

THE CANADA LANCET

VOL. XXXV.

FEBRUARY, 1902.

No. 6

ON A CASE OF ENLARGEMENT OF THE MIDDLE LOBE OF THE THYROID.

Periodical Attacks of Dyspnoea Mistaken for Asthma, Extending for over Eight Years.
Eventually Death from the same cause.

BY J. G. ADAMI, M.D.,

Professor of Pathology, McGill University, Montreal.

THE case about to be narrated is of interest in the first place because of the rarity of so advanced a condition of goitrous enlargement of the thyroid affecting only the middle lobe, and again because of the symptoms to which it gave rise.

The patient was a female of sixty-five, very stout and of large frame; a cook by occupation. According to the statements made by the physician who had attended her during the few days preceding her admission into the Royal Victoria Hospital, she had for the last eight years, according to her own accounts, confirmed by her friends, been subject to periodical attacks of "asthma" which lasted for some few days and then passed off again; otherwise she had been in good health. Twenty days before her admission one of these attacks came on and she suffered much from shortness of breath. This time however the attacks continued and at the end of sixteen days, her distress was so great that Dr. Church, of Westmount, was called in. Upon examination of the chest he could find no dulness any where, but all over the chest, both back and front, he heard numerous coarse rhonchi accompanied by great stridor. There was, however, no elevation of temperature. To relieve the stridor and the tracheal and bronchial irritation which he considered present, he ordered steam inhalations. These gave immediate and great relief. However they evidently did not give permanent relief, for on the twentieth day he was again called in, and now he found the distress much greater. The face was cyanosed, the pulse very rapid and weak, there was slight pyrexia, and upon examination of the chest he heard everywhere moist rales; with these there was some dulness over the left base. Suspecting a beginning pneumonia, he recommended her to be transferred to the hospital, and on the same day she was admitted under Dr.

James Stewart, to whom, and to his house physician Dr. McElroy, I am indebted for the notes of the case.

From these notes, the condition on admission was one of great dyspnoea with cyanosis of the face and finger tips and some puffiness of the eyelids and the feet. The temperature was 103 degrees, pulse 126, respiration 36. Ever, where in front, moist coarse rales were to be heard: behind, below the angle of the left scapula, the note was impaired, and in this region also coarse moist rales were to be heard; with this there was blowing breathing, not very powerful but distinct. The pulse was weak and irregular both in volume and rhythm. The urine was cloudy, acid, specific gravity 1016, no sugar. A dense ring of albumin was given with prescice of hyaline and granular casts.

The patient died a few hours after admission, her condition being such that it was impossible to take full notes.

The patient had a rather short neck with much fat, perfectly symmetrical, and for this reason doubtless neither her attendant, prior to her admission to the hospital, nor the house physician in the hospital, had their attention called to any signs of goitre. The diagnosis in the presence of this blowing breathing, with the dulness at the left base, and with the history that this dulness and the pyrexia had only shown themselves within the last few hours, was difficult; in fact, no definite diagnosis was made, but it was suggested that there was a beginning lobar pneumonia of the left base.

At the autopsy which took place fourteen hours after death, the upper lobes of both lungs were found apparently quite normal and crepitant, there was no emphysema, nor were there any special signs of peribronchitis or of fibroid change such as would have been expected in a case of true asthma. There was some slight bronchitis with thin mucous fluid in the bronchi, sufficient to account for the moist rales which had been heard over the upper portion of both lungs. The lower lobes of both lungs showed a symmetrically great congestion with oedema, affecting all parts save the more anterior portions. On section, while these lower lobes were heavy and greatly congested, they were not hepatised. Slight crepitation could still be obtained, even the densest portions still floated; the section appeared perfectly homogeneous. The oedematous exudation and the cultures both gave diplococci, but not in very great abundance. From the symmetrical nature of the oedema and the general appearance, the conclusion reached was that here was not a condition of acute croupous, but one of hypostatic pneumonia. The condition of the heart and the lungs did not in themselves seem sufficient to explain the cause of death; this, however, was found upon examining the neck organs

Already in the preliminary examination a note had been made concerning the size of the neck, and now the explanation of this was found in the relatively great size of the isthmus of the thyroid. This formed a large mass situated in the median position with the small and somewhat atrophied remains of the lateral lobes of the organ riding upon this mass on either side above. On section this was found to be of the nature of an ordinary colloid, gelatinous or parenchymatous goitre with distended cysts full of moderately colloid material; there were no hemorrhages in it nor cysts.

The affect of this mass upon the trachea was very evident: the organ from about the middle third downwards was flattened front before backwards, passage being reduced to a mere slit with its long axis from side to side. Added to this as a result of the pressure there was intense congestion both in the region of compression and below. The cartilaginous rings, however, showed no obvious signs of atrophy. Here obviously was the primary cause of death. A further enlargement of the already swollen isthmus had led to profound dyspnoea and tracheitis, while supervening upon the congestion of the lungs so produced had been a beginning diplococcus inflammation in the lower lobes and the febrile condition coupled with the congestion and obstruction to the pulmonary circulation had led to failure of the right heart.

The evidence that the clinical history affords is the not infrequent confusion of stridor and dyspnoea with true asthma. In the second place we have this history of recurrent attacks of dyspnoea. These are to be explained by what has already been frequently observed, namely, that goitres undergo from time to time considerable changes in their size, now enlarging and now becoming smaller.

Evidently here this variation in size of the goitre is a sufficient explanation of the fact that the patient at times breathed without much difficulty, at others suffered from these attacks of dyspnoea with stridor.

Lastly it is necessary to say a few words concerning the goitre itself. It is extremely rare to find such extensive enlargement of the isthmus of the thyroid unassociated with enlargement of the lateral lobes of the organ. In fact I have not been able to come across so far, any record of a case quite similar to this.* It is not so very uncommon to have the middle lobe enlarged with one or both of the lateral lobes, and to have as a result, dyspnoea, leading in some cases to death. Or again in a moderately enlarg-

* These notes were written before Dr. H. B. Anderson published in this Journal (Oct., 1900) a very similar case of enlargement of the middle lobe, and were communicated to him, if I mistake not, two years ago upon hearing from him of his case. Failing simultaneous publication, it is well that the two cases should be published in the same journal.

ed isthmus, there may be developed a haemorrhagic cyst in one portion exercising special pressure upon the trachea. Doubtless the median position of the enlargement and the absence of lateral swelling led to failure to recognize the condition during life.

The main moral to be gained from this case, is that in districts where goitre is prevalent, as it is along the St. Lawrence valley, periodical attacks of so-called asthma should be regarded with suspicion, so that cyanosis accompanied by a certain amount of stridor should lead in the absence of other explanations, to the careful examination of the lower portion of the neck.

FOREIGN BODIES IN THE VERMIFORM APPENDIX—NEW SURGICAL POINTS.

By J. COPLIN STINSON, M.D., C.M.,
San Francisco, Cal.

IT is considered that in about 7 per cent. of all cases of appendicitis, there were true foreign bodies found. The objects that have been found in the appendix are shots, bullets, pins, worms, gall-stones, teeth, pieces of bone, grape seeds, cherry-stones, tongue-grass, wisk broom, pieces of fish fin, oat-husks, date-seeds, apple pips and beans. At a post-mortem examination, Holmes found 122 bird shot in an appendix, and the patient, a man, had had no symptoms during life which pointed to the appendix. Sharp pointed bodies, as pins and spiculae of bones, are common and quite dangerous. Coleman recorded a case in which a piece of bone was found in a dilated appendix, and had evidently been present for a long time, but externally there were no signs of inflammation. Thus, while foreign bodies generally cause rapidly progressive inflammation, yet even large and rough bodies may give rise to no symptoms at all, or may lead to chronic or recurrent appendicitis. Mitchell collected 33 cases in which a pin was found in the appendix at operation or autopsy, two instances in which a pin had perforated the caecum; and in no single case had there been any knowledge of swallowing a pin. Pins lodge more often in the appendix of males than females. Many are seen in children under ten years of age; others in adults in various occupations and conditions of life. Generally foreign bodies, such as pins and other sharp, slender bodies lead to rapid perforation and abscess formation, etc., but not always, and any type of appendicitis may result with symptoms lasting for months or years. A pin usually enters the appendix straight by its head or point, lying with its long axis parallel to that of the appendix, and perforation usually occurs with its point; but exceptionally it lays

directly across the lumen and perforates the walls with its point and head. McBurney removed an appendix containing two pins perforating the opposite walls of the appendix. In two cases pins have been found in appendicitis within hernial sacs. A pin or other body may be rusted, corroded, or free from deposit; but usually it is the nucleus of a fecal concretion which covers it but leaves the sharp portion free. In seven out of twenty-eight cases, there was abscess of the liver.

The writer reports, in addition, a case of appendicitis in which he found two foreign bodies—two beans—which produced perforations and multiple abscess formation. Operations were performed with recovery.

A patient, A. B., was a man past middle life. In November, 1899, he was troubled with pains and cramps in the abdomen, pain in the right lumbar region and indigestion, for which he was dieted with relief for a time. On February 14, 1900, while at lunch, he was taken with severe pains in the center of the abdomen. He took blackberry brandy, ginger, etc., which relieved him somewhat. On February 15th the pains returned and, in addition, severe right lumbar pain, which confined him to bed. The following morning his physician was called and his case was pronounced one of acute gastritis following la grippe. After three weeks he was discharged as cured. Upon recovery he enjoyed good health and gained about ten pounds in weight. Early in November, 1900, he became troubled with bladder symptoms, pains and frequent urination, for which medicines were taken without success. About this time the patient ate frequently *enchiladas*—a Mexican dish containing beans. On February 9th, 1901, he was taken ill with severe pains in the abdomen. Hot applications relieved him for a while. On February 11th his physician was called, who, after examining him, pronounced him ill with appendicitis, and ordered applications of hot flax-seed poultices. He had pain all over the abdomen for three days, more severe pain on the left side. On the 13th he began to have pains in the right side, which later became more severe than on the left, bowels constipated and some vomiting. On this date a consultation was held and operation was advised. The patient would not submit and the poultices were continued. His temperature during this time ranged from 99 to 102.

I saw the patient, with Drs. Mark Neumann and Bell, February 23rd. We made an examination under anaesthesia, and at the patient's home, on February 25th, I performed an operation, assisted by Dr. Mark Neumann. Ether and chloroform were administered in separate bottles by the drop method; in the main, ether being given.

An incision, an inch long, was made two inches from the spine and about parallel with Poupart's ligament. The structures of the abdominal

wall were divided in the direction of their fibres and the peritoneum opened. After exploration, I found it necessary to enlarge the incision slightly and it now measured $1\frac{1}{2}$ inches. The upper end of the incision extended about a half inch above a line drawn from the anterior spine to the umbilicus.

I progressed mostly by the sense of touch, using blunt dissection with the index finger, and worked along the iliac fossa between it and the cæcum, separating adhesions until I came upon an abscess, which was freely opened and flushed with hot water. From this abscess cavity the two beans were removed; the larger measured $13/16$ of an inch long and half an inch wide; the other $9/16$ of an inch long, $5/16$ of an inch wide. The beans were carefully examined by every one present, split open and found to be perfect, their capsules being intact and apparently not affected by either the passage along the digestive track, their stay in the appendix, or the abscess cavity.

Through a common opening an abscess passing up towards the kidneys and one down in the pelvis were opened and washed out. Adhesions were freed on all sides. The appendix was separated by blunt dissection from adhesions and its mesentery.

A large mass of inflamed, thickened omentum covered with pus was brought to the surface. The pus was sponged and washed away. The appendix was inflamed, suppurating, partly gangrenous, and perforated in two places, the cæcum was also inflamed and sloughy. All intestines in sight were inflamed. All inflamed omentum was removed, the excision being performed well in normal tissues, no mass ligatures were used, the vessels only being ligated with fine catgut and then the omentum was cut off external to the tied vessels.

During the removal of the appendix, it was so soft and friable that it tore completely across, and it was consequently removed in pieces. It was excised close up the cæcum by blunt dissection. The cæcum was deeply located and could not be brought to the surface without irreparable damage. I tried to close the opening in the cæcum by inserting several through and through continuous catgut sutures, but most of them did not hold, as the layers forming the cæcal wall were very soft. As the cæcum was deeply located and the stitches did not hold, I used borated gauze packing to bring the edges together and close the opening. All pathologic and exposed intestines were freely irrigated with hot water as hot as the hand could bear, all visible pus, shreds, plastic fibrin, exudate, etc., on the surface of the bowels, etc., were removed with the fingers, gauze pads and hot water irrigation. The infected portions of the abdominal cavity, intestines, etc., were dried and again thoroughly flushed

with hot water till the fluid came away clear, re-dried with sponges and the intestines returned to the abdomen as near as possible to their normal positions.

The peritonitis was of that character wherein nature had the opportunity of throwing out considerable protective adhesions.

The inflamed sloughy surface of the cæcum, the edges of the opening in the cæcum, adjacent peritoneum, and the abscess cavities were lightly dusted with aristol. A strip of borated guaze two inches wide and a yard long was carried to the bottom of each of the abscess cavities, the surfaces lightly packed, and the ends brought as near as possible in direct lines to the surface through the abdominal incision.

The surface of the cæcum was lightly covered with borated gauze, and the balance of the wound also lightly packed with more gauze strips, and borated gauze dressings, cotton, adhesive strips and binder applied, the patient being put to bed in good condition. The recovery was satisfactory; the intestinal contents were discharged several times through the incision during the first week, but the wound and abdominal wall including the skin, was solidly and durably healed by the latter part of March, 1901. His general health is good. He feels well and looks well, is working at his occupation every day, appetite and digestion good; bowels fairly regular; abdominal walls solid; there is no evidence of hernia and he does not wear an abdominal support or truss.

NEW SURGICAL POINTS.

In an article on "Appendicitis", a report of fifty-four consecutive operative cases; when to operate, points in technique which I published in the American Medico-Surgical Bulletin June 13th, 1896, I reviewed the several methods of treatment of appendicitis and from a study of the cases cited and comparison of the methods used by various physicians and surgeons, I then came to the following conclusions:

1. That appendicitis is strictly a surgical disease.
2. That the infected appendix should be removed as soon as the diagnosis is made.
3. That in many cases of appendicitis an inch-and-half incision is sufficient for operative treatment.
4. That if there is local or general infection the abscess cavities should be freely washed out with hot saline solution.
5. That if drainage is necessitated, one or two capillary wicks should be used instead of iodoform or other gauze packing glass or other stiff tube.
6. That to prevent hernia the incision should be small and if drainage is necessitated a small wick should be used, and the wound should be closed,

layer by layer, separately and accurately, with sterilized chromicized tendon or chromicized catgut sutures."

Of the above fifty-four consecutive operative cases of appendicitis in which I performed or assisted in operating upon while House Surgeon at the New York Post graduate Hospital during 1893 and 1894, and since I left that institution up to April 1896, there were two deaths. These two fatal cases I assisted in operating upon while I was in the Post Graduate Hospital. Since April, 1896, I have operated upon sixteen additional cases of appendicitis and so far all my operations for appendicitis have been without mortality.

In the article in the Bulletin I also described what I considered the best method of excising the appendix. Briefly this method is as follows:

The mesentery of the appendix is separated by dissection down to the cæcum, bleeding vessels or vessels being ligated with fine catgut, "the appendix is held up by the tip and after dividing in a circle the peritoneal and muscular coat of the appendix about one-quarter of an inch from the appendico-cæcal junction, leaving the lymphoid and muscular coats uncut, dissect back to the cæcum, with handle of the scalpel, the divided serous and muscular coats of the appendix. Next apply a narrow-bladed forceps transversely to the mucous cylinder close to the cæcum to temporarily close the opening at the appendico-cæcal junction, then cut off the appendix close to the forceps, leaving only a small cuff of mucous membrane projecting beyond the outer edge of the forceps. Cleanse the cuff with a gauze pad wrung out of 1-2000 bichloride solution, then suture the cut edges of the mucous membrane and lymphoid coats very closely and accurately together with fine silk on a fine needle. Disinfect united edges and line of suture, remove forceps and suture accurately the peritoneal and muscular coats which have been dissected back to cæcum. If the coats of the appendix are matted together, apply the narrow-bladed forceps transversely to all coats at the appendico-cæcal junction. Next cut off appendix close to forceps, leaving only a small cuff of the divided coats projecting beyond the outer edge of forceps. Disinfect protruding mucous membrane, etc., and suture cut edges closely together with fine silk on fine needle, disinfect line of suture, remove forceps and bury this line of sutures with a layer of serous sutures.

The method above described can be quickly done. In both only sufficient mucous membrane and other coats of the appendix are used to close accurately the opening in the cæcum at the appendico-cæcal junction, without leaving any tension on the line of sutures, and after suturing is finished there remains simply a line of sutures on cæcal wall at the former location of appendix. If the appendix is gangrenous, and the

softening process has extended even to the cæcum, have an assistant pinch up the adjacent portion of cæcum with a dry piece of gauze to prevent extravasation, then remove the appendix and irreparably softened cæcum and infold cut edges of cæcal wall, suturing the layers accurately together with fine sutures. This line of sutures is then buried with one or more layers of Lembert sutures.

These are the methods I use when sutures can be inserted, with the exception that I use fine chromicized catgut for sutures instead of silk. In those cases wherein sutures do not hold the edges can be approximated by borated gauze packing which assists in union. The writer has found this latter method to be followed by satisfactory results.

By performing early operations and by using short incisions instead of long ones the mortality has been much lowered, less time is taken for the operation, less injury is done, the wound being small, can be closed in less time and with few manipulations, healing taking place rapidly, without trouble, allows patient to get back to his work soon, and on account of the shortness of the wound there is little or no danger of a post operative hernia, even if the wound were left open, as is sometimes done in suppurative cases.

The writer has been able to remove an infected appendix in an adult successfully through less than an inch incision, and in cases of acute appendicitis, with diffuse peritonitis without adhesions, has through about a two and one-half inch incision, excised the appendix, withdrawn all infected intestines, etc., to the surface, removed all septic matter, shreds, etc., from the peritoneal cavity and the surface of the bowels, then, after irrigation and sponging, returned the intestines, used drainage, had good recovery, and no hernia post operative.

