. We extend congratulations to our young friend on his success at the University.

THERE were 356 patients treated in the Winnipeg General Hospital during the week ending Sept. 30th, of which number 246 were men, 75 women and 35 children. In the outdoor departments the number treated amounted to 85.

MR. HEBERT M. LITTLE, head of the Department of Obstetrics in the Johns Hopkins Hospital, of Baltimore, has accepted the appointment of superintendent of the Montreal Maternity Hospital. Dr. Little is son of Lieut.-Col. Little of London.

DR. R. M. CUMBERLAND, who has been assisting Dr. Harper, of Alliston, for several months, left last week for Maple Creek, Assinaboia, where he will probably practice his profession. Dr. Cumberland is a son of Mr. W. B. Cumberland, of Rosemont.

DR. BRUCE L. RIORDAN, surgeon to the Grand Trunk Railway at Toronto, has been appointed division surgeon with jurisdiction over the middle, northern and southern divisions. Dr. Riordan, who has been in the Grand Trunk service since 1882, will continue on at his present duties of district medical officer.

THE following generous donations to the Toronto General Hospital have recently been announced: Hon. Senator Cox, $100,000; Mr. T. Eaton, $50,000; Mr. J. W. Flavelle, Mr. E. B. Osler, M.P., and Mr. E. R. Wood, each $25,000; Mr. H. D. Warren, Mr. P. C. Larkin and Mr. R. E. Walker, each $10,000.

THE Medical Faculty of Toronto University opened for the session, 1905-1906, on the evening of the 3rd of October, when Dr. Victor C. Vaughan, Dean of the Medical Faculty of the University of Michigan, delivered the opening address. Dean Reeve, in making a short address to the students, stated that there were then registered in the first year in medicine, 145 students, and that the total number on that date was 550.

MONTREAL has a new Maternity Hospital. This hospital was established in 1848, for the purpose of giving practical instruction to the medical students of McGill University, and an early by-law of the institution required that the professor of obstetrics in McGill should be the physician in charge of the hospital. Last year the institution attended to over 400 patients, 110 of these being from points outside of Monreal. Two-thirds of the women who attended were married.

THE TORONTO WESTERN HOSPITAL.—The Board of Governors of the Toronto Western Hospital have much pleasure in making the following announcement to the medical profession:

1. All the beds in the hospital, except such as may be required for city-rate patients, are at the disposal of all medical practitioners in good standing.

2. A new building has just been completed for male and female semi-private patients, at the rate of $7.00 per week. This building is entirely separate from all others.

3. Another new building, in a separate portion of the grounds and completely isolated, is ready for the reception of obstetric cases. The prices will range from $10 to $25 per week. The rooms are all private.

4. The contract has been let for another handsome new building for private ward patients. This building will be completed and ready for occupation by the end of the present year.

The Toronto Western Hospital has always treated the medical profession in a generous spirit, and is happy to be in a position to make the above statements regarding its additional accommodation. The governors would esteem it a favor if you would visit the hospital and acquaint yourself with its facilities to care for your patients, both medical and surgical, under your own professional attendance.

During the past year extensive alterations and additions have been made to the Toronto Western Hospital, which will be continued for several years to come, until the Western Hospital will be one of the most modern and best equipped in the city.

The latest addition is a large building in the rear of the main

building which will ultimately be used for a laundry, but is now being used for semi-private wards. A maternity home has also been purchased, and is now open.

The new building, which will be used for a hospital for some time, will accommodate sixteen patients. The basement is now being used for a laundry, and when the further additions are erected the whole building will be used as a laundry. The basement will be the wash-room, the first floor the ironing-room, and the second floor the domestics' apartments.

The maternity home was formerly two private houses, which were purchased and made into one building with twenty-eight private wards. Both annexes are now tenanted.

Work will commence almost immediately on a new building to cost $10,000, for the treatment of infectious diseases. All the rooms in this building will be separate from each other, and will accommodate thirty-five patients.

Early next summer work will commence on another new wing, to cost about $30,000, and will serve as part of the hospital proper until the whole new hospital is completed. The building will then be used as a home for the nurses. As the main building of the hospital is yet in excellent condition, no alterations will be made in it for three or four years, and by that time five new buildings will be erected and will form the main building of the hospital. The buildings will then stretch from one end of the grounds to the other, but the lawn will not be despoiled.

The present tent system will not be abolished, but will be added to as well as the other portions of the hospital, as much good work is being done there.

When all these alterations and additions are completed, in about ten years' time, the different groups of buildings, all erected of red brick, and excellently finished, will cover a frontage of 450 feet on Bathurst Street and 100 feet depth.

Special Selection.

IRON THERAPY, WITH REPORT OF CASES.

W. C. WILLITS, M.D., KANSAS CITY, MO.

While volumes have been written on chalybeate therapy and there has been much controversy upon the absorbability of different forms of iron, much that has been written is purely theoretical. It is from the practical demonstration of things that we get the surest and safest information. It has been repeatedly demonstrated that the tincture of the chloride of iron constipates our patients and in many other ways is an undesirable agent as a routine practice; although if these undesirable after-effects could be eliminated, the therapeutic effects of the tincture are reasonably satisfactory. Many organic preparations have been upon the market, and, without any desire to underrate the efficiency of any product, we desire to cite a few cases showing that in our hands Pepto-Mangan (Gude) has almost invariably proved to be all that could be desired in treating secondary anemia. A very important point in selecting a remedy is to choose one which will not produce after-effects more serious than the original trouble, and by reference to the cases cited, it will be seen that in some of them iron in any form would seem to be contraindicated on account of the great constipation. In none of the cases were there any bad after-effects. These cases are taken from those occurring in a general practice and are not selected with any special reference to this remedy.