In all cases the appendix should be removed if this can be possibly done without endangering the life of the patient. If after a careful search for the appendix one is unable to locate it within the peritoneum by making an incision through the posterior layer of the peritoneum external to the cæcum it may be detected behind the peritoneum whence it can be readily removed. At times during operations one finds the appendix reduced to nearly a fibrous cord, and buried in extensive adhesions; such a fibrous cord being located in the normal position of the appendix should not be overlooked by the operator but should be excised close up to the cæcum after the method described by the writer. Sometimes at an interval operation, on account of extensive and firm adhesions, and the deep location of the cæcum and adjoining coils of intestines, it is impossible to find the appendix unless irreparable damage is done in searching for it. In such a case the wound should be closed and an operation perform-

ed later on if appendicitis again develops, and at the second operation the appendix, being inflamed, can be readily located and excised.

When adhesions are present they should always be freely separated as far as possible as the results subsequent to operations in many cases depend upon the restoration of the normal intestinal movements.

When a local or general infection of the peritoneum is present an abscess cavity or cavities should be freely opened, adhesions, when present, be broken up, all pus shreds, etc. cleaned out, all inflamed or thickened omentum excised, the appendix removed, the abdominal cavity further examined to be sure that no purulent mass has been overlooked. All pathological intestines, until normal bowels are seen and freely handled, should be withdrawn from the abdominal cavity to the surface and covered with hot towels. The infected portions of abdominal cavity and exposed intestines, etc. should be freely irrigated with hot water or hot saline solution, as hot as the hands can stand, and all pus, shreds, etc. removed with irrigation, sponges and the fingers until all pathological materials are removed and until the fluid used as irrigation comes away clear. The intestines are then dried and returned within the abdomen to as near as possible their normal positions.

This method of treatment should always be used in infected cases and the operation thus performed has been found by the writer to be uniformly successful: whereas, if simply an incision had been made, pus evacuation and sponging and ordinary irrigation done, the result would have been in all probability just the opposite.

After these extensive operations on septic cases the wounds should be closed as far as possible by sutures, and the cavities or spaces of infection drained with two or more borated gauze wicks or strips which are carried to the bottom of the infections, the ends being brought out as far as possible in a direct line to the abdominal surface.

In order to obtain the full benefit of capillary drainage, the ends of the strips must be placed in contact with absorbent gauze on the surface outside of the wound, and this gauze must be changed and fresh gauze replaced when it becomes saturated to the point of decreased power, as otherwise it will have little mechanical effect. Adhesions wall off the wick or other drainage apparatus in the peritoneal cavity in about thirty hours, when the gauze or wick is shortened or entirely withdrawn according to the indications presenting. The writer, as a rule, does not withdraw it entirely until the fifth day. The object in proceeding thus is to allow the intestine to come together as rapidly as consistent with safety, and thus obliterate the cavity formed by the wick or strip. After this, if further drainage is necessary, carry a narrow strip of gutta-percha tissue

or gauze into the wound. A wick or gauze strip long enough to rest on the posterior abdominal wall adjusts itself nicely, is soft, causes no shock, and is easily removed. After its removal completely from the wound, drop in several minimis of sterilized balsam of Peru, which facilitates healing and prevents sinus formation. A fecal fistula will not form from the use of a wick or strip, nor will adhesions follow its use, but some may if large gauze packing, tubes, etc., are used for drainage. The writer prefers the wick or gauze strips to other methods of drainage. Gutta percha tissue around the rolled gauze has several advantages over plain gauze strips, etc., that is, convalescence is more rapid, less painful, fewer disagreeable local symptoms, while the rubber covering prevents adhesions between the gauze and s-rosa.

The length of time the patient is confined to bed when drainage is used is not much increased except in those cases wherein fecal fistulæ form. The duration of confinement, after an operation in which drainage is required, is lengthened only the time it takes for the cavity to obliterate up to the skin surface and the latter to become firmly and durably cicatrized. The writer insists that patients in whom drainage is used should remain in bed for about one week after the wound has firmly healed. This is done in order to obtain a very solid cicatrix, and thus lessen the chances of hernia. If a single wick or gauze strip has been used as a drain and the balance of the wound has been sutured accurately in separate layers, such a small opening is left after its removal that the layers fall fairly close together and unite about as well as if they had been sutured. Hernia, under most circumstances, does not develop after the use of such a drainage method.

From a study of the pathology, etc., of appendicitis, the writer draws the following additional conclusions to those he has already published:

1. That, as appendicitis is strictly a surgical disease, the earlier it is operated upon the better for the patient.
2. That cases operated upon early should have no mortality.
3. That during all appendicitis operations the appendix should be removed, provided irreparable damage is not done in attempting to find or remove it.
4. That where there is a local or general infection the abscess cavity or cavities should be freely opened, all adhesions separated, all pus, shreds, etc., cleaned out, all inflamed or pathologic omentum excised, and all pathologic and infected portions of abdomen be freely irrigated with hot water or hot saline solution and then dried with sponges.
5. That faecal concretions are more apt to be present as exciting causes of appendicitis than foreign bodies.

6. That foreign bodies are sometimes present in the appendix, and are exciting causes of appendicitis.
7. That when the appendix contains foreign material, it is more likely to be a pointed or heavy body.
8. That faecal concretions closely resemble some foreign bodies of light weight, *e.g.*, grape seeds, cherry stones, etc., and that, when one is in doubt whether the material is a concretion or foreign body, it should be carefully examined microscopically and chemically to determine the exact characters.
9. That operations such as appendicitis or somewhat similar operations, *e.g.* those involving laparotomy, can be as readily, quickly, safely and cheaply performed at the patient's home as elsewhere.

533 Sutter St.

BIBLIOGRAPHY.

ROBT. T. MORRIS—*Lectures on appendicitis.* Published by Putman's Sons.

JAMES F. MITCHELL—Foreign bodies in the veriform appendix
John Hopkins—Hosp. Bull.; Jan., Feb., March, 1899.

C. B. LOCKWOOD—Pathology and treatment of appendicitis.
Lancet Jan. 27, 1900.

J. C. STINSON Appendicitis—a report of fifty-four consecutive cases, when to operate, points in technique, American Medical and Surgical Bulletin, June 13, 1896.

J. C. STINSON—Nephorrhaphy and stripping of the appendix through a lumbar incision for right floating kidney and painful appendix, N. Y. Medical Record, Sept. 23, 1899.

J. C. STINSON—Amer. Gyn. and Obst. Journal, Oct. 7, 1899.

J. C. STINSON—Diffuse peritonitis from acute appendicitis in a girl aged 13 years, operation, recovery. Boston Med. and Surgical Journal Feb. 15, 1900.

J. C. STINSON—Operative treatment of inguinal herina: preferable operation. N. Y. Med. Record, March 7, 1896.

J. C. STINSON—The Transactions of the Medical Society of the State California, April, 1900. Pages 322, 323.

J. C. STINSON—Special preparations of patients, surgeon, instruments, sutures, etc., and points of technique of operations for hernia. Boston Med. and Surgical Journal Dec. 7, 1899.

C. McBURNEY—Treatment of appendicitis. Dennis' system of surgery.

THE PRESENT EPIDEMIC OF SMALLPOX IN AMERICA.*

By H. M. BRACKEN, M.D.,

Secretary Minnesota State Board of Health, Professor of Materia Medica and Therapeutics, University of Minnesota, Minneapolis, Minn.

SOME time ago I was asked by your president to prepare a history of the present smallpox epidemic in Minnesota for this meeting. I promised to do so, not because I thought you would be interested in such, as a local condition, but because the history of this epidemic is in all probability the history of each and every epidemic in province or state of Canada or the United States during the past five years.

In March, 1899, a porter from a Great Northern Railway train was found ill with smallpox in St. Paul, after his return from the Pacific coast. His infection occurred at some point between St. Paul and the coast, probably at Seattle. At the time his case was diagnosed as smallpox, he remarked : " If such is the case, there is plenty more of the same thing in the place that I came from."

From exposures to this case, there followed thirty-one cases of smallpox in St. Paul, with but one death. The outbreak was well handled by the very efficient health commissioner of that city, Dr. J. Ohage. I did not see any of these cases.

In May, 1899, a gentleman, aged about fifty years, returned from California to his home at Worthington, Minnesota. On his way home he stopped in Nebraska for a few days. There was quite a little smallpox in that state at certain points during the winter of 1898 and 1899. This gentleman had, after his return to Worthington, an eruption so mild in type that no physician was called, I understand. I believe some parties thought he had chicken-pox. In due time the wife was taken ill. At first her disease was thought to be measles, but in a few days it was recognized as smallpox of severe type. After but a few days' illness, she died.

The physician called to attend this lady, after her disease was recognised as smallpox, went into voluntary quarantine with this infected family, for the good of the community. He was not immune to the disease and in consequence became infected and died.

In all there were at this place eight cases of smallpox from this infection, with two deaths. The disease occurred in varying degrees in these cases, from the very mild type in the father and grandmother to the confluent form in the mother and attending physician.

Late in June, 1899, I was called to East Grand Forks to give an opinion as to the nature of the disease from which a man was suffering.

* Read before the Canadian Medical Association at Winnipeg, Aug., 1901, and published also in the *St. Paul Medical Journal*.

My diagnosis was smallpox. The man was quite ill, though not dangerously so, and in about the fourth or fifth day of the eruption. I was then asked by a physician to see a boy in Grand Forks ill with an eruptive disease. I again made the diagnosis of smallpox. The eruption in this case was remarkably confluent and the patient dangerously ill. When my diagnosis was given out, certain physicians of prominence disputed its correctness. I stated that if two of them, excellent men, would visit the boy in their own city (Grand Forks) and would still say that the disease was not smallpox, I would hold my opinion in abeyance and watch developments. They visited the case and still gave their opinion that it was not smallpox. I thereupon repeated my opinion that this boy had smallpox and that he would soon die, and stated that I would be interested to know the cause of death that would be given on the death certificate. I further stated that the East Grand Forks case should be quarantined as for smallpox. The Grand Forks patient died in less than thirty-six hours from the time the last negative diagnosis was made by the two resident physicians referred to. Before his death, however, the health officer of the city and the superintendent of the state board of health, both of whom were absent at the time of my visit to Grand Forks, returned to their homes; both pronounced the case as one of smallpox. From this time on, the disease in both Grand Forks and East Grand Forks was without dispute recognized as smallpox and the little epidemic was quickly suppressed. The perplexing elements in this epidemic were, first, the fact that an eruptive disease of very mild type had appeared first among the telephone operators. It was thought that these mild cases were in all probability of the same type as these severe cases, which certainly had all the ear marks of smallpox, and it was hard to believe that they could possibly have been smallpox. The history given by these recovered patients was very vague. Second, the boy in Grand Forks who died of smallpox gave a history of possible exposure to poisons that might have caused an eruption quite similar to that shown at the time of our visit. After careful study of all these cases there was, however, but one conclusion that could be accepted, viz., that all had one and the same disease, smallpox, varying greatly in type and severity.

August 31st, 1899, a health officer in Southern Minnesota wrote me that two young men, proprietors of a grocery store, had an eruptive disease which he diagnosed as chicken-pox. I replied at once, drawing his attention to the rarity of chicken pox in adults, and advising him to quarantine the cases. My advice was not heeded. September 27th I was called by a physician to this same place to see a suspicious case. A boy had consulted him with an ulcerated cornea. The physician noticed some

bluish marks upon the face of this patient. Further examination showed similar marks upon other parts of the body. The corneal ulcer was recognized as the remnant of a smallpox vesicle. Investigation showed that there had been a number of cases of smallpox in this little city, the first one occurring early in July and being that of a young man from Grand Forks, who was home on a visit to his mother. The disease had remained isolated until the two young grocery men contracted it and carried it to their store to distribute with their goods to the entire community. At the time of this visit I found two very typical cases of smallpox, one being a man who had been under treatment in hospital for a compound fracture of the leg and had there contracted smallpox (the same source of infection as that for the boy with the corneal ulcer). He was at about the seventh day of the eruption ; the other a young lady in the second day of eruption. In this latter case the eruption was quite extensive, and being governed by previous experience with smallpox, I predicted for her that she would undoubtedly be very sick during the progress of her disease. In this I was wrong. It could hardly be said that she had a sick day after that upon which I visited her. The temperature quickly fell to normal. The patient was decidedly marked with pigmented spots after her recovery from the disease. I have not seen her for nearly two years, but I venture to state that, judging from my knowledge of other cases, she in all probability shows little marking from the disease at this time. The prediction I made as to the seriousness of this case was unfortunate, for the unbelievers in my diagnosis of smallpox used this as an argument against my ability to recognize this disease when present.

Much opposition to quarantine regulations, and in fact, to the diagnosis of smallpox, existed in this place. In consequence, the disease was not brought under control as it should have been. It continued in the city for a period of nearly a year : it spread from this place far and wide through Southern Minnesota and Northern Iowa. In the city itself there was a total of one hundred and one (101) recorded cases from this exposure, without a single death. There were, however, four deaths at other places traceable to infection at this point. This was my first, but not my last experience with epidemic smallpox, with a phenomenally low mortality.

In August, of 1899, a physician and health officer wrote me that his little girl was quite ill with vaccinia. He described in his letter the eruption upon her person. I replied to him at once, urging him to be on his guard ; stating that in all probability his child had been exposed to smallpox before she was vaccinated and was suffering from this latter

disease, rather than from vaccinia. He paid no attention to my warning. A few days later at the request of a physician in a neighboring village, I visited with him this child and found her very ill with confluent small pox, so ill, in fact, that she died within a few hours of our first seeing her. Her father still insisted that she did not have smallpox. There had been much exposure to this child. As a result, in this little village there were in all twelve cases, with four deaths. Close inquiry brought out the fact that the father of this child was taken ill July 4th with symptoms that were undoubtedly prodromata of smallpox, and that following these symptoms, he had an eruption, the nature of which he failed to recognize. He undoubtedly had smallpox and infected his child.

In October, 1899, a young women from Carver County visited a sister who was a servant at the B———Hotel, in Minneapolis. At the time she was just recovering from a rash which she stated was due to chicken-pox. She also stated that the whole family had had the same disease. Later developments proved that in all probability to have been smallpox. Where it came from I not been able to determine by correspondence, nor have I had time to visit the place myself in order to trace its origin, if possible. After the return of this young woman to her home, her sister (the servant) went home, and also had what was called chicken-pox. A few days later another servant in the same hotel was found to be ill with an eruptive disease which was diagnosticated as smallpox by Dr. Norred, and sent to the Minneapolis pest-house November, 1st.

A clerk of one of the leading dry goods houses had a meal ticket at the B———Hotel, where the girl who was sent to the pest-house November 1st was a waitress. In due time this young man had a rash which was not diagnosticated. Others in the same store had this same disease, and as the Thirteenth Regiment returned from the Philippines about this time it was given the name of "Philippino Itch." From these parties there is quite an infection which was later recognized as smallpox, and the poetry of Philippino infection was removed, for it came from no more distant place than the B——— Hotel through the waitress. A man living at 15 ——— Ave., and boarding at the B——— Hotel, had what was called chicken-pox. He passed the disease from one to another at his place of rooming until finally one infected young man went to Janesville, Minn., where he had smallpox. Inquiry there elicited the fact that a case of smallpox had first been recognized in this house on W——— Ave., by the husband of the patient. A physician confirmed this diagnosis, and reported the fact to the health office. The commis-

sioner of health is said to have visited this place, and to have pronounced the disease nothing but chicken-pox. Smallpox under the name of chicken-pox made various excursions from 15 W—— Ave. Among the places visited were Whapeton, N.D., and Hoff township, Pope county, Minn. In this latter place there was one death from hemorrhagic smallpox. Although several diagnosis of smallpox had been made by competent physicians in Minneapolis, to be marked chicken-pox by the then commissioner of health, it was not until January 23, 1900, that the city was forced to recognize the presence of smallpox. To November 1, 1900, there were in Minneapolis 448 cases with 13 deaths. There were known to be 53 localities in 23 counties with a record of 534 cases with 5 deaths, or a total of 991 cases with 18 deaths, due to Minneapolis infection.

But why relate other outbreaks? These are enough for illustrative purposes. The disease has continued in Minnesota up to the present time with the common epidemic history of first mild unrecognized cases, with later severe cases, easily recognized, and with disputings among physicians, even after the disease had assumed such a marked type that the medical tyro should have recognized it, had he reasoned from the positive rather than the negative standpoint.

Dr. Gec. D. Haggard, who has had opportunity to watch many smallpox cases in Minneapolis, has given such an excellent description of the symptoms of smallpox as it is now prevailing that I simply quote him as follows:

"Of the early symptoms, fever, the one most constantly present, may be overlooked entirely in children, or recognized only as fretfulness. It may also happen in the mild cases that the fever will accompany, but not precede, the eruption in children. In the severer forms of the disease, fever is almost always, if not always present. If the case is malignant the temperature may be sub-normal for days at a time, especially after the eruption has appeared. In some severe cases the temperature fall may be momentary only, the fever being practically continuous throughout the course of the disease.

"Chills are very inconstant. They may be the first prodromal symptoms; they may be alternating in close succession. They have been absent or unrecognized in a large proportion of cases.

"Pain in the lumbar region is quite constant as an early symptom in the severe cases, and is fairly constant in the medium grades of the disease. In the mild cases headache is a prominent early symptom. Associated with the early headache may be general pains. The first pains may be in the feet and legs. There are sometimes fleeting pains appearing in the head, the back, the legs and then in the abdomen. In the

severe cases the pain in the back continues after the eruption appears. Sore throat is a common symptom in all the types of smallpox described. It may be the earliest symptom ; it may appear with the eruption or even later, then disappear promptly, or develop into a most annoying condition. There may be only a diffused redness, or the eruption may cover the entire pharyngeal surface. The throat has sometimes an apparently diphtheritic gangrenous slough on the tonsils, severe adenitis, with pain and dysphagia. There may be aphonia, or the hoarse whisper of 'croup' and choking that alarms the attendants. The breathing, for days, may be like that of a severe diphtheria, in which the nose is stopped and the fauces closed at the end of each inspiration and expiration. The peculiar odor which is said to attend smallpox is noted only in cases of some severity. It is of such a character and appears so early in the disease as to be of material benefit in making a diagnosis. This early odor is unlike that which comes later, th· odor of suppuration.

" In some cases there is severe sweating at about the fifth to the seventh day of the disease, and this is accompanied by a great stench, irrespective of the extent of the eruption.

" The tongue, quite constantly, has a fine, white coating, with the shape and pallor so common in atonic diseases. In the severe cases it often has the appearance of the so-called typhoid fever tongue. In the milder cases the tongue may have no vesicles upon it, or only a few, as in chicken-pox ; but in the severe cases it may be thickly covered with eruption. Loss of appetite is a common early symptom, and may be somewhat prolonged in the severe cases. Nausea or vomiting, or both, are common early symptoms, and these two may continue to be present for some time in the severe cases.

" Weakness is often extreme when the duration of illness is taken into account. Diarrhoea is a somewhat common symptom in all forms of the disease, but is most marked in the severer forms. Constipation is sometimes present, possibly in twenty per cent. of the cases.

" Sleeplessness is present in probably half the cases, lasting but a few days in the mild type, but quite persistent in those more seriously ill. In these latter the use of the milder hypnotics seems to have but little effect.

" Convulsions occur in children in the early stages of the disease. Delirium is often present and is most frequent in the early or febrile period. Tremor of the hands is a common symptom, occurring after the fifth day, slight in the mild, but in aggravated form in the severe cases.

" With so many grades of severity, and with the varying reaction of the skin, a great range in the degree of the eruption is not strange. This

creates much confusion and discomfiture in the minds of physicians who have had little experience with the disease. It is not uncommon to find a diagnosis of grippe, typhoid fever, measles, scarlet fever or even erysipelas, made before the correct diagnosis is reached. In several cases of purpuric variola the disease has been classed as purpura hemorrhagica, or 'black measles,' or 'heart failure,' or 'gastric catarrh.'

"It is necessary to be guided in making a negative diagnosis when smallpox is prevailing in mild form. The patient and his friends are generally certain that the mild cases cannot be smallpox. The patient is said to have been 'working too hard,' or to have 'cooled off too soon,' or to have 'ridden too far on a wheel,' or to have 'had such attacks before.' He is subject to 'lumbago.' The eruption is 'due to the heat,' to 'medicine taken,' or to 'bad blood.' If the physician sees the patient but once he is apt to make a diagnosis of grippe, rheumatism, typhoid fever, or cold. If he makes later visits he is very likely to find an eruption that does not belong to any of these diseases, and which is certainly not chicken-pox.

"One must not adhere too closely to the classical description of smallpox eruption, for he may be misled. In the mild cases there may be only a few broad and flat papules of irregular outline and uneven size. These reach the stage of involution so early that the case is out of quarantine in half the usual time. For example: A child aged five years was vaccinated a few days after exposure to his father, who was ill with smallpox. Thirteen days after such exposure there were marked prodromal symptoms of smallpox. Later four papules appeared upon the child's neck, and these increased in prominence for two days, then decreased for a like period of time, and disappeared without vesiculation.

"In other cases, after the severe prodromal symptoms, an eruption, thick set and hemorrhagic, may appear. There may be marked prostration and delirium. By the fourth or fifth day of the eruption all symptoms may change for the better, and the patient's case progress as a typical varioloid.

"There were mild cases without previous vaccination, and hence mild in character independently of any influence from vaccination. There were still other cases with a mixed eruption. Thus M. and E., sister and brother, aged respectively eleven years and ten months, were ill. The histories of these two cases were practically the same. There was fretfulness, fever, malaise, sore throat, headache on the third day, a macular eruption of irregular size, and most marked on the head, hands and feet. From the centre of many of these maculae developed, within twelve to twenty hours, a small, dome-shaped, transparent vesicle, with thin top

which would break within the next twenty-four hours, leaving the usual flat, dry, dark scab, of irregular size, so characteristic of chicken-pox. But accompanying these typical prodromal symptoms of smallpox, with the rash of chicken-pox, was another eruption of papules going on to vesiculation slowly, as in smallpox, full and tense at the end of a week; mostly round, but occasionally oval; refilling quickly when emptied. These had thick tops and hyperplastic base. There was an elevated ring left when the usual smallpox scale dropped off.

"The following complications were met with in one or more cases: Brachial paresis preceded by a neuritis; severe inflammation of the eyes, lasting from seven to ten days; suppurative otitis media; impetigo following the desquamation; facial erysipelas following the secondary fever in one case; burrowing abscesses over back, sacrum and buttocks. There were small wounds of the skin, which showed no disposition to heal so long as the eruption was active. In one case the nails dropped off, and this was in process when death occurred in another case. In one case there were bed sores. Many of the severe cases had a crop of pimples following the desquamation. Inflammation of the glands of the neck, of the groin or of the axilla was noted in many of the cases. Accompanying this was chills, irregular temperature, and local pain. There was a marked variation in the size of these glandular and periglandular swellings, which advanced and receded from day to day. The skin was not brawny over these glands as is usual in such inflammations. The softness and mobility of the glands was striking. Upon the rapid recession in size of the glands, without rupture, the skin would lay in folds where it had previously been tense. The disorders of the alimentary canal were mostly following the secondary fever, and were represented by gastroduodenitis, accompanied by jaundice or by gastro-enteritis."

Up to August 12th, 1901, there have been recorded since January 1st, 1899, nine thousand, four hundred and ninety-seven (9,497) cases of smallpox in Minnesota, with sixty-seven (67) recorded deaths. Of these, six thousand two hundred and eighty-eight (6,288) cases and twenty-nine (29) deaths have been recorded since January 1st 1901.

It may be well for us to consider whence came this disease and why does it differ so from the classical history of smallpox epidemics.

It is impossible to locate positively the source of this wide-spread epidemic. By some it is said to have originated in Cuba. Certain it is that small-pox of the present mild type was in Florida, Alabama and Tennessee early in 1897. In all probability it spread from the Southern to the Western States, for there was smallpox of this mild form in Texas, in Nebraska, probably in the State of Washington, in Montana and other

Western States prior to January 1st, 1899. The first known case of this present epidemic coming to Minnesota was that of the colored porter on the Great Northern Railway.

Prior to October 1st, 1899, at least two cases (St. Cloud and Willmar) came to Minnesota from Montana, and the disease was quite general in North Dakota before it became general in Minnesota. The case that was found in full bloom at the Willmar railway station September 16th, 1899, received his infection in a hospital at Great Falls, Montana. It had not been recognized by the attending physician as smallpox. The patient was allowed to leave Great Falls when fully and extensively broken out and was advised by the attending physician (so it was stated) to keep out of the way of physicians while on his trip, for the eruption resembled smallpox and there was a possibility that he might be removed from the train and placed in a "pest house" before he should reach his intended destination (precisely the thing that was done). In reply to an inquiry sent from Minnesota to Great Falls, Montana, relative to this disease, which we called smallpox, a very capable physician stated that an eruptive disease was prevailing at that point, over which the physicians were disputing. His own cases he was quarantining as smallpox without making a positive diagnosis. Other physicians, however, were said to be treating cases in the general hospital. He further stated "if this is smallpox, then all of Northern Montana is infected. It may be that the disease is modified in some way by the climate in this section." (Later developments point to the fact that this was undoubtedly smallpox of the type so common over the entire country since that date, and some cause other than climate must be sought to account for its mildness.) Shortly after this letter was written, several deaths from smallpox occurred in and near Great Falls.

In January, 1900, smallpox was introduced into Duluth from Texas.

It is thus seen that into that into the one state of Minnesota, smallpox of a mild type was introduced from three distinct points, Nebraska, the line of the Great Northern Railway and Texas, within a period of one year, and it is quite probable that all three of these sources received their original infection from a common source, probably the Southern states, Florida or Alabama.

It should be noted that as early as 1895, there was a local outbreak, embracing twenty five cases of smallpox at Midway (a section of St. Paul), with but one death. The infection for this outbreak is said to have come from Green Bay, Wis. How the disease reached that point I do not know.

It is common to hear from people who have not given the subject much study the statement that the disease was brought home by the

soldiers returning from the Philippines and from Cuba. This is not the fact. The disease was widely epidemic in the Southern and Central states before a single soldier had been sent to either of these places. It was epidemic in many of the North-western states before a single soldier had returned from the Philippines. It is quite probable that the disease was imported from Cuba by Cuban refugees before hostilities had broken out between the United States and Spain.

It is amusing, although at the same time annoying, to note the names that have been substituted for this old-fashioned, well described disease, smallpox. Among these are such pleasing suggestions as Cuban itch, Manila itch, Philipino itch, yaws, pseudo smallpox, modified smallpox, etc., *ad nauseam*. With much reading I have failed to find any disease described under these first three attractive names. "Yaws" is the name of a disease that should no more readily be confused with smallpox than should syphilis. It is a disease not at all common in the United States and probably never seen by many of those who are using the term. To call it pseudo smallpox is a dangerous practice, for it conveys the idea, as is meant to by those who use the term, that the disease is not smallpox. The term "modified smallpox," may with propriety be used, so long as it is understood that by this is meant smallpox in a modified form.

When we try to explain the reason for the present mild form of smallpox, we find before us a difficult task. We know that with all communicable diseases there are epidemics in which the severity of the disease differs greatly. There may be epidemics of typhoid fever in which the number of walking cases represent a large proportion of the whole, or on the other hand, in which the mortality is very great. There may be epidemics of scarlet fever of so mild a type as to almost pass without notice, or on the other hand, in which a very large percentage of the cases may die. The same may be true of measles. Why should it not also be true of smallpox? But there may be another reason for the mildness of the disease. Dr. J. Nevins Hyde, in an article written December, 1899, says: "The mildness of the present epidemic of smallpox can be accounted for rationally only on the basis of the very general practice during the last fifty years of vaccination of our people. Instead of being astounded at the result, we should greet it with a degree of satisfaction. It is the fruit of a century of progress." I must admit that this argument is a very plausible one. It certainly has been demonstrated time and time again during the present epidemic that vaccination does protect, and while there are many individuals at the present time who never been vaccinated, and yet do not have smallpox after an apparent

exposure, these have great reason to be thankful for the protection conferred upon them by their ancestors.

Prior to 1798, smallpox was regarded as the king of diseases. It is said to have been the cause of one-tenth of all the deaths amongst human beings while in addition to this, "many who outlived its ravages were disfigured, blind or invalid for the rest of their lives."

Macaulay says: "Smallpox was always present, filling the church yards with corpses, leaving on those whose lives it spared the hideous trace of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of betrothed maiden objects of horror to her lover." He further called smallpox 'the most terrible of all ministers of death.'

Alexander McKenzie describes it in an unprotected community as "a fire consuming the dry grass in the field."

Europe, in the century preceding the discovery of vaccination, lost in deaths from smallpox alone fifty million of her population, or an average of five hundred thousand per annum. The mortality from smallpox at the present time in all civilized countries is nothing compared with these pre-vaccination times. The mortality from smallpox in well vaccinated countries is practically nil. To whom belongs the credit for this changed condition? To the immortal Jenner. And yet there are those who malign vaccination and the father of vaccination; anti-vaccinationists, they are called. Shame upon them! How many of these erratics would wish to return to the pre-Jennerian era?

While it is absolutely proven that vaccination protects in the large majority of cases of smallpox, while it is altogether probable that at least in part the mildness of the present epidemic of smallpox must be due to an acquired immunity, transmitted by our well vaccinated ancestors, it must be admitted that such transmitted immunity is not complete protection. In many instances that have come under my observation during the past two years, the first cases of smallpox to appear in a community have been of the mild type, but these have been followed by more severe, and in many instances, fatal cases. We cannot rest entirely upon the good done by our ancestors. We, too, must act and vaccinate, vaccinate, vaccinate.

Since this mild type of smallpox has become so widespread, I have tried to find some history of a previous similar epidemic and have failed. This is not surprising. In the pre-Jennerian era there were no immunizing influences at work. During the early years of the Jennerian era, vaccination became general in the British possessions, in America and in the various European countries. Inherited immunity has thus become

quite well established. In consequence, we have the present type of the disease. But the mildness of the disease is not sufficient excuse for failing to recognize it.

The doubters and unbelievers have been telling us that these mild cases of smallpox are not described in our text books. Let us see if what they say is true or whether the picture of the disease which they have in their own minds is blinding them to actual facts.

Sir Thomas Watson, in speaking of smallpox, says: "The discreet form is scarcely ever dangerous; the symptoms largely depend upon the amount of the eruption; the secondary fever is but slightly marked in the discreet form; some times there are not more than half a dozen pustules; some times there are many thousands."

Flint says: "Not every smallpox vesicle is umbilicated; in mild cases there may remain no permanent traces of the eruption; some of the poobs do not break, but harden and their contents are absorbed. It is probable that in these cases the corium is not involved in the suppuration, or that the vesicles are not converted into pustules. Some persons are wholly insusceptible (without vaccination); some have become susceptible after having been insusceptible for many years."

Osler says: "Whether pitting takes place depends a good deal upon the severity of the disease. In the majority of cases Sydenham's statement holds good that 'it is very rarely the case that the distinct (discreet) smallpox leaves its mark.'"

In Ziemssen's Cyclopaedia it is stated by Curschmann that "the variations may present the most extreme limits from the severest and absolutely fatal, to the very lightest cases, in which but a few small pustules reveal the fact that we are dealing with a sick patient. None of these forms are sharply defined amidst the great group of variolous affections. Under various forms of this disease are described Varolois verrucosa, in which the eruption does not develop into large, well formed pustules, but remains in the form of solid conical papules, which have a small vesicle at the summit containing fluid; and again—Varoliois miliaris, 'yellowish vesicles the size of millet seed, which disappear by simply drying up.'

Dr. Wm. M. Welch says (Loomis-Thompson's System of Practical Medicine, Vol. I) "there may be only a few small pustules, scarcely definite enough to verify the disease. Discreet variola is attended by no great danger. It is well known that in some unprotected persons there is naturally but slight susceptibility to infection and the disease in this class is mild and of short duration."

In Allbutt's Practice it is stated that from one to two per cent of

the unvaccinated are immune to smallpox. Some say one to five per cent. Modified smallpox occurs in well vaccinated communities.

Moore, of Dublin (*Twentieth Century Practice*) says: "Many individuals have only this form of smallpox (mild) because of a naturally slight susceptibility to the contagium of disease."

Hyde, in his recent article, says: "The most significant and startling contrast between modified and unmodified smallpox is exhibited when the patient, after reaching the stage described of complete development of pustules, suddenly ceases to betray any further significant symptoms of smallpox. The pustules dry rapidly into crusts which are thrown off and leave the skin either somewhat stained at the points where the crusts formed, or in nearly its normal condition."

Is there not meat in these quotations upon which the doubters may feed to good purpose? It is worthy of note that those who dispute the diagnosis of smallpox in these mild cases of the present epidemic are much fewer in number than a short time ago. He is a bold man who will place his opinion, when he is first called upon to see one of these mild cases, against that of those who have become thoroughly familiar with the disease and its eccentricities. Mistakes are excusable, but persistent opposition in the face of accumulated positive proofs is never excusable.

Much good was done at the recent meeting of the American Medical Association, when there was passed with but one dissenting vote, at a well attended joint session of the Sections on Practice of Medicine, Hygiene and Sanitary Science, the following: "Resolved, that the disease now prevailing extensively in the United States, and called in some instances 'pseudo smallpox' is genuine smallpox, and should be so treated with vaccination and quarantine."

At no time in the history of the world have the conditions been more favorable for the spread of smallpox than the present. Our facilities for travel tend to spread the disease. This is especially true in America, for we are a traveling people. Even the laborer migrates from state to state and from province to province with greater ease than people made journeys of fifty miles in the pre-Jennerian era.

It is impossible to give accurate statistics for an epidemic while it is still in progress. Suffice it then to say that a recent journal gave as the total number of cases of smallpox for the United States, since the beginning of the epidemic, as thirty thousand. I venture to say that if all the cases in all the states had been reported, the total would exceed a hundred thousand.

I have told you when and how smallpox first appeared in Minnesota. Let me also quote from reports for a few other places. Smallpox existed

in Florida, January, 1897; in Alabama, March, 1897; in Tennessee, April, 1897; in Georgia, October, 1897; in South Carolina, January, 1898, in North Carolina, January, 1898; in Kentucky, February, 1898; in Virginia, February, 1898; in District of Columbia, February, 1898; in Ohio, April, 1898; in Pennsylvania, April, 1898.

One report says that the disease had existed for two years prior to 1897 among the negroes in Alabama, unrecognized as such by the physicians.

Infection for both Kentucky and Alabama is given as Cuba. The march northward is distinctly shown by the dates appearing one after another.

In 1898 New York state is said to have had three hundred cases, all traceable to one source of infection—a traveling show. In this number there was but one death.

The march westward seems to have been by way of Arkansas, for in January of 1898, a case is reported as occurring at Little Rock—a negro woman from Birmingham, Alabama. Undoubtedly it was this infection that extended to Nebraska. Arkansas was also infected by way of Mexico (epidemic at Fair Oaks, March 1st, 1898, the first case coming from Mexico, February 7th, 1898).

It was quite possible for Texas to have had her infection from some one of the Southern states or from Mexico, and for the disease to have reached the Pacific shore of the United States from any of these sources.

In the Province of Quebec, from reports it would appear that there had been four epidemics since January, 1897—the first July 5th, 1897 to April 8th, 1898, with 26 cases and 14 deaths in Montreal, and 9 cases and 2 deaths outside Montreal. The source of infection is not given in the reports, but it undoubtedly was not from the Southern states at this early date. The outbreak seems to have been of the old-fashioned type. The second in districts outside of Montreal, between January 9th, and April 1st, 1899. Fourteen cases are recorded with one death. The infection is given as from a so-called chicken-pox case, but the source of the infection for this improperly diagnosed case does not seem to have been known. This outbreak represented the mild type of the disease and was in all probability introduced by way of the States.

The third epidemic existed from November 20th, 1899, to September 27th, 1900. Twenty cases were reported from Montreal, with seven deaths. Two hundred and ninety-seven cases were reported as occurring outside of Montreal, with but three deaths. The source of infection for this epidemic is given as New Bedford, Mass., Taunton, Mass., Bradford, Pa., and "a tramp."

The fourth outbreak is recorded from March 4th to May 27th, 1901,

and seems to have been of the characteristic mild type prevailing throughout the United States, for there were reported three cases in Montreal, with no deaths, and two hundred and twenty-three cases outside of this city, with but two deaths. The sources of infection for this epidemic are given as Duluth, Michigan, Ontario, Wisconsin and Massachusetts.

There is a report in the Journal of the American Medical Association (August 10th, 1901, p. 396) of three hundred and thirty-seven cases in the Province of Quebec from January 1st to August 1st, 1901, with but one death. This seems to be a more recent record than that given for the four epidemics referred to in this province, which is up to May 27th, 1901, only.

The Province of Ontario seems not to have been free from smallpox since January, 1898. The sources of infection given are from various parts of the states, as well as from certain points in the province itself. The records that I quote for Ontario report five hundred and thirteen cases, with eighteen deaths (January 25th, 1898, to May 5th, 1901). The disease was apparently of the mild type prevailing in the United States.