Pepto-Mangan is palatable, it is easily absorbed, in no case was there any injury to the teeth, it did not produce nausea; and constipation was not produced in a single case. While these few cases might not in themselves be sufficient upon which to base an opinion as to the value of Pepto-Mangan in secondary anemia, yet much valuable information can be gained by physicians reporting their successes and failures. However, after having used it quite extensively, I am convinced that it is a reliable blood remedy to use in general practice.

CASE I.—A boy, age 8. His father died of pulmonary tuberculosis; otherwise his family history was good. Two years ago he began to get sick at the stomach in the morning and vomited. He was sleepless and coughed considerably. Temperature, 99.5 deg.; ankles were slightly edematous. Upon

examination it developed that he had a heart murmur systolic in time, but not transmitted. His blood examination showed 3,500,000 red cells, hemoglobin, 50 per cent. There were no physical signs of lung consolidation. No tubercular bacilli found in the sputum. The patient was placed in bed, and a nutritious diet ordered. He was also given Pepto-Mangan (Gude), a teaspoonful four times a day. In a very few days his symptoms began to improve. Although he was nauseated and vomited frequently when I first saw him, this trouble was not increased by the medicine and in a very few days his nausea stopped and did not return. At the end of ten days the heart murmur could not be heard. His color cleared up and he is now well, to all outward appearances. A second blood count was not made, but from his appearance it is evident that the hemoglobin is near the normal.

CASE 2.—Miss M., age 19. Family history negative, except that one brother died of pulmonary tuberculosis at 22 years of age. She had been healthy until December, 1903, when she caught cold and coughed considerably. She was relieved of the cold, but the cough continued. Expectorates considerably. Normal weight, 105 pounds; now weighs 97 pounds. Temperature is usually normal, but things she has some fever in the evenings, but not every evening. Two or three times she sweat at night, but has not done so regularly. Never expectorated any blood. Is restless at night. Appetite poor; constipated; looks very anemic. Pulse, 90 lying down, 96 sitting, and 100 standing. No signs of consolidation or cavities in the lungs. There are a few rales present, but the expiratory effort is normal. Has a chest expansion of two and a half inches. Blood count showed red cells, 3,040,000; white cells, 4,600; hemoglobin, 60 per cent. While this looked some like tuberculosis, the sputum, on repeated examination, showed no bacilli. She was told to stay in the open air as much as possible, sleep with the windows open, and eat plenty of good nutritious food. She was also placed upon tablespoonful doses of Pepto-Mangan (Gude) four times a day, with marvelous results. In five weeks her blood count showed red cells, 4,200,000; hemoglobin, 85 per cent. The general symptoms were greatly improved. She went west, but has continued the treatment and an occasional letter informs me that she is now absolutely well, and has greatly increased in weight.

CASE 3.—Mrs. S., age 35, married. Has had four children in six years. She complained of headache, backache, and constipation. Was very much run down. Since her menstrual flow had been established after her last child, she has been suffering considerably at her monthly periods. The flow was scant and

only lasted a day or two, whereas in the past she had flowed four and five days. Her mental and nervous symptoms were very bad. Upon several occasions she nearly collapsed mentally. She had anesthesia and hyperesthesis; her memory was very poor, making it altogether a very pitiable case. She was advised to take to her bed. Was later given graduated exercise and placed on tablespoonful doses of Pepto-Mangan (Gude) four times a day. There was at no time any ill effects of the medicine noticed. Her progress was slow, but she gained in weight, her menstrual flow became normal and her nervous and mental symptoms vanished, and her color became much better. While the rest and the exercise must be given some credit in this case, we are inclined to give Pepto-Mangan the greatest amount of consideration in relieving the symptoms.

CASE 4.—Miss C., aged 14. Family history negative. Suffering with chorea. She was placed on Fowler's solution and Blaud's pills. Improvement began soon, but owing to the constipating effects of the Blaud's pills, Pepto-Mangan (Gude) was used instead. The improvement was more rapid and she was not troubled with the constipation afterward. This case is briefly cited to show the advantage of Pepto-Mangan over Blaud's pills.

CASE 5.—Miss C., aged 20. Came for examination. The history showed that she had been treated for several different conditions by various physicians, but her chief difficulty was that she would fall asleep at any time of the day or night. There were no premonitory symptoms, but she would be sitting talking to a person and would go to sleep. As soon as she would wake up she would be normal again. At night she would sleep all night, but would toss about the bed, talk and laugh in her sleep, but wake in the morning not knowing that she had done any of these things. She was easily irritated, and her memory was very poor. She had been suffering in this way since she was 12 or 13 years old. Her menstrual flow was very irregular, sometimes missing two or three months. Her blood showed hemoglobin, 65 per cent.; red cells, 3,600,000; white cells, 4,000. She was given advice as to diet, exercise, rest, etc., and placed on Fowler's solution and Pepto-Mangan (Gude), the latter one tablespoonful four times a day. Her progress was very slow indeed. At the end of six months her blood showed hemoglobin, 90 per cent.; red cells, 4,500,000; white cells, 4,000. She did not sleep nearly as much, her menstrual flow was regular, and she slept more quietly at night. However, she was not entirely well. She left the city and I lost sight of her.—The Kansas City *Medical Index-Lancet.*