I have no record for other provinces in Canada, but there certainly is no reason why those bordering on the Northwestern States should not have had many cases similar to those found in North Dakota, Montana, Wyoming and Washington.

There is quite a tendency to predict a more severe type of the disease to follow in the wake of this mild type. It would be strange indeed if such a result did not follow. It is not safe, however, to make any such predictions for the near future. It is surprising that the disease should have already been present in the United States for a period of at least five years, with so little change in its character for the worse.

It may be well to again quote from the Journal of the American Medical Association August 10th, 1901, p. 395) where the mortality from smallpox in New York state is given as seventy-four for the month of June, the highest mortality from smallpox for any one month in the history of the state. It would seem that New York is already showing evidence of a change in the type of the disease.

Finally, in closing, let me name the three cardinal points to be observed in suppressing smallpox : Vaccination, Isolation and Disinfection

THE NECESSITY FOR THE EARLY RECOGNITION AND TREATMENT OF INSANITY.

BY DR. SAMUEL BELL,

Medical Supt. Lakeland Private Hospital for Mental and Nervous Diseases; Pres. Wayne Co.
Medical Society, Detroit, Mich.

THE care and treatment of our insane is a question which ought to interest every physician and taxpayer in the state. We have, in round numbers, in the various asylums and institutions where the insane are cared for, about five thousand persons, necessitating an outlay of about five million dollars and an annual expense of about one million five hundred thousand dollars for care and treatment. Not only is the question one of interest from an economical standpoint, but it is of the utmost interest sociologically. Insanity, in some form, permeates all classes of society; no one can claim exemption. No disease is so far-reaching in its effects nor involves a wider range of interests regarding individuals, families, and even communities. For the individual, social and business relations are at once seriously involved: for the family, the dearest ties on earth are disturbed; in many instances there is personal danger, and, it may be, the removal of the head of the family to the care of strangers, with the consequent loss of income and necessary expense, and, unfortunately, the stigma wrongfully attached to persons, and even families, known to be tainted with mental disease. However treatment may be administered, at home or in a public or private institution, there is involved an expenditure of a large amount of public or private funds.

There is, perhaps, no disease which, when it attacks any member of a family, creates so profound an impression. Take, for instance, the mother with child, it may be her first or it may be her sixth; the child is born, and the physician and friends are looking forward to a speedy and happy recovery, when, like a thunderbolt from a clear sky, the friends' joy is turned into intense anxiety, the resources of the physician are taxed to the utmost.

In this hour of sorrow the family and friends look to the physician for counsel and advice.

Symptoms.—A week or ten days after parturition, the patient's face becomes pale and careworn in appearance; the eyes unequal in lustre; skin moist, tongue coated, breath offensive, lochia suppressed, temperature high; patient becomes restless, attempts to jump out of bed or window; conversation incoherent. These are a few of the premonitory symptoms which call for prompt recognition by attending physician. I recall two cases which came under my care for treatment while in charge of the Upper Peninsular Hospital for the Insane. One patient

was not considered in serious condition until, by accident, her husband found that she had secreted a large butcher knife under her pillow. When questioned, she acknowledged her intention of killing both husband and child after they had gone to sleep. The other case was that of a woman who contemplated roasting her infant in the oven, but vigilance prevented.

Difficulty and Necessity for Early Diagnosis and Treatment.—We have come to look upon insanity as a disturbance of the intellectual areas of the brain, manifested by partial or complete derangement of the mental faculties, a derangement manifesting itself in methods of thinking, feeling, and acting which are unusual to the individual when in mental health. There is no common standard of sanity by which mental aberration can be judged, because no two individuals think and act alike. No individual can be called insane because he differs mentally from others. Every individual has his own standard of mental action, and can be considered insane only when he departs from his own standard, when normal mental action is supplanted by abnormal mental action, or when, in common parlance, he is "off his base." Insanity may be considered a relative condition. We must compare the condition in which we find the individual at the time of examination, his conduct, manner, and speech, also the organs of the body, including the eyes, tongue, skin, circulation, appetite, bowels, sleep, motion and sensation, with his normal mental and physical state, as shown by his former habits, temperament, environments, etc. A nervous, excitable temperament may from slight cause become exalted or depressed, which up to a certain degree would be within the normal physiologic range in that individual, while such manifestations occurring in another individual of entirely different temperament, might justly stamp him as insane. Thus two individuals may manifest similar mental symptoms and one be considered of sound mind while the other may very properly be considered insane. It is when mental activity goes beyond the physiologic limits and the individual passes into a psychopathic state, that he may be regarded as insane. It is often very difficult to say where health ends and disease begins; the onset, if gradual, may extend for months and even years, before the lines between sanity and insanity are well-defined.

Necessity for Early Treatment.—For obvious reasons, when a member of a family becomes afflicted with insanity, in many instances, the immediate friends fail to recognize the full import of the situation, to the detriment of patient and not until the disease is well advanced are proper steps taken for care and treatment. This lethargy or indifference is not practiced in relation to other diseases, then, the physician is at once con-

sulted, but when mental aberration occurs there is a disposition, it may be for social or other reasons, to cover up the actual conditions. It is not a little gratifying, however, to know that a large amount of the prejudice which has heretofore existed, in relation to insanity, is fast passing away, and it is now looked upon more as other diseases. When the friends, the public and the medical profession look upon mental disease in the same light as pathological conditions in other parts of the organism, amenable to the same laws of cause and effect, then, and not until then, will mental disease receive the early recognition which its importance merits.

Too often the specialist does not see the case until the symptoms are well developed. The friends of the patient fail to comprehend the gravity of the situation, or, realizing it, are unable to decide what course to pursue. I have little doubt but that many of the chronic insane now public charges, and forever lost to their friends, could have been restored to health had the early symptoms or danger signals been recognized and treated. Fortunately the immediate danger of death as well as the hope of recovery can generally be decided during the first year. If actively and skillfully treated within the first month, 70 per cent. of those attacked may be cured, but if not treated until the sixth month of the disease only 50 per cent. can be cured, and for each subsequent month the hope of cure diminishes. After the first year not more than 10 per cent. recover, and after the second year and until the twentieth year of the insanity an exceptional recovery may occur. Practically, however, insanity may be regarded as having little hope of recovery after the first year. Seventy-five per cent. of cures in hospitals for the insane occur within eight months from the date of admission of the patients.

If there was one lesson more than another indelibly stamped upon my mind by institutional experience, it is the fact that the curability of insanity largely depends upon its early recognition. The longer delay the less chance of recovery. The great pathological law which obtains in most diseases has greater significance when applied to insanity.

Institutional versus Home Cure and Treatment. This is a question of great importance, and intelligent conception of the nature and diagnosis of the disease is necessary in order to give valuable advice on the subject. The future welfare, and possibly cure, of patient, will depend upon the proper solution of this problem. If possible, it may be better for patient if treatment can be carried out at home, on account of the popular stigma of insanity and loss of standing of those who have been inmates of hospitals for the insane. The fact that the patient did not have to go to an asylum favors the impression that the trouble was

not serious, and popular prejudice towards one upon whom the official seal of insanity has been stamped by commitment to an institution for the insane, is largely avoided. But, while guarding the interests of patient against this popular feeling, the physician has other considerations that must influence him in his decision. For instance, the influence of home treatment upon members of patient's family. It is a duty to suffer inconvenience, and even hardships, in behalf of sick members of the family; the obligations are the same when insanity occurs, although there is a limit to moral obligation, and that limit is reached when the health of the family is jeopardized. The financial consideration often settles the question. The expense of home treatment is greater unless there are members of the family suitable for nurses. Except in very mild cases, one is required for the day and another for the night, and a suitable room must be provided with doors and windows properly secured.

If the patient be homicidal, suicidal, destructive or noisy, institutional treatment is strongly indicated. In many cases, separation from family and friends is one of the most effective means of cure. The feelings and ideas of the patient may be so interwoven with family or friends that their presence is a constant source of morbid symptoms, and the first step towards cure is the removal of all sources of irritation or delusions. Isolation also furnishes the rest and quietness which is needed in the early stage of the disease in many cases. Institutional life is often highly beneficial on account of its perfect regularity, the conformity to daily habits of exercise, occupation, recreation diet and sleep. The force of the whole machinery of a well-appointed hospital, moving like clockwork, is one of the most irresistible means of introducing order into the disordered life of the patient. However, when a probable curable case is committed to an institution where there are many incurable cases, the effect is not all that could be desired. As the case, say of melancholia, improves, the darkened intellectual horizon begins to show signs of returning light, the patient sees on every hand mental wrecks, in all stages and in all conditions, from the raving maniac to the hopeless dement.

I have had them ask me in most pitiful language: Is my condition hopeless like the rest here? Such cases do better in a private institution, where the individualized treatment is more fully carried out, and the patient receives more constant attention from the physician and attendants, thus deriving the great benefit of the influence of the sane upon the insane mind.

Deception is often practised by friends (and, I regret to say, physicians sometimes lend themselves for the same purpose) and false statements

are made to patients in order to allure them into institutions. To accomplish this purpose, some very ingenious schemes are laid by well-meaning but injudicious friends. Illustrations:—an only son, aged 18 years, a high school student, had become mentally unbalanced, chiefly in relation to study, but was quite intelligent on other subjects. The parents induced him to take a ride on the car to Mt Clemens and by so doing inveigled him into a hospital for a week's treatment, when in reality he needed three months or more to receive any lasting benefit. Another case was that of a wife and mother who imagined that she had some rich relatives in Cincinnati and that she must go and see them. The friends even went so far as to secure the tickets for Cincinnati and told her to be ready at a certain hour; the carriage calling as she was told, she not even suspecting anything different until driving into the hospital grounds. Such deception cannot be too strongly condemned. The case is a very exceptional one when judicial and diplomatic measures fail to accomplish the desired object. In some of the states a trained attendant is sent to accompany the patient from home to destination, which is a very commendable procedure. When an intelligent person becomes mentally unbalanced, it may be on one subject, deception is keenly felt and causes dissatisfaction with the new home; I care not how pleasant it is, nor how they, whose duty it is to care for patients, labor to gain his confidence, one of the first essentials to successful treatment.

Prognosis.—The questions will be asked the physician: Will the patient survive the attack? How long before cure is complete? If cured, is there likely to be a recurrence of the attack? And what will be the state of the patient, will he be able to attend to business? Will he be well enough to live at home? To be able to answer these questions requires extensive experience in mental disorders. The prognosis in mental disease at the onset is difficult to foretell. It is well to bear in mind that the unexpected often happens. A patient may be maniacal to-day, as in mania transitoria, and in a week or a month be clothed in his right mind. A common mode of termination is partial recovery with general weakness of mental faculties remaining. Probably about one case in four will terminate in this way. Our state institutions contain a large percentage of this class, they form what is known as the "working gang." The rate of recovery diminishes with age and is slightly more favourable among women than among men. It averages from thirty per cent. to forty per cent., calculated on admissions in hospitals for the insane in the United States. By striking an average as regards age, sex and form of mental disease, the following estimate is considered as very nearly the average result to be expected in mental disorders: of one hundred per-

sons attacked for the first time by insanity, seventy will eventually die insane; thirty will recover and die sane; twenty will recover but will relapse and will be among the seventy to die insane; fifty will not recover at all. The hope of recovery diminishes with each successive attack. The majority of first recoveries even leave a slight impairment of the intellect. It has been estimated that the average life of the insane is about twelve years.

I recall one case which was taken to Kalamazoo shortly after the opening of that institution, where she remained until transferred to Traverse City. When the U.P. Hospital for the Insane was completed she was transferred to that institution where she still remains, physically well, having spent more than thirty consecutive years in these institutions.

Illustrations of uncertainty in diagnosis.—I recall the case of a married woman who entered the U.P.H. in 1895, having been in another institution, prior to that time. Only a few months ago she returned to her husband in a neighboring city, a comparatively well woman. Her condition was such during all these years as to warrant a hopeless prognosis, which was made by myself and others who had seen her.

While a member of the Michigan State Board of C. & C. I, several years ago, with other members, was called upon to examine a dangerous lunatic in the Pontiac asylum; application having been made by the Superintendent for his removal to Ionia, on account of homicidal tendencies. At that time he was a raving maniac and subsequently was taken to Ionia. It was the opinion of those in charge of the asylum, who had watched and studied his case, that he would pass into a demented condition and would not live long. That man has been doing business in this city for several years, and may be seen almost any day on Griswold St., and perhaps no one but an expert in mental disease would detect any blunting of intellect.

THE IMPORTANCE OF CLIMATIC TREATMENT IN PULMONARY TUBERCULOSIS.

By L. BENTLEY, M.D., Toronto.

AT the meeting in Toronto of the Dominion Medical Association it was casually remarked that consumptive patients sent from home for a climatic change required, while there, medical advice. This is true for many reasons, as there are a number of different forms and stages of the disease, besides idiosyncrasies of individual patients, all of which conditions require consideration in each individual case.

Most patients in this country are advised to go to our own North West or to the South or South Western States, as Florida, New Mexico, Arizona, Colorado, etc., but none of these has such a variety of climatic and scenic conditions as Southern California. The average phthisical patient sent there without instruction, however, would be simply lost as to where he should locate; and, besides, would be most likely to fall into the hands of quacks. The habitable portion of Southern California, is roughly speaking, about two hundred miles north and south, with an extreme width of about one hundred miles. In this space, from the sea level to any desirable altitude, one might locate where there is never frost, or where there is frost every day in the year; where there is a great deal of fog and dampness, or where fog is almost unknown; where the sub-soil is constantly wet, or where it is constantly dry; where vegetation is most luxuriant, or where there is almost complete absence of vegetation.

If we consider the different stages of pulmonary tuberculosis, and different individuals, we will readily see that medical advice of the right sort in such a climate is imperative. Protection from empirics is a point of importance. Anyone who has been at climatic health resorts will know how difficult it is to prevent patients from being misled by quack advertisements and designing persons.

The time is coming, if it be not already here, when the consumptive will be shunned by the public. At any rate, the consideration of what is to be done with our phthisical patients has become of vast importance; and the medical profession, without aid, cannot do all that might and should be done. We all know how difficult it is to get State aid for such a purpose. A quarter of a million dollars a year might easily be spared by the Dominion Government, to be supplemented by proportionate grants from each of the provinces, to make a liberal sufficiency.

We believe that phthisis can be cured. If so, climatic influence must have a great deal to do with this cure. To select localities suitable

for such treatment should be the work of the medical profession and the State should bear the cost. Possibly a proper method to adopt would be for the Dominion Medical Association to appoint a commission to examine into and report on the merits of different localities for treatment of the disease. Medical men might then be selected or others induced to go to those localities, so that patients sent there would have confidence in their medical treatment.

No one place is suitable for all cases. A very desirable climatic condition which we cannot have in Canada is a bracing mild atmosphere in the winter season, where a patient can remain continually and comfortably in the open air. The substitutes which we have are not entirely satisfactory. Another point in the treatment of phthisis is the financial position of the patient himself. Many patients have simply to die at home because they cannot afford to go away. Many others go and are barely able to support themselves. They cannot have the necessary comforts, and possibly they may have to work at uncongenial employment in an improper locality. One needs to see this last condition to fully appreciate the hopelessness of such patients. Their sad, weary life leaves nothing to be hoped for, and they cannot recover under such conditions. How different such a patient would be under proper care.

Every honest man who is a subject of the State should be provided for by the State if he is unable to provide for himself. Laws are supposed to be enacted for the public good. In this instance, it would be for the public good to have the individual taken care of—not as an act of charity, but as a right. There can be no doubt that our Government spends millions yearly for purposes not so commendable as to assist in stamping out this acknowledged plague.

Another important point in making a climatic change is a decided change of scenery. In Southern California the scenery in most localities has an untiring beauty, which it is hard to surpass. At San Diego, the most southerly city on the Californian coast, with a population of 35,000, we have a city built on rising ground till it reaches several hundred feet above the sea. From the upper part of the city an extended view may be had of the ocean, Coronada Beach, and the harbor enclosed by the beach. The temperature is equable and mild, with less fog than is usual along that coast. Coronada Beach is a favorite resort during summer. There are a number of coast resorts which are suitable for phthisical patients, but for the majority of patients the mountain resorts are better for the summer season. Proper winter resorts are of far greater importance, however, and the interior of Southern California furnishes many places which leave but little to be desired for tuberculous patients. A

climate so mild that one may live out of doors the winter through ; the air as pure as it is possible to be ; with scenery so beautiful that one never gets tired of it ; while any desirable altitude may be reached. The upper end of the San Bernardino valley is, perhaps, the most typical of these points. The valley is surrounded on three sides by the Sierra Madre mountains, with the highest peaks in full view—Mt. San Bernardino, 11,500 ft.; Mt. San Gorgonia, 12,600 ft.; Mt. San Jacinto, 10,100 ft.; Mt. San Antonia, 10,142 ft. These mountains protect the valley from the violent north winds or sand storms which sometimes sweep down the Cajon Pass, and thence down the lower part of the valley. The chief cities, towns and health resorts are San Bernardino, altitude 1,100 ft.; Redlands, from 1,400 ft. to 1,800 ft.; Mentone, 1,647 ft.; Arrow Head Springs, 2,035 ft.; Crafton, 1,775 ft., and Highlands, with an altitude of 1,313 ft. All these places are nearly free from fog except San Bernardino. Even in a few miles there is a remarkable difference in climate. For instance, Redlands produces oranges of the finest quality ; while San Bernardino, nine miles distant, grows none. The sub-soil of San Bernardino and vicinity is always moist, and there are many artesian wells which produce a large volume of water, which is conveyed to South Riverside for irrigation purposes. San Bernardino is also in the direct line of the "Northerns" (sand storms). These storms also strike Riverside and Ontario, which places have considerable fog. Redlands and other places in the upper end of the valley have a dry sub-soil, and are protected by the mountains from the north wind. All vegetation is produced by irrigation. The scenery viewed from Redlands is most magnificent, and it is particularly so during the winter months when there is plenty of snow on the mountains. The winter air is clear, dry and bracing. Even during the rainy spells the sun may shine many hours during the day and the rain fall at night. The wet spells are of uncertain duration, but the interval between them is long, when there are no clouds. The sun shines day after day, week after week, with no cloudy days. There is but little frost. Oranges ripen during the winter, and are seldom injured by the frost. The trees bloom in the latter part of February, when the fragrance of the blossoms is noticeable everywhere. The altitude of the business part of Redlands is about 1,400 ft., while the highest portion of the residential part is 1,800 ft. Ten years ago Smiley Heights, at Redlands, was a desert hill—now it has nearly one thousand varieties of vegetation, mostly full grown, and five miles of park drives. The late President McKinley, while being driven through this park, is reported to have remarked : "This is a sight for the gods." The scenery in such a climate cannot be other than salutary to the sick.

One hot day in August, having occasion to go in the mountains, I took dinner at the end of the wagon road—eleven miles from Redlands—at the house of a mountain guide on Mt. Thurmann (Alt. about 3,000 ft.). The meat we had for dinner was cut from the carcass of a sheep that had hung in an open shed for ten days—in fact there was barely enough left to make a meal for three, still it was perfectly sweet. I presume the only cause of the perfect preservation of the meat was the pure, dry atmosphere. Eleven miles further on in this same range is a locality called Seven Oaks, an ideal spot for a summer health resort for those able to bear the fatigue of the journey, which has to be made on horseback. The altitude is 4,850 ft. The Santa Ana river, which is fairly stocked with brook trout, rushes down the canon at a rapid rate. During the season in question, there were several patients there with lung disease who expressed themselves as much improved in health during their stay. There is seldom a cloud to be seen, and rain is very rare during the summer months. Some patients go still higher to Bear Valley, altitude 6,400 ft. Bear Valley has an artificial lake some six miles long, well stocked with brook trout. The mountains here are not by any means barren. There is considerable pine forest. Game is also found in this locality. There are many places in the same neighborhood where high altitudes may be reached without so much inconvenience. Possibly of more importance than the foregoing is a condition of climate and atmosphere which is well described by I. Burney Yeo in his work "A Manual of Medical and Clinical Therapeutics", Vol II, Page 119, and is well worth perusal. The great importance of the winter treatment of phthisis leads me to discuss my own experience in the mountains in winter, which, if somewhat modified would be of great benefit to patients in the early stages of the disease. In January following the summer above mentioned, I took a man with me to build a cabin for summer use in the vicinity of Seven Oaks. The night of our arrival, a snow storm set in which lasted three days. When the storm was over we had four feet of snow. The sun then reappeared and was brilliant for the remainder of the four weeks I was there, and for several weeks after. During this time there was scarcely any wind. At sunrise the thermometer was usually about 0° F.; at this time we had breakfast. Immediately after breakfast, the sun being well up, I could lie on a heap of brush in the open air without an overcoat and smoke my pipe in perfect comfort. This warmth continued till sundown when the cold again set in. During the day at any time in the shade one would at once feel the cold. The snow did not disappear, as one would expect, but remained dry not a particle of slush could be found. The earth beneath the snow was dry and porous, with a steep incline. I

had previously spent two winters on the north shore of Lake Superior, and there learned the value of snow shoes. As we had none, I managed to make a rough substitute with "shakes" (a sort of shingle for roofing). With these we got around pretty well and enjoyed some shooting. Quail were plentiful. A number of deer were seen, one of which fell to our lot a hundred yards from our habitation. We were forced to remain on account of the trail being covered with snow, but at the end of four weeks a guide was sent in for me, and I went out with him, leaving my companion in the mountains to finish up the work we had commenced. I started to walk back to Redlands with the guide, whose home was eleven miles on the way, which point we reached in due course. Here I left the guide who was by far the most fatigued of the two, and continuing on, reached Redlands a few hours later. I was not an invalid to commence with, but I know I was never in better physical condition than on the day I walked twenty two miles out of the mountains, which would be equal to double the distance on ordinary roads.

For a practical application of the above, the same conditions of atmosphere, altitude, etc. can be easily found without going nearly so far for it. Such localities are to be found in the foothills, where one would be convenient to the adjacent valley.

The advantages would be much superior to the tent life in winter now advocated for tuberculosis in our own climate. In the instance which I have described we had the purest dry atmosphere, no possible floating particles, a constant general sunshine, any altitude from 2,000 to 5,000 ft. or over. Such an atmosphere would be both aseptic and anti-septic—no winds, no fog, atmospheric temperature low,—therefore bracing, and still, owing to the direct rays of the sun and rarified air, there is perfect comfort during every hour of sun-shine.

It would seem that if there were a systematic procedure in discovering pulmonary tuberculosis, a large percentage of cases would be greatly benefited by such a climate, and very many cured. Early cases sent to a sanitorium with nothing to occupy their minds, no recreation except that of a forced nature—in fact, practically nothing to do but sit down and be cured, seems rather discouraging.

TUBERCULOSIS OF THE EYE.

By D. C. TROW, M.D.C.M., L.R.C.P., London.

Professor of Ophthalmology and Otology Trinity Medical College, Eye and Ear Surgeon to Toronto General Hospital and to the Hospital for Sick Children.

TUBERCULOSIS has been seen in the lids, the conjunctiva, the lachrymal gland and sack, the cornea, iris, ciliary body, choroid, sclera, optic nerve and orbit; and yet it is not frequently observed. I will content myself with giving a short synopsis from recent literature on the subject.

Dr. Hansel, Phil., in Annals of Ophthalmology of July last, recites a case in a child three years old with an ulcer in the conjunctiva excised and cured. Eyre reports three cases in which inoculation experiments were made, and all the animals died of tuberculosis of various organs about six weeks after. In two of the three cases he found Koch's bacillus. He claims that this infection occurs once in 2,700 cases.

The cause may be self infection, such as wiping the eyes with the fingers, carrying tubercular material, or from metastasis, or traumatism. Knapp had a case following the operation for squint. Methalsky records six cases of infection from cataract operation, and four metastasis. Several others have cited cases due to injuries.

The palpebral conjunctiva is involved far more often than that of the ball. The bacilli cannot always be found. In Denigs tables out of seventy-two cases fifty-two showed no sign of tuberculosis of other organs, fourteen were suspected of hereditary taint, three showed evidences of previous tuberculosis in the eye, and seven in other organs. Ten cases relapsed some years after as follows: one, tubercular glands of cheek and nose; one, lupus of conjunctiva cheek and nose; four, phthisis pulmonalis; one, meningitis, one, miliary tubercle.

In eighty-six cases of the uveal tract sixty-seven had no signs of tubercle elsewhere, forty were absolutely healthy, twenty seven suspicious and four had earlier tuberculosis. The eyes were enucleated, and thirty-nine were heard from in from one to eleven years later. Of these nine died of tuberculosis, proving either that radical operation (enucleation) is not sufficient to cure, or that the locus tuberculosis was secondary, or that removal of the primary seat of the disease was not sufficient means to conquer the disposition of tuberculosis.

Hansel says many cases are masked by trachoma: and others are diagnosed as trachoma that are tubercular.

Dr. A. Levy, of Montreal, had a case in a child who had a cervical abscess from which the eye got infected. The parents refused an opera-

tion; and some months later, when the child was seen again there was complete healing.

Prof. Uhthoff, of Breslau, says that 80 per cent. of patients suffering from severe relapsing serofulous ulcer (phlyctenular keratitis or conjunctivitis) reacted to tuberculin, and probably were tuberculous. He asks, how shall we treat preauricular, and sub-maxillary lymphatic glands? Are they a protection or even destroyers of the tuberculous virus as long as they do not suppurate; or are they to be removed; and he expresses doubts. He cites a case of tubercle in the eyes of a young lady, apparently propagated through the lachrymal duct (without any marked signs of dacryocystitis) from a tubercular mucous membrane of nose, soft palate, and epiglottis.

Prof. Peters, of Bonn, in (*Zeitschrift für Augenheilkunde*, Mai 1900), in an article on tuberculosis and sympathetic ophthalmia. The idea which prevades this communication is that sympathetic ophthalmia is probably tuberculous in its nature. He says in an hospital in that city, among 10,000 injured, at least 500 showed tuberculosis at the site of the injury, and this was seen more frequently in cases of slight injuries, where the disturbances of function were comparatively trivial. In a number of cases thus so-called, post traumatic tuberculosis, was the first manifestation of the disease, and this high percentage of cases leads Peters to think there is no organism which is so likely to take root, and to grow at the site of an injury as the tubercle bacillus. He seems to think that irritation of the ciliary nerves, just as we find after injury of the eye, could bring about conditions favourable to the colonization and multiplication of the ubiquitous tubercle bacillus, and he ventures the opinion, that many cases of chronic insidious iridochoroiditis with blindness, and lowered tension, following either an injury or an operation may rest upon a tuberculous basis.

Fuchs, my respected teacher and friend, of Vienna, says that parenchymatous keratitis may be caused by tuberculosis more often than has been hitherto supposed.

Sensberg (*La Clinique ophtalmologique*), reports a case of tuberculosis in the cornea, cured in a woman who had suffered from lupus of the forehead for a long time; no pulmonary involvement.

In the last meeting of the British Medical Association, Mr. Sydney Stephenson and S. George Carpenter read a note on tuberculosis of the choroid, viz;—"In miliary tuberculosis they usually found two or three spots; while in chronic tuberculosis the lesions might be multiple or single. Sometimes it assumes the form of an intraocular growth, and occasionally it becomes quiescent." The president mentioned a case in

which a large mass of tubercle of the choroid subsided under treatment and rest, and Mr. A. S. Percival described a case of the kind which he had seen.

As to treatment of the conjunctiva, the two methods that have received the strongest endorsement, are excision or the galvano cautery. The inflamed section of the conjunctiva and a healthy zone surrounding it should be excised. If the preauricular or other glands are involved, they should be included in the operation. If the case has gone beyond the operative stage the ulcers should be burned by the galvano cautery.

In tubercle of the iris occurring as disseminated (miliary) tuberculosis, and a conglobated (solitary) tubercle, *i. e.*, either in the form of small nodules, or as a larger growth, resembling a neoplasm. In the milder cases recovery may take place, while in the severe ones the eye is usually lost. The treatment in addition to combating the local symptoms iritis, constitutional remedies should be given, and instructions as to the mode of living, etc. If the disease keeps on, and blindness is impending, it is better to remove the eye by enucleation, that it may not be a source of further extension of the tuberculosis.

A few have claimed that an iridectomy has cured, but several failures are also mentioned, and most authors do not advise it. Deeper deposits as a rule require enucleation, that is if an operation be advisable.

CYST IN RIGHT NASAL PASSAGE.

By R. F. BUTLER, M.D., London.

My only excuse for having referred to this case is its extreme rarity, being the first growth of the kind during my special practice extending over a period of twelve years.

It was attached to the under surface of the middle turbinated body near the posterior end.

The naso-pharynx contained a large myxo-fibroma, attached to the upper edge of the posterior naris of the same side and extending nearly to the base of the tongue.

Both growths were easily removed, and there was no recurrence.

The real nature of the cyst was disclosed through rupture of the thin wall of the sac, with expulsion of the yellowish liquid contents during the tightening of the wire in removal.

MILITARY MEDICAL TOPICS AND NEWS.

Conducted by Major Nattress, P. M. O. M.D. No. 2.

In the last issue of THE LANCET we gave in part the personnel of No. 10 Canadian Field Hospital. Since then its organization has been completed while in Halifax awaiting the arrival of the transport Victorian.

The time was utilized in getting the more or less raw material into a well organized unit. Another officer was added to the strength of the unit - Lieut. Weatherbe, who has already been in South Africa in connection with the Edinburgh Field Hospital. Non-commissioned officers were selected, amongst whom, it is interesting to note, Private Dr. Parry was made assistant ward sergeant. A mounted parade before the general officer commanding proved very satisfactory, and was commented upon favorably by that officer.

A brief description of a Field Hospital may not be uninteresting. It is a moveable concern, capable of accommodating temporarily about one hundred patients.

Its personnel consists of five officers. viz.: Four medical officers and a quartermaster, with 35 non-commissioned officers and men. The ground required for its encampment is 70 by 160 yards, and its tent equipment consists of, according to the English establishment, 40 bell tents. Twenty-five of these tents are for the sick and wounded. Each tent will accommodate four patients, excepting in the case of the severely wounded, who require more room and more attention, when two only are put in a tent.

For the accommodation of the patients No. 10 C. F. H. is equipped with the Munsen small marquee which affords room for six, or if pressed, eight patients. Sixteen such oblong tents make up a hospital for from 96 to 128 patients. These tents can be placed in a single line, end to end, and by drawing the curtains form a continuous corridor, with patients on either side, or they can be arranged more compactly if the ground be suitable, by forming two crosses, each arm having two tents, the crosses being near enough to each other that an arm of each is in juxtaposition. At the centre of each cross is a convenient space suitable for tables, dressings, stores, etc., thus making two convenient administrative centres for the nurses.

Immediately in rear of the patients' tents are three tents—the surgery, the operating and office tents. Next to these are four tents for the non-commissioned officers and men of the hospital, as nurses, etc.

while close to these are the two water carts and kitchens, one of each on either side. Still further to the rear are three tents for the officers, and behind all the horse lines and waggons, and four tents for the men of the transport service. Outside of all, in the rear, is the mortuary tent.

By day a Field Hospital is recognized by a white flag with a red cross in the centre, and by night by two horizontal white lights. At retreat, when the flag is lowered, a red lantern is run up.

The medical and surgical equipment of No. 10, C. F. H., comprises, in addition to the usual English hospital equipment of field panniers, surgical haversacks, medical companions water bottles, etc., the following list of supplies furnished by Chandler & Massey, Toronto :

Two chests of dressings and instruments.—These contain a general equipment of instruments and surgical dressings, including gauzes, plain and medicated ; absorbent lint bandages, ligatures, plasters.

Two chests of drugs.—These contain drugs put up in tablet form, placed in square tins, fitted compactly into chest.

Two chests reserve hospital diets.—These contain Bovril, Armour's soup tablets, condensed cream, tea, sugar, arrow-root, etc.

Two chests reserve dressings and instruments, comprising rubber goods, enamel goods, and general hospital supplies.

Two water sterilizers.

One acetylene gas plant.

Two water filters.

Two dressing sterilizers.

There is also a complete outfit of dental instruments and goods.

Transport.—A most commendable feature in connection with No. 10 C. F. H. is that it is equipped with its own transport. In the English army establishment the medical units have to requisition on the army service corps for transport before they can move from place to place.

On receiving his commission Lieut. J. A. Roberts left hurriedly for Washington and other centres. He was accompanied by Mr. Chandler, their object being to pick up hints in Field Hospital equipment. They visited Washington, Philadelphia and New York, and were very kindly and courteously received, and were able to pick up much valuable information

Toronto's friends military and civil, gave a banquet at the Toronto Club to Dr. Roberts, at which they had hoped to have also Drs. Worth-

ington and Tremayne, but rush of business prevented them from being present. Major Nattress occupied the chair, and amongst those present were Col. Ryerson, Majors Fotheringham, Scott and Cotton. Drs. Bruce and Clarke and Messrs. Macfadden, Chandler and Massey.

A very pleasant time was spent, and the party dispersed amid hearty congratulations, and "God speed to 'Bobs' the popular young officer."

Nursing Sisters for South Africa. — The following Nursing Sisters have been nominated for service in South Africa, and their appointments have been approved by the Right Honourable the Secretary of State for War:

Nursing Sister Georgina F. Pope.

" " Sarah Forbes.
" " Deborah Hurcomb.
" " Margaret Macdonald.
" " E. Eleanor Fortescue.
" " Florence Cameron.
" " Margaret Smith.
" " Amy W. Scott.

The Nursing Sisters embarked at Halifax on the R. M. S. "Corinthian," on the 27th ultimo, for Liverpool, *en route* to South Africa.

All letters to the officers and members of the Hospital Unit should be addressed to No. 10 Canadian Field Hospital, A. M. C. Field Force, South Africa.

Dr. Farrell, who went to South Africa as a trooper with the 1st C. M. R., remained after the return of that corps and became a medical officer in the R. A. M. C. He has just returned, having grown weary of the service. He has had a very varied experience and a number of narrow escapes. He was for a time with the late Col. Beaume's column in charge of a section of a Field Hospital and Bearer Company.

G. C. Ferrier and D. Eby were the last recruits to No. 10. C. F. H.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MACKENZIE B. A., M. B.

THE PATHOLOGY OF DIABETES.

IN the January number of the University of Pennsylvania Medical Bulletin, this subject receives an exhaustive treatment, by Simon Flexner, M. D., Professor of Pathology in this college.

Extirpation of the pancreas in the dog causes, without exception, a severe diabetes; and as the sugar in the urine increases a corresponding emaciation appears; when this becomes very great, the amount of sugar decreases and acetic acid, acetone, and oxybutyric acid appear. Incomplete removal of the gland is not necessarily followed by diabetes, e.g., if one-fifth of the gland is left in place it may be averted, but the diabetes resulting from total extirpation is necessarily fatal. The excreted sugar is glucose, a pure albuminous diet does not reduce it below five per cent., and after seven days starvation it still is demonstrable. Apparently then the pancreas influences and regulates carbohydrate metabolism, no other organ can act vicariously in this way, but this is not equivalent to saying that the pancreas is the only organ the disturbance of whose function is capable of producing diabetes.

The pathologic changes associated with pancreatic diabetes are various, the chief one being concretions in the ducts, while next in frequency comes the primary atrophies, fibrous indurations, etc. Although the evidence is not complete, yet it seems to prove that the pancreas in man, as in the animals, is intimately concerned in regulating the carbohydrate metabolism of the organism, a function quite independent of the digestive one, and probably due to an internal secretion. None of the theories advanced to explain the cause of pancreatic diabetes sufficed to explain all of the phenomena observed, but what appears to be beyond doubt is that diabetes results from the failure of a special internal function of the pancreas and that it is not due to nerve lesions or to the absence of its digestive secretion.

In certain pathologic conditions of the liver, the pancreas being without demonstrable lesions, diabetes of a moderately severe grade may appear. Glycosuria and diabetes have been found in various neuropathic conditions, but it is not proven that the influence of the central nervous system on the carbo-hydrate metabolism could produce this result. There is not evidence to support the theory of a renal form of diabetes.

From these facts we learn that the symptom-complex of diabetes is

dependent on no one primary set of functional and anatomical conditions. Nervous influence is essential, but is probably no more than the ordinary trophic control. The carbo-hydrate control resides in certain somatic cells contained in the pancreas and liver, perhaps in other organs, the integrity of these cells insures physiologic metabolism; pathologic conditions disturb the control, and transient glycosuria or persistent diabetes is the result.

THE SURGICAL TREATMENT OF CIRRHOSIS OF THE LIVER.

THIS subject is discussed in the *Medical Press and Circular*, January 8th, 1902, in a lecture by Wm. Murrell. The treatment of cirrhosis and the accompanying ascites by the ordinary palliative measures is unsatisfactory; the operative treatment by establishing a direct communication between the portal and systemic circulations is mere hopef^{ul}.

The operation has been performed occasionally since 1888, but it is owing to Drummond and Morrison, of Newcastle-on-Tyne, that it has been put on a firm scientific basis. Briefly the technique is as follows. When ascites is present, an opening is made in the median line through which the ascitic fluid is allowed to drain away; another opening is made above the umbilicus through which the liver spleen and adjacent organs are examined. If there be no malignant disease a portion of the omentum is attached to the anterior abdominal wall, and in some cases it is found desirable to scratch the surface of the liver and spleen in order to afford additional channels of communication between the portal and systemic circulation. The accumulation of fluid in the abdominal cavity is prevented, or at all events, retarded and the patient's life prolonged.

Operators should reject cases where the symptoms are due to malignant disease, alcoholic subjects are notoriously bad for operation, syphilitic cases should receive anti-syphilitic treatment; the best results would be obtained in the pre-ascitic stage, when the diagnosis rests on the history with haematemesis and enlargement of the liver and spleen.

BANTI'S DISEASE.

THE *Medical Press*, London, in the issue of January 8th, has an editorial on this disease in which it is suggested that its supposed rarity is really the result of failure in diagnosis. The malady is usually known as splenic anaemia, and the peculiar associated features are enlargement of the spleen and liver with profound anaemia. The most characteristic thing in the physical condition likely to attract attention

is the ascites due to the secondary cirrhosis of the liver; sometimes there is persistent elevation of the temperature, at times symptoms resembling those of haemophilia may be a feature. The condition of the spleen is regarded by some as primary, with a resulting cachexia. The disease is not due to malaria, syphilis or alcohol, it may be due to any undiscovered blood parasite. It is most usually confounded with cirrhosis of the liver, and has also to be distinguished from splenic leukaemia, pernicious anaemia, the cachexia of malignant disease, etc. The prognosis is bad, both with regard to the duration of life and the prospect of recovery, though the new operation to make a parieto-omental anastomosis may be of value in the treatment.

THE APPLICATION OF PHYSICAL SCIENCE TO THE SURGERY OF DISEASES OF THE NOSE AND THROAT.

THE December number of the London Journal of Laryngology, Rhinology and Otology contains the Presidential address delivered by John Macintyre M. B. C. M. F. R. S. E. before the British Laryngological Association, Nov. 8th., on the above subject. An interesting résumé is given of the writer's work with electricity in treatment of diseases of the skin and upper air passages. Referring to the recent remarkable results achieved in the application of electric light in cases of lupus, rodent ulcer, and other forms of skin disease, he points out that the effect of the use of the Crook's tube may be due to three sources, viz., X rays, heat waves and electrical discharges about the tube. Of these the second is discarded, while from experiment the writer believes that the last is at least, to some extent, the active therapeutical agent. A patient was treated for rodent ulcer with a Crook's tube so arranged by means of a fluorescent screen, that no X rays could be detected, and after daily treatment for three weeks the ulcer had healed. While the patient was being treated, if one drew the finger along the skin, a brush discharge could be distinctly felt. If then, the current derived from the electric field about the tube is the essential agency, the same result may be produced by the static machine so arranged as to give a current of high potential, without sparkling, the choice of the negative or positive poles, the former being less painful; and, lastly, absolute control of the currents. In working with the static machine the patient is seated on a chair placed on a table insulated by glass legs. Contact is made with the table by means of a metal conductor from the negative pole, and a wire from the positive terminal is led to the electrode. The bluish brush-like discharge suggests a force of great potential rushing towards the patient; it is

accompanied by a hissing sound but if there be no sparkling there is no pain, although the patient feels stimulated as if a cool breeze were playing on the part. The explanation of what affects the patient is two-fold, the electrical discharge, and the bombardment with millions of particles of air which set up innumerable oscillations in the patient's tissues.

Clinically, it may be of some interest to record the general facts to be observed during treatment. The patient experiences nothing beyond an exhilarating general affect ; no pain is felt unless a spark should pass to the patient. Healing, as a rule progresses rapidly ; granulations form in the parts until they have reached the proper level, after which epithelial structures cover the parts. The effect is not limited to the part directly exposed, the action often extending to diseased structures at a distance ; and this suggests the possibility of this method being useful in the treatment of affections of deeper tissues as the larynx and lungs.

Dr. Macintyre has had excellent results in the application of these currents to the cure of diseased tissues in the nasal, pharyngeal, and other cavities. Three cases of lupus are recorded as examples : in the first, a girl of seven, disease of three years standing, involving the nostrils and naso-pharynx was cured in two months time ; in the second, a young lady of twenty-eight, lupus of the pharynx and naso-pharynx of ten years standing was cured in three months and a half, and in this case the static machine was found more useful than the X ray. The third was a more serious case, a woman of fifty-eight, in whom both nasal cavities, the gums, floor of the mouth, sides of the tongue, and the anterior third of the palate were all affected. With two months treatment a great improvement was noted, half of the diseased structure being gone. A case of tuberculous ulceration of the epiglottis showing great improvement under treatment, and a tuberculous tumor of the nasal septum was cured.

The writer does not attempt to explain the way in which the current brings about its curative effects, there have been suggested a chemical, electrical, microbicidal, and stimulating action : but which if any of these theories is correct remains to be decided.

ULCERATIVE ENDOCARDITIS WITH RECOVERY.

WHITEHEAD and Syers of Cambridge report a case of ulcerative endocarditis with recovery in the British Medical Journal of Nov. 2nd. The patient was a man of thirty-five, with previous history good. The disease set in with earache, chill, and urine dark and laden with

detritus, the temperature went up to 103° and a distinct aortic systolic murmur appeared. In a week rigors set in, a swelling appeared in the parotid region, and the temperature began to present the unmistakable signs of septicaemia, varying from 96° to 105° Oedema of the lungs set in, and a purulent discharge from the mouth appeared, while the patient became greatly debilitated. In two weeks the patient was much weaker the pulse was irregular and weak, and there was pleuritic effusion in the thoracic cavity with loud precordial friction rub and pleuro-pericardial involvement. This went on for four weeks, when a distinct change occurred, the temperature became normal and the patient fully quite well, though the systolic murmur remained. The treatment was stimulating and supporting ; sodium sulphocarbolate was given in 15 gr. doses every four hours, and there was a marked improvement dating from the adoption of this treatment, such that the reporters of the case believe that the success may in some measure be traced to the use of this drug.

AN OPPORTUNITY FOR A NEW FAD.

LE PROGRESS MEDICAL quotes from "The Cycle Trader," a London journal, a paragraph descriptive of a new and rather startling use of the automobile.

"A physician endowed with a special penchant for the 'auto' has written to The Times to call attention to the fact that riding in an automobile at a speed much higher than the restrictions of the law permit, affords a means of combating pulmonary tuberculosis. He says that the beneficial effects obtained by a ride at a speed of 80 kilos were very striking. In addition to a feeling of exhilaration, an increase of appetite and improvement in sleep, it produced a healthy warmth which, after a treatment of some hours, tended to become constant, while the tendency to cough was diminished."

THE CURE OF CHRONIC BRIGHT'S DISEASE BY OPERATION.

THE *Medical Record* for December 21st, 1901, contains an interesting article on the above subject by George M. Edebohls, A. M., M.D., in which he describes the method and results of nephropexy or decapsulation of the kidney for the relief of the symptoms arising from chronic Bright's disease. The writer divides all cases of chronic Bright's disease into three classes, interstitial nephritis, in which the gross evidences of inflammation of the connective tissue predominate; parenchymatous nephritis, those in which involvement of the secretory apparatus forms the salient feature; and diffuse nephritis, those inflammations of the

kidney characterized by implication in fairly equal degree, of both the parenchyma and the connective tissue of the organ. Of eighteen cases of Bright's disease operated on by the author, five had right chronic interstitial nephritis, four had left chronic interstitial nephritis, four had right and left chronic interstitial nephritis, two had right and left chronic parenchymatous nephritis, three had right and left diffuse nephritis. The fact that chronic Bright's disease may be unilateral in one half or nearly one half of a series of eighteen cases is rather a matter of surprise, especially as the cases examined in the post-mortem room as a rule show bilateral involvement; but, as the writer points out, this may explain why the disease is often present without occasioning much disturbance of health; while there is an apparent tendency in unilateral cases for the other kidney finally to become affected.

The diagnosis in the cases described was made on the chemical and microscopical examination of the urine, and on the previous history of the patients; in the case of some this extended over several years. The delivery of the kidney during operation permitted the surgeon to support the diagnosis by demonstrating to those present the visible changes produced by the disease, *e.g.*, the adherent capsule, nodulation, granular condition of the subcapsular surface, shrinking, unequal contraction, and occasional cyst formation, in chronic interstitial nephritis; the enlargement, cloudy swelling, mottling, and discolourations due to circulatory and degenerative changes, of chronic parenchymatous nephritis; the thickening, general or localised, of the capsule proper of the kidney, and the secondary inflammatory changes in the perirenal fat, common to both varieties of chronic Bright's disease.

Briefly, the *modus operandi* of excision of the renal capsule is as follows:—The patient is placed prone on the table with the abdomen supported, in such a way as to render both kidneys accessible; an incision is carried from the twelfth rib to the crest of the ilium along the outer margin of the erector spinae, the fibres of the latissimus dorsi are bluntly separated, the ilio hypogastric nerve is drawn aside to avoid injury and division of the transversalis fascia exposes the perirenal fat. The fatty capsule is bluntly separated everywhere from the capsule proper and the kidney is, if possible, delivered through the wound. The capsule is divided on a director along the entire length of the convex external border of the kidney, and each half is stripped from the surface and reflected toward the pelvis, care being taken to avoid detaching parts of the kidney substance which is at times extremely friable, the capsule is then cut away entirely and the kidney dropped back into place. Drainage is dispensed with unless the parts are extremely oedematous.

As to the results, they may be best appreciated from the considera-

- tion of a typical case, and we will choose one which was referred to Dr Edebohls by two well-known Canadian doctors, Dr. T. W. Vardon, of Galt, and Dr. H. Howitt, of Guelph, the operation having been performed in the Galt Hospital on October 17th, 1901.

Mrs. M. S., aged 33, mother of one child, albumen first discovered in the urine in 1896; patient of Dr. Vardon; during and since pregnancy in 1899 she has suffered from Bright's disease. On September 20th, Dr. Howitt, in consultation, advised operation on the lines described, as other treatment had proved unavailing. General condition was as follows: Patient passes about 10 ounces of urine per day, sp. gr. 1020, albumen 50 to 70 per cent., casts abundant, dropsy of the abdomen and lower extremities, pulse 120 soft and compressible, temperature about 100 degrees, face puffed and lungs water-logged so that she could not breathe in a recumbent posture.

Ether was administered and decapsulation of both kidneys performed, all the characteristics of far-advanced chronic parenchymatous nephritis or large white kidney being found. For a few days after operation her condition was critical, but after the fifth day improvement was seen in all the symptoms; the daily amount of urine for the first ten days was between two and fifteen ounces, but from the tenth day on the amount steadily increased, until it reached forty-four ounces on the twentieth day and fifty-five on the thirty-sixth day after the operation. By the first of December the general dropsy and the pulmonary oedema had entirely disappeared and the patient was quite comfortable; the subsequent history is not known.*

The author gives the results of a number of cases in the following table:

Case number	1	4	5	6	7	8	11	12
Known existence of disease prior to operation in months	12	..	72	..	2
Final disappearance of albumen and casts, months	2	4	12	1	5	4	..	2
Period of observation from operation to last examination of urine.	100	70	55	45	33	31	12	12

The writer points out that it takes about ten days for the beneficial effects as manifested in the increased flow of urine to appear, so that success cannot be looked for in such cases as are too far advanced to bear this strain.

The explanation of the improvement due to operation in these cases is to be found in the hyperaemisation of the kidney that is brought about through the growth of large and numerous blood vessels into the kidney substance, through the connective tissue adhesions which rapidly

* Patient has since died.

form. "The increased and adequately maintained blood supply to the kidney established by the operation leads, most probably, to gradual absorption of the interstitial or intertubular inflammatory products and exudates, thus freeing the tubules and glomeruli from external compression constriction, and distortion, and permitting the re-establishment in them of a normal circulation; the result of this improved circulation in and between the tubules and the glomeruli is the regenerative production of new epithelium capable of carrying on the secretory function." The denuded kidney and the fatty capsule are both amply provided with blood vessels; the removal of the fibrous capsule permits them to come together, and we have the increased circulation necessary to enable the kidney to take up again its function.

(We learn that this operation has already been performed by several Canadian surgeons: but the results have not been published.—ED.)

THE TREATMENT OF LUPUS BY FINSEN'S LIGHT METHOD.

IN the section of Dermatology of the recent British Medical Association'

an interesting discussion took place on the treatment of lupus vulgaris by Finsen's light method, initiated by a paper read by Malcolm Morris. The apparatus he used was identical with Finsen's but he found a current of 70 ampères and 60 volts sufficiently strong. The manner in which the light rays produce their remedial effect is briefly: The application of the light is followed by inflammatory reaction with hyperæmia and redness; a bleb forms, breaks and dries in about a week into a thick yellow crust; healing is complete in about a fortnight. In lax tissues there is considerable swelling. The intensity of the reaction varies with the thickness of the skin, being less where the skin is thick or markedly pigmented. Treatment, though not painful, is followed by a smarting sensation, but there is no constitutional disturbance.

Where large areas are involved there is serious difficulty as only a small spot can be treated at a time and the increase of the disease may not be controlled; the treatment cannot be applied to disease of the mucous membranes, and previous treatment especially if followed by thickening or scarring, renders it less successful. The absolute passivity of the patient during a treatment necessarily prolonged and requiring frequently repetition for months or years makes it difficult to follow out.

Dr. Sequeira, Dermatological assistant to the London Hospital, said that in 200 cases of lupus under treatment, improvement was seen in every one. In two instances of recent disease two applications had produced a complete cure; while in other and more extensive cases, two, or even three hundred sittings had been required. He quoted the latest statistics from Finsen's clinic, showing that over one hundred and thirty cases were free from recurrence, after from one to five years. A. J. M.

THE CANADA LANCET

VOL. XXXV.

FEBRUARY, 1902.

No. 6.

EDITORIAL.

BANK BILLS AND INFECTION.

THE lay press recently reported the death of a banker and his wife from smallpox, the infection having been received from handling infected bank bills. That this is a frequent means of transmitting the disease no one can doubt, and in their search for means of controlling the spread of infectious diseases it is strange that the authorities have not given this matter more attention. Banks make large profits from issuing paper money, and in return for this the public have a right to expect the bills to be clean. The Bank of England never allows notes to go out a second time. No matter how clean and crisp they may appear, they are destroyed. In this country the filthy paper money is a common matter for comment among travellers from abroad, where more sanitary methods prevail. If old, dirty, ragged bills must be tolerated, let the health authorities at least insist on some efficient method of disinfection being adopted.

THE IMPORTANCE OF SMALL WOUNDS.

THE death of at least three prominent Canadian surgeons during the past few years as the result of trifling wounds received while operating is a matter deserving serious consideration. Dr. Laughlin McFarlane, of Toronto, Dr. Fenwick, of Kingston and recently Dr. Lesslie Sweetnam of Toronto, with apparently long years of usefulness in their profession ahead of them, died from septic wounds, and the number of others who have narrowly escaped a similar fate is well known. Does the frequent exposure to danger of surgeons, pathologists and others beget carelessness in reference to slight punctures or abrasions? Is it sufficiently borne in mind that with advancing years the resisting power of the organism is progressively lessened, so that infections easily rendered abortive by the vital forces in the vigorous period of early life, produce much more serious or even fatal results in later years. This is more especially true if the natural resistance has been further reduced by the development of interstitial nephritis or some other chronic disease.

The most dangerous inoculation appears to be through the small puncture that does not bleed. In an incised wound or a puncture that bleeds freely, the organisms are washed out or are exposed to the germicidal action of the escaping blood. Moreover, larger wounds are more easily reached by disinfectants. The application of caustics or other disinfectants to small punctured wounds appears to be of little use and efficient treatment is deferred until the infection has become generalized and beyond our control. The necessity for greater vigilance in avoiding infection and more efficient methods of immediate treatment than we have at present, are very apparent.

With the frequent occurrence of fatal infections from small wounds so familiar to the medical profession it is rather surprising to read in a recent very excellent publication that in puncturing to obtain a specimen of blood for examination, disinfection of the part is not necessary. The author quotes a large number of cases in which he has followed this procedure with no ill results, but certainly his good fortune can be attributed to the happy absence of sufficiently virulent bacteria on the part punctured, rather than to any virtue in his technique. One is going unnecessarily and dangerously afield to advocate methods so much at variance with scientific knowledge at the present time.

SURGICAL TREATMENT OF RENAL TENSION.

WHEN surgical treatment was shown to be serviceable in some cases of cirrhosis of the liver, it was generally supposed that the limits of encroachment of the surgeon on the special domains of the physician had nearly been reached. But evidently such is not the case. Mr. Reginald Harrison, before the surgical section of the British Medical Association, in a most interesting paper, has shown that some cases of persistent albuminuria and haematuria, with lumbar pain and other symptoms suggestive of renal calculus, have improved or completely recovered after exploratory puncture or incision of the kidney where no calculus was found. Such instances of cure in cases of operation where a mistaken diagnosis of stone had been made, have probably come under the notice of most experienced surgeons, who have been thankful to accept such unexpected rewards for their mistakes, but have made no attempt to explain just how the operation produced the cure, or to formulate rules that would serve as a guide in applying their experience to the management of future cases.

Harrison believes the good effects are due to the relief of renal tension and congestion by the incision of the capsule of the kidney and

subsequent drainage, which allows the disordered circulation to re-establish itself. He points out the relationship of intra ocular tension to diseases of the eye, and the relief of glaucoma by iridectomy, and suggests that "renal glaucoma" would not be an inappropriate term to apply to these cases of increased tension in the kidneys. Similarly, puncture or incision of the tunica albuginea affords immediate relief in cases of acute orchitis.

One of the most important points in reference to renal tension is that, while in itself it may result from the toxines of scarlet fever, diphtheria, and other irritants, cold, exposure, etc., it in turn acts as a cause of further pathological changes in the kidneys by producing injury to the renal epithelium, haemorrhage into the tubules or tissues, or small extravasations of the urine itself into the stroma of the organs, thus actually initiating an interstitial nephritis.

The therapeutic measures in the hands of physicians to influence or control cases of Bright's disease are so hopelessly inefficient in many cases that all will welcome the use of any measures that promise better results. In cases of ordinary scarlatinal nephritis or other forms making satisfactory progress towards recovery, operation is manifestly not indicated. Where, however, the albuminuria and other symptoms persist beyond the time when improvement should be taking place, and especially if consecutive heart changes are making their appearance, Harrison thinks renal puncture or incision should be resorted to. In cases of complete suppression of the urine from intense congestion or inflammation, surgical measures, he thinks, offer the only chance of relief.

Mr. Harrison's views are worthy of the most careful consideration, and important results may confidently be looked for in an unexpected field. The limits of applicability of the surgical measures mentioned can only be fixed by future clinical observation. Very few details as to the indications furnished by analysis of the urine are forthcoming, and these certainly should be capable of giving information of great importance.

Mr. Harrison anticipates one objection likely to cast doubt on too sanguine expectations from the operation, viz.: How can incision into one kidney produce a cure in conditions that are bilateral or systemic? He thinks that the relief afforded on one side takes the strain of the other kidney sufficiently to give it a chance to recover its circulatory balance.

With Mr. Harrison, no doubt long clinical observation in this direction enables him to select cases where most brilliant results may be attained, but much care is necessary before the profession in general begin to apply this method of treatment. With the lust for operation

at present existing with some surgeons, and among the laity, it is to be hoped that wholesale and indiscriminate operation for all sorts and conditions of renal disease may not bring discredit on measures that give promise of relief in some conditions formerly beyond our control.

THE LIMITATIONS OF HOMOEOPATHY.

THE publication of an article in the November issue of *The Hahnemannian Monthly* by Dr. B. O. Morse, dealing with the limitations of homœopathy, pointing out the absurdity of many of the exclusive tenets of that faith, and making a plea for a more liberal and progressive spirit in interpreting and applying the "law of similars," is a significant and healthful sign of the times. The whole tone of the article is honest, liberal and courageous, and shows a pretty keen appreciation of the weaknesses of the homœopathic system, and a desire to get more in line with the advance of modern scientific medicine. There is sufficient latitude within the regular profession to allow the exercise of individual opinion, so long as no exclusive dogma is set up as a guide in matters of treatment. With the opinions held by the writer of the article in question, and the moderate claims he makes of the applicability of the "law of similars," there would seem little reason why he should style himself a homœopath and thus imply an antagonism to the teachings of modern scientific medicine which his own statements do not warrant. He instances the inefficiency of homœopathic remedies in the dropsy of cardiac disease, and advocates the use of elaterium, jaborandi, digitalis, and strophanthus in *physiological* doses; advises enormous doses of quinine in certain cases of malaria, and the treatment of syphilis by mercury. Homœopathic measures are only to be applied to clear up the debris after the storm is over, or, in other words, the cause of the disease having been removed or counteracted by other means, and the patient put in the way of recovery, the "indicated" remedy may be resorted to. Could the doctor only have gone a step further and seen that, the cause being removed and the storm over, nature would complete the cure, his conversion would have been complete.

Homœopathy has done service in showing us the curative power of nature unaided by medication. Unfortunately, the followers of Hahnemann attribute to their harmless remedies the cures she brings about. We cannot do better than quote Dr. Morse's closing paragraph, and commend it, as he does, to the honest consideration of homœopaths, only offering a substitute for the last phrase:

"I leave this question to be solved in the private closet of your

conscience, where you sometimes retire when the 'indicated' remedy has failed and you are groping about in the dark, 'twixt humiliation and despair, for something to help you out of the dilemma. Is it not more honest in you, fairer to homœopathy and your patient, to seek a logical reason for your failure, and by mechanical, surgical, chemical, or means what not, to prepare him for (the *vis medicatrix naturæ* to produce the cure) homœopathic medication?"

EDITORIAL NOTES.

G. B. Burland, Esq., of Montreal, has generously offered to be one of ten to subscribe \$200,000 for the erection of a new building for the Montreal Western Hospital, with a capacity of 100 beds.

The new Royal Alexandria Hospital in Fergus, Ont., was opened on January 13th. Many of the private wards have been furnished by prominent citizens of the County of Wellington and by local societies.

Grace Hospital, Toronto, which some two years ago was changed from a homœopathic to a general hospital, is asking for a change in the Act of incorporation of the institution which will allow the Board of Governors to be increased to eight members.

A deputation of prominent citizens of Selkirk recently waited on the Manitoba Government, asking for an appropriation for building an addition to the asylum in that place. The asylum now has 178 patients which overtaxes its capacity. The new wing will cost \$15,000.

During the past year there have been 1,900 cases of smallpox in Ontario. Of this number some 700 cases occurred in Algoma and Nipissing districts, 237 in Carleton Co., 165 in Kent, 125 in Brant, 60 in Simcoe, 52 in Russell, 30 in Renfrew and 19 in Wentworth. Twelve deaths occurred.

The following gentlemen have been appointed to positions in the teaching staff of the University of Toronto Medical Faculty: Dr. W. H. Piersol, B. A., to be instructor in biology and histology; Dr. S. H. Westman, to be laboratory assistant in histology; Dr. R. E. Hooper, Dr. J. A. Roberts, Dr. W. J. McCollum and A. K. Adams, B. A. to be class assistants in histology.

A deputation from the Medical Defence Association of the College of Physicians and Surgeons, of Ontario, recently waited on the Premier asking for legislation at the coming session of the provincial legislature to do away with the representation of the educational institutions and

the Homœopathic practitioners on the Medical Council. They were assured that the matter would be taken into his serious consideration. A Bill has been introduced to make provision for the change.

In the death of Walter S Lee, Esq. Toronto has lost one of her most public spirited citizens Mr. Lee was well known to the medical profession and took a deep interest in the medical charities of the city, having been chairman of the Board of Trustees of the Toronto General Hospital for many years. His fatal illness followed on his attendance at the funeral of the late Dr. Sweetnam. The position on the hospital board rendered vacant by Mr. Lee's death has been filled by the appointment of J. W. Flavelle, Esq. The selection of Mr. Flavelle is a most happy one for in honor, enterprise, energy, ability and public spirit he represents the best type in Canadian public life.

A jury in the Supreme Court of New York rendered a verdict for \$6,639.65 in favor of Professor Rudolph Witthaus, the eminent chemist, for services rendered by him in analyzing the stomach of Henry Barnet, in the famous Molineux murder case. The items of the bill showed that Dr. Witthaus spent 366 hours making the analysis, for which he charged \$15 an hour, with \$250 for consultations, and \$500 for incidentals. The verdict rendered included \$459.65 interest on the account. We would respectfully commend this verdict to the consideration of the officials of our local government and others having to do with medico legal work. In Ontario, \$5 is the magnificent fee for performing an autopsy.

Dr. Lapthorn Smith of Montreal has received a letter from Professor Pestalozza of Florence on behalf of the Committee of Organization of the Fourth International Congress of Gynecology, begging him to announce to the profession of Canada that the congress will meet in Rome from the 15th to the 21st of September of this year. The subjects chosen for discussion are: (1) The medical indications for the induction of labor; (2) genital tuberculosis; (3) hysterectomy in puerperal septicaemia; (4) inflammatory changes in the neck of the uterus; (5) The surgical treatment of cancer of the uterus. It is the earnest wish of the committee to have a large attendance of gynecologists and obstetricians from Canada.

The general committee of the Woman's College Hospital in Toronto, recently met at the residence of Hon. Geo. A. Cox. In the opinion of those interested in the matter, there is an urgent need for such an institution, and a vigorous campaign in quest of the necessary funds is being prosecuted. To the outsider the necessity for another medical charity of this kind in Toronto is by no means so apparent and we believe the

opinion generally prevails that the money might better be devoted to the support of existing institutions. Ample facilities for the education of women physicians should be afforded in the various hospitals already established and further multiplication will work injury to the city as a centre for clinical study.

Lord Hopetoun, Governor-General of Australia, is reported as taking a hand in the crusade against tuberculosis. His Excellency's point of attack is the long skirts worn by ladies, which he thinks, and physicians will agree with him, are a means of spreading the disease. Speaking at a meeting to consider the question of prevention of tuberculosis, he tactfully expressed himself as follows: "For two years before coming to Australia I had the honor to be Lord Chamberlain to her late Majesty's household, and one of my duties was to see that public propriety was not offended either by shortness or the scantiness of skirts worn by ladies upon the stage. It seems now that time is having its revenge, for I find myself making a humble appeal to my fair friends to curtail the length of their skirts, even though it be by only a little, and to leave the cleansing of the streets to the municipal authorities."

A new gynaecological operating room is to be provided for the Royal Victoria Hospital in Montreal, and the present operating theatre is to be remodelled. The income of this hospital during the past year was \$130,000, and the expenditure \$112,000. In January, 1901, there were 194 patients in the hospital remaining from 1900, and during the year 2,000 have been discharged, of whom 1,583 were well, 792 improved, 50 unimproved, 51 not treated, 115 died, and 173 remained December 31. Of the 115 deaths 23 took place within forty-eight hours of admission. The death rate for the year has been 4.42 per cent., or, if those dying within forty-eight hours after admission be deducted, 3.54 per cent. In the out-patient department the total number of patients treated was 3,601; the number of visits of these patients aggregated 18,906; medical, 8,389; surgical, 4,383; eye and ear, 3,062; nose and throat, 1,88; diseases of women, 1,134. The following changes in the staff were made:—Dr. A. G. Nicholls, assistant pathologist; Dr. G. P. Girwood, director of the medical electrical department of the hospital; Clinical assistants in medicine, Drs. H. B. Cushing and F. M. Fry; Clinical assistants in neurology, Drs. A. Shirres and A. A. Robertson; Clinical assistant in surgery, Dr. E. A. Archibald; Clinical assistant in ophthalmology, Dr. F. W. Harvey; Clinical assistant in laryngology, Dr. W. H. Jamieson; Assistant in bacteriology, Dr. H. B. Yates; Director of the clinical laboratory, D. A. A. Bruere; Medical registrar, Dr. H. B. Cushing.

CORRESPONDENCE.

The editor does not endorse nor hold himself responsible for the opinions expressed by correspondents

To the Editor of THE CANADA LANCET:

It will be of benefit to publish in THE LANCET a rebuttal of certain remarks that recently appeared in a Toronto medical periodical concerning my proposition that the interests of the medical profession call for immediate remedy to the deficiency at Toronto of post-graduate courses of medical instruction by the inauguration of such courses in one of the medical colleges, or in an independent medical polyclinic institution. The editorial article in question speaking, apparently, by authority, makes the surprising assertion that the Toronto Medical College has been giving post-graduate instruction to some extent. It goes on to announce that at some future period that college will give more such instruction, but at the same time minimizes the value of the promise, by saying the under-graduate requirements for clinical material will leave but little for post-graduate use. Accordingly, efficient post-graduate culture can not be expected in Toronto Medical College.

The gist of the article is harmful, in that it is misleading with regard to the curriculum of that college, and because it is calculated to hinder any other medical institution from moving in the direction of providing post-graduate courses or the establishment of a separate polyclinic institution for graduates only.

The following testimony gives the actual status of the Toronto Medical College as a seat of post-graduate study and the facts about want of clinical material for post-graduate use. At the close of an article over his own signature in a recent issue of the same periodical, Dr. A. H. Wright, a leading professor in that college and unimpeachable authority, uses the following language: "We have been talking for some years about post-graduate courses. We have plenty of teaching ability, and a fair amount of clinical material at our disposal. How would it do to stop talking and go to work?" This remark has one meaning only and is conclusive. There are no post-graduate courses in his college and there is satisfactory clinical material for such courses if they existed. The annual announcements of this institution, the year 1901-02, inclusive, afford corroborative negative evidence regarding post-graduate instruction. They show entire absence of information about post-graduate courses in the curriculum, when and where given, and what features comprising. Such information in fact as should be given of actual *bona fide* graduate courses and which appears in the annual announcements of medical institutions elsewhere that provide genuine post-graduate courses of study.

I have in my possession for reference, the annual announcements for the last ten years of the Toronto Medical Colleges and various medical institutions in the United States that provide post-graduate instruction. The post-graduate attendance lists of those foreign institutions contain an immense number of Canadian physicians, the major part coming from Ontario. The Toronto college announcements are destitute of such lists. I have no means of knowing the number of Canadian physicians visiting Europe for post graduate culture during that time, but it must be considerable.

Had Toronto been a polyclinic medical centre of high repute as it ought, far the major portion of the outflow of Canadian doctors to foreign post-graduate institutions would have been an inflow to Toronto, augmented by large numbers desiring to take post-graduate courses but unable to attend far distant foreign polyclinics. All the physicians I have met endorse my views about the importance of making Toronto a leading polyclinic medical centre without delay.

LUCIUS S. OILLE.

ST. CATHARINES, January 14th, 1902.

To the Editor of THE CANADA LANCET:

Through the columns of the LANCET I wish to suggest that the public institutions for the insane be known as mental hospitals instead of asylums.

No doubt when those institutions were first established and they were places of refuge, asylum was the more correct name. But now, thanks to the untiring efforts of the physicians in charge, they have really become hospitals for a special work.

Besides, the name asylum is odious to the laity, and instead of sending their friends to an asylum for treatment in the early stage of the malady when it is most amenable to treatment, there is a great tendency to conceal the fact until, in many cases, all hope of recovery is gone.

If you propose to the ordinary insane person that he go quietly to the asylum or that he go out quietly and be lynched, the chances are ten to one he would prefer the latter; and as a result the insane are generally got to go to an asylum by deception—a practice which I know some physicians in charge of asylums warn against as often doing harm to the patient.

M. SUTTON, M. D.

COOKSVILLE, Nov. 22nd, 1901.

To the Editor of THE CANADA LANCET:

Your editorial, "An Important Decision," in the Nov. number of THE CANADA LANCET is much to the point. The public wards of some

hospitals are taken advantage of by a certain class of people for cheap treatment. I have heard the remark expressed by patients who had been told their case would require several weeks' treatment or a certain operation required, that "in that case it would be cheaper to go to a hospital." These people know well that for forty cents a day they can get no adequate treatment or any surgical operation performed. This class either cheat their local medical attendants or the hospital staff out of their just dues.

Nearly all patients entering a hospital from a distance are advised by their local medical attendants to do so, and therefore if all hospitals required a certificate from the previous medical attendant stating how much, if any, the patient was able to pay for medical attendance, this class of patients would be ashamed to admit they were entering a hospital as charity patients.

Only some united action on the part of the medical profession will stop this hospital abuse.

Yours, etc.,

BOBCAYGEON, Nov. 25th, 1901.

H. O. BOYD.

PERSONAL.

Dr. Keith, formerly of Mount Pleasant, Ont., has removed to Omemee.

Dr. Fatharn, formerly of Pinkerton, Bruce Co., has removed to Cargill.

Dr. D. T. Crawford, late of Wallaceburg, N. W. T., has located at Innisfail, Alberta.

Dr. Ferguson of Tilbury, Ont., has been elected chairman of the school board.

Dr. D. H. Platt of Picton, Ont., has left for New Mexico, where he will spend a few months.

Dr. James McLurg of Sault Ste. Marie has been appointed associate Coroner for Algoma district.

Dr. H. S. Beland, Liberal, was elected by acclamation to the Commons for Beauce Co., Que.

Dr. J. W. Wickware of Birtle, Man., was recently married to a young lady from St. Thomas, Ont.

Dr. G. Carlton Jones of Halifax, has been granted a year's absence from his duties as port physician.

Dr. J. Ferguson of London, a graduate of the Western University, has taken up practice at Pinkerton, Bruce Co.

Dr. C. A. Sippi, bursar at the London Asylum, is confined to his home with an attack of pleurisy.

Dr. F. O. Delahey of Pembroke has recovered from his recent attack of typhoid fever and has resumed practice.

Dr. Hamilton, Medical Health Officer of Cornwall, has contracted smallpox while discharging the duties of his office.

Dr. McCully of Moncton, N. B., has removed to St. John, where he will devote himself to eye, ear, nose and throat work.

Dr. Ruddock of St. Martins, N.B., has been elected representative of St. Johns Co. in the local legislature by acclamation.

Dr. Burrows, of Marlbank, Ont., has recovered from his recent attack of diphtheria and is able to attend to his practice as usual.

Dr. J. M. Dunsmore has been appointed medical examiner for the People's Life Insurance Company for Halton Co. and vicinity.

The late Miss Catherine Morrison of Toronto left \$2,000 to endow " McGregor Cot " in the Hospital for Sick Children.

Dr. Fortier, physician to the St. Vincent de Paul penitentiary, died on January 9th after an illness of six weeks. The deceased was 69 years of age.

Dr. O. J. McCallum of Sydney, C.B., who was recently married, has left with his bride for New York, where the doctor will spend a time on post-graduate work.

Dr. C. C. Lumley, of St. Thomas, who underwent an operation for tubercular appendicitis on Dec. 3rd, is slowly improving at the Western Hospital, Toronto.

Dr. G. A. Schmidt, late house surgeon in the Toronto General Hospital, has left for London and Vienna, where he intends spending a year in post-graduate work.

The board of the John McKellar Memorial Hospital at Fort William, Ont., have decided to erect a new building to afford accommodation for the growing needs of the institution.

Dr. J. G. Roddick of Montreal has been elected Dean of the Medical Faculty of McGill University in place of Dr. Craik. The latter has been appointed one of the governors of McGill University.

Dr. O. Grain, M. P. P., of Selkirk, has decided to make his home in Winnipeg in future. He has taken offices in Fould's block, and will commence practicing there at once.

Dr. A. A. Henderson of Ottawa left recently for a trip south for the benefit of his health. The doctor, who was accompanied by his wife, expects to return to resume his practice in April next.

Dr. Helen MacMurchy, who has been on the staff of house surgeons at the Toronto General Hospital for the past six months, has gone to Philadelphia to spend some time among the hospitals of that city.

Dr. Langrill, of Hamilton, who went to Australia with Hon. Dr. Montague, has returned home. Since leaving Australia he has been in South Africa, South America, and England.

Dr. Mallory, Delta, has left on a trip to Florida, where he will spend a few weeks and then return to New York and take a post graduate course in that city. He expects to resume practice in March.

Dr. A. I. Hobbs, formerly of the medical staff of the Asylum, London, Ont., has taken charge of the "Homewood Retreat" at Guelph. Dr. Hobbs is well known by his work on the gynaecological treatment of the insane.

Dr. Llewellyn Jones, of Victoria, was married in Vancouver on the 15th to Elsie, daughter of R. W. Gordon, of Vancouver, by Rev. H. G. F. Clinton. They left for England to spend their honeymoon. Miss Gordon was until recently head nurse of the Jubilee hospital.

Dr. A. J. A. Macdougall, who for the past year has been house surgeon at the Toronto General Hospital, has gone to Hamilton, Bermuda, where he has been appointed civil medical attache to the British regiment in charge of Boer prisoners.

Dr. Torrance Sparham, one of the oldest practitioners in Brockville, died suddenly on January 11th at the advanced age of 89 years. The deceased was a graduate of McGill College and father of Lt.-Col. Sparham, officer commanding the 41st Regiment.

Dr. N. A. Powell, of College street, Toronto, President of the Ontario Medical Association, entertained Dr. W H. Drummond, author of "The Habitant" and of "Johnny Corteau," the evening of Jan. 17th. About sixty prominent medical men of the city accepted an invitation to meet Dr. Drummond, and spent a most pleasant evening.

Jonathan Hutchinson, F.R.S., General Secretary of the New Sydenham Society, has requested Messrs. P. Blakiston's Son & Co., of Philadelphia, the American agents of the Society, to announce the publication of "An Atlas of Clinical Medicine, Surgery and Pathology," selected and arranged with the design to afford, in as complete a manner as possible, aids to diagnosis in all departments of practice. It is proposed to complete the work in five years, in fasciculi form, eight to ten plates issued every three months in connection with the regular publications of the Society. The New Sydenham Society was established in 1858, with the object of publishing essays, monographs and translations of works which could not be otherwise issued. The list of publications numbers upwards of 170 volumes of the greatest scientific value. An effort is now being made to increase the membership, in order to extend its work.

BOOK REVIEWS.

OBSERVATIONS ON BLOOD PRESSURE, WITH SPECIAL REFERENCE TO CHLOROFORM

University of Toronto Studies, Physiological Series No. 3, R. D. Rudolf, M.D., Edin., M. R. C. P., London. Toronto: The University Library, Published by the Librarian, 1901, 50 pages; in paper, 75 cents.

THIS paper, the third in the series of studies on physiological subjects issued by the Library of the University of Toronto, contains the result of work conducted by the author in the physiological department of the University, during three years previous to publication. We can only give the briefest outline of the method pursued and a summary of the conclusions arrived at.

The experiments were performed on dogs, the Ludwig kymograph was used, and with a few exceptions for special reasons, the canula was inserted in the proximal end of the left common carotid.

Dr. Rudolf first made an investigation of the normal effects of gravity by inverting the animal which was the subject of experiment, while the canula was in position. It was found that while position always affected pressure, yet the lowering of a pole of the body does not raise the arterial pressure in it as much as raising that pole lowers it. The effects of abdominal pressure seems to be due to compression of the aorta, for ordinary pressure such as could be applied by an abdominal bandage had no noticeable effect. While the splanchnic area is the one chiefly concerned in the regulation of blood pressure, nevertheless the vascular tone of the lower part of the body is also of considerable importance.

The next investigation was into the effects of various drugs on the blood pressure. Morphia produced distinct slowing of the pulse, and made the animal go under chloroform more easily and stay unconscious longer. As to chloroform it was found that in all of 52 dogs killed by this drug, the respiration distinctly stopped before the heart. As a rule the more the vapor was concentrated the shorter the time elapsing between the two events, and if the amount of chloroform given was very great, artificial respiration would not save the animal, showing that the heart as well as the respiration was poisoned. If chloroform is given slowly and well diluted but little change in pressure is noticed, but if there is any struggling the pressure rises and as surely falls immediately afterwards.

The reason for the decided fall in blood pressure that follows a considerable dose of chloroform is a disputed question, some claiming that it is due to a direct action on the heart while others say that the vaso-

motor center is primarily affected ; probably both factors are to be reckoned with. Generally sudden falls of pressure during the administration of chloroform indicates deep anaesthesia and are a danger signal, but there are cases where a fall occurs with marked slowing of the pulse due to irritation of the vagus by the vapor. The effect of various operations was tried, while the animal was anaesthetised, and no effect on pressure was apparent, showing that chloroform abolishes shock. Asphyxia was produced during anaesthesia by pouring fluid down the throat ; pressure fell rapidly when a similar condition was produced by free opening into the pleural cavities pressure was well maintained till respiration stopped.

As a means of combating respiratory failure artificial respiration was found to be the most valuable method, as in addition to keeping up the respiratory tide, it also directly stimulates the circulation and raises the blood pressure, and this is true of the various expedients, e.g., pulling forward the tongue, placing the finger in the throat, etc., which are generally resorted to.

The effect in chloroform poisoning of nitrite of amyl, hydrocyanic acid, and atropine was tried. The first was found to have no appreciable effect in such cases; the second was found to stimulate respiration and pressure, the third was found to lessen the tendency to death from chloroform in dogs, and when danger has occurred to act as a stimulant both of the circulation and the respiration, on the whole it should be a valuable adjunct in such emergencies.

A. J. M.

AMERICAN EDITION OF NOTHNAGEL'S ENCYCLOPEDIA.

TYPHOID AND TYPHUS FEVERS.

Typhoid and Typhus Fevers. By Dr. H. Curschmann of Leipzig. Edited, with additions, by William Osler, M.D., Professor of the Principles and Practice of Medicine, Johns Hopkins University. Handsome octavo of 646 pages, illustrated, including a number of valuable temperature charts and two full-page colored plates. Philadelphia and London. W. B. Saunders & Co., 1901. Cloth, \$5.00 net; Sheep or Half Morocco, \$6.00 net.

THE first volume in English of Nothnagel's Encyclopedia of Practical Medicine dealing with typhoid and typhus fevers is at hand. This system is generally recognized as the most comprehensive and authoritative work on practical medicine that has ever been published, and that this volume is edited by Dr. Wm. Osler is sufficient guarantee to American readers that the American edition does not fall short of the original in excellence. Of the 628 pages in the volume 472 are devoted to typhoid fever.

In editing the volume Dr. Osler has brought his own rich clinical experience of the disease to bear and has made many additions from American sources. It is without doubt the most exhaustive and altogether satisfactory article that has ever appeared on this disease. It is useless to attempt to do justice to the work within the compass of a necessarily short review. If the succeeding volumes maintain the same high standard the system will prove a storehouse of accurate and scientific clinical information that should be at the disposal of every physician. The press-work, as usual with these publishers, is beyond praise.

PROGRESSIVE MEDICINE.

Vol. IV. December, 1901. Lea Bros. & Co., Philadelphia and New York.

ALL that has been said in praise of previous volumes may be repeated of this. It is one of the very best periodical volumes we know, and its advent to the library of the busy man, isolated by work or by distance from his fellows in the profession, should be most welcome. Einhorn has an article on disease of the digestive tract and allied organs: Belfield on genito urinary diseases; Bloodgood on anaesthetics, Fractures, Dislocations, Amputations, Surgery of the Extremities and Orthopaedics. Bradford, of University College, London, has a chapter on diseases of the kidney; Brubaker, on Physiology; Baker, of Lansing, Michigan, on Hygiene, and E. Q. Thornton, of Jefferson Medical College, Philadelphia, on excellent modern "Practical Therapeutic Referendum," meaning a reference-list of more modern drugs or of recent investigations as to the action and uses of older ones, such as digitalis, atropine, etc.

J. T. F.

ATLAS AND PRINCIPLES OF BACTERIOLOGY.

LEHMANN & NEUMANN, WURZBURG.

Authorized Translation from Second German Edition. Edited by Geo. H. Weaver, M.D., Assistant Professor of Pathology, Rush Medical College, Chicago. W. B. Saunders & Co., Philadelphia and London. 1901. Vol. I., Atlas. Vol. II., Text.

THIS is another of the remarkably well produced series of Medical Hand Atlases of which the enterprising publishers truly say that for scientific accuracy, pictorial beauty, compactness and cheapness they (the Lehmann Medicinische Hand Atlanten) surpass any similar volumes ever published. A detailed description of these two handy little volumes

upon a subject of such growing importance is impossible within the limits of a book review. Suffice it to say that the merits of the original volumes are such that they have been reproduced in no less than thirteen languages, including Japanese, Roumanian, Bohemian and Hungarian.

J. T. F.

GORHAM'S BACTERIOLOGY.

A Laboratory Course in Bacteriology For the use of Medical, Agricultural, and Industrial Students. By Frederick P. Gorham, A.M., Professor of Biology, Brown University; Bacteriologist to the Health Department, Providence, R. I. 12 mo. volume of 198 pages, with 97 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$1.25 net. Canadian Agents: J. A. Carveth & Co., Toronto.

THIS recommends itself as a very compendious and lucid work, evidently from the pen of a trained teacher, and both thorough and simple. As the author states in his preface, "This volume has been prepared as a guide to the practical details of laboratory work. It is intended to present the subject in such a general way as to lay a broad foundation for later specialization in any branch of bacteriology. By a judicious selection the course can be made to conform to the requirements of medical, agricultural, or industrial students." J. T. F.

SOLLMANN'S PHARMACOLOGY.

A Text Book of Pharmacology. Including Therapeutics, Materia Medica, Pharmacy, Prescription-Writing, Toxicology, etc., by Torald Sollmann, M.D., Assistant Professor of Pharmacology and Materia Medica, Western Reserve University, Cleveland, Ohio. Royal octavo volume of 880 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1901. Cloth, \$3.75 net. Canadian agents, J. A. Carveth & Co., Toronto, Ont.

THIS work aims at introducing into the study of Materia Medica a systematic arrangement based on the results of recent physiological experimentation, especially that devoted to the study of the effects of drugs on animals. The author believes that the principles of treatment will be better appreciated if the action of the various therapeutic agents is understood, and hopes that by the grouping of substances, according to their physiological effects, the labor of studying the subject will be reduced to a considerable extent.

Part I. deals with the preparation and prescribing of medicines, with a chapter on toxicologic analysis. Part II. deals with Materia Medica and Therapeutics: In this division all the various organic and inorganic drugs are grouped and described. Part III. is devoted to an outline of laboratory experimentation, with a description of various chemie and physiologic tests.

The work will be found a valuable text-book, and will simplify and render interesting a subject that has always been a bug-bear of the medical student's course, while the physician and pharmacist will find a useful book of reference, a special feature in this connection being the twenty-one different tables of strengths, doses, etc., with which the work is furnished.

A. J. M.

PUBLISHERS' DEPARTMENT.

Treatment of Nervous Diseases—Dr. Campbell Meyers has recently completed some changes in the treatment room of his Private Hospital for Nervous Diseases at Deer Park, Ont., by which hydrotherapy, so essential to the successful treatment of these diseases, can be fully utilized. A new shower and needle bath with liver spray and a Scotch douche have been added. The temperature and pressure of the water are carefully regulated by special appliances, so that hydrotherapy in all its details may be scientifically applied. The needle bath is arranged with a series of roses, so that its value in treatment is much greater than the ring needle bath in general use. A second clock to measure the exact duration of the treatment is a useful and important feature. Dr. Meyers has also a laboratory equipped with the latest appliances for clinical research. The dispensary is supplied with the purest drugs used in Neurology and is in charge of an experienced Pharmacist Dr. Meyers, who devotes his entire attention to nervous diseases, spent four years in the chief medical centres of Europe studying these diseases after taking London qualifications. An assistant physician devotes his attention to analytical and electrical work and the nursing is done by a large staff of specially trained nurses. The hospital is surrounded by extensive grounds, shaded by fine old oaks and laid out for golf, tennis, etc. These, together with the other facilities for treatment which this hospital with its surroundings, offers, makes it one of the best medical hospitals in the Dominion.

Antikamnia & Heroin Tablets in Prevalent Grippe Conditions.—Thos. G. Rainey, M.D., L.R.C.P., Resident Physician, British Medical Institute, Atlanta, Ga., in a recent article states, that the comparatively new combination of drugs, antikamnia and heroin tablets, which have been so largely used for the control of cough, is also being successfully employed, to a large extent, in the treatment of nearly all affections of the respiratory tract, which are accompanied by dyspnoea and spasm,

namely: Asthma, Bronchitis, Laryngitis, Pneumonia, Phthisis, Whooping Cough, Hay Fever, La Grippe, etc. In cases in which the patients were suffering from the severe attendant pain of these diseases, it was found that this combination acted most satisfactorily. Each tablet contains five grains of antikamnia and one-twelfth grain heroin hydrochloride. One tablet was followed by a rapid diminution of pain, and after the third tablet the pain entirely disappeared. In treating the affections enumerated above, the dose is one tablet every two, three or four hours according to indication.

SOME OBSTINATE BLADDER CASES.—George W. Hopkins, M.D., of Cleveland, Ohio, reports as follows concerning some bladder cases: John C., aet 31. Occupation, patrolman. Following exposure patient experienced bladder symptoms as follows: Frequent urination, tenesmus, hypogastric pain and a temperature of 101.4 degrees. The urine was scanty, turbid and loaded with mucus. Diagnosis: Acute cystitis. Treatment consisted of rest in bed, restricted diet, anodynes for the tenesmus, diluent and alkaline drinks. The acute symptoms promptly subsided, but the urine continued abnormal despite the general measures employed and the internal administration of urinary antiseptics. Irrigation with boric acid solutions of varying strength proved unsatisfactory, as did also solutions of potassium permanganate and silver nitrate similarly applied. A twenty per cent. solution of glyce thymoline was then substituted for irrigation, and the improvement was marked and continuous until recovery was perfect.

Harry R., aet 43. Occupation, bookkeeper. Had a history of bladder trouble of several years duration. His urine was blood tinged and loaded with mucus. Microscopic examination revealed an abundance of ammonia, magnesium phosphates, numerous disintegrating pus corpuscles, blood corpuscles and blood shadows. Repeated examination with the sound gave negative results, but a skiograph, taken with a high vacuum hard tube, revealed a small calculus, which had persistently evaded the sound in previous examinations. Lithotomy was performed and the calculus removed, but the urine failed to return to normal. Irrigation in turn with boric acid, potassium permanganate and silver nitrate solutions proved unsatisfactory. Glyco thymoline irrigations proved satisfactory from the start and recovery was ultimately perfect.

SAMETTO IN GENITO-URINARY DISEASES.—Dr. B. G. Inman, of Bradford, Ohio, writing, says: "I have used Sametto, and find that it

is all that one could desire in the treatment of urinary diseases. With an experience of thirty-eight years of practice I know of no medicine that is more direct in its action in all cases of senile prostatitis and other genito-urinary diseases. I regard Sametto as one of our best vitalizing tonics in the reproductive organs, which gives it a wide range of usefulness in the treatment of many nervous troubles"

HUEPPE AND KOCH.—The two schools of thought on questions bacteriological are well represented at present by the distinguished investigators, Hueppe and Koch. Both men are deeply versed in bacteriology and physiological chemistry. Hueppe emphasizes the importance of the perfect health of the body cell—and the special treatment of the body cell as a means of frustrating the attacks of germ life. Koch emphasizes the importance of destroying all germ life so that there will be no attack.

Of course both men are right. We must destroy all the germ life we can. But since a war of extermination of disease germs is impracticable at present, the physician finds a more profitable field for his exertions in preparing the body cells to resist and throw off the attack of germ disease. It is no doubt by this sort of special preparation of the lung cells that hypophosphites and cod liver oil do so much to prevent the progress of the tubercular organism. Scott's Emulsion, containing both the cod liver oil and the hypophosphites, is a good example of those therapeutic agents which bring immunity by reinforcing cell life.

PETROLEUM—At the last meeting of the Therapeutic Society at Washington, D.C., Dr. Barnes of Philadelphia said: It was found, by laboratory experiments, that the addition of petroleum to albumen digested by an artificial gastric juice under exactly the same conditions as prevail in the human system, very materially hasten and facilitated the process of digestion; it was more rapid and complete than in the same experiment conducted without petroleum. Furthermore, it was shown experimentally that the mechanical influence of petroleum upon the churning, peristaltic movements of the upper portions of the small intestines favorably influenced the processes of absorption. In view of these experiments, it can be safely concluded that the manner in which petroleum beneficially effects nutrition is by facilitating, expediting and completing the processes of digestion and assimilation of food. Another experiment was that conducted upon a man with marked malnutrition, in which the changes in metabolism were accurately studied for a period of three weeks by feeding the patient upon a normal diet and then deter-

mining the daily elimination of nitrogen in the urine and faeces. It was found that under the influence of petroleum the retention of nitrogenous matter in the system was increased. As is well known, the only method of determining the influence of any agent upon nutrition is by determining the daily body elimination of nitrogen in the urine and faeces; if a patient's retention of nitrogen is increased, the most important element of the tissues is conserved, and nutrition is correspondingly improved. Furthermore, the facts that petroleum passes through the intestines in its original form, and that it is a solvent of many remedies administered for their antiseptic and astringent influence upon the intestines, indicate a useful field for petroleum as a vehicle. The bulk of experimental and clinical evidence tends to show that petroleum is entitled to a wider field of application in medicine.

PHOSPHAGON.—While most of the compounds of phosphorus contain the substances necessary for the stimulation of lecithin production, they are therapeutically unsuitable because the nervous system is able to utilize only such phosphorus as comes to it in true organic combination. Phosphagōn is a true lecithin-producing combination of phosphorized organic compounds obtained from three sources,—1st, carefully selected and thoroughly aseptic animal tissues,—2d, germinating seeds containing a form of phosphorus identical in composition with that in mother's milk, —3d, phosphorous synthetically prepared in our own laboratory. The lecithogenic and protogenic phosphorized compounds existing in Phosphagōn are in shape for immediate appropriatio and utilization by the nervous system, and are readily convertible into tissue lecithin, nuclein, protagon, etc. Phosphagōn is thoroughly palatable and is invariably well tolerated. To each fluid ounce has been added 16 minims Tr. Nux Vomica, because of its well known tonic effect upon muscular fibre.

Phosphagōn is a vitalizing nerve food and tonic in cases of Neurasthenia, General Nervous Debility, "Brain Break," Hysteria, Hystero-Epilepsy, etc. It is also of much value in Tuberculosis, Diabetes, and wasting diseases, Rachitis in children, Mental Over-exertion, Phosphatic Albuminuria, Sexual Atonicity, and in fact, whenever it is necessary to administer a lecithin-producing agent to make good any excessive drain upon the nervous system.
