

**Prize Competition, see Pages 228 and xxxiv.**

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## Original Articles

### ABDOMINAL PAIN.\*

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With the limitations that must be placed on all subjective symptoms, pain is the one which more than all others leads to the recognition and localization of disease within the abdomen. Fortunate is the physician who has the aid of a patient with clear intelligence to describe the character, the mode of onset, the localization, the direction of transmission, the association with altered function, and the many qualities of this valuable clinical expression of disease. Unfortunately, too often, when the aid of the patient is needed the most, as in the toxic period of typhoid fever, it avails not as it should.

#### ASSOCIATE EXPRESSION OF PAIN.

*Spasm of Muscles.*—The occurrence of *spasm* of muscles, related by nerve supply to the organic lesion which causes the pain, as indicated by *resistance*, is of great aid in the localization of the lesion. No more valuable indication of the occurrence of irritation or inflammation exists than this symptom. Of much

\*That portion of the symposium on abdominal pain assigned to the author—abdominal pain in general and that due to disease of the stomach, liver and pancreas. Presented to the New York State Medical Association at the meeting in Albany, January 26th to 28th, 1904.

significance under certain circumstances is its *absence*, for often it does not imply under such circumstances the absence of lesion. (a) It is wanting, of course, when there is no muscle, or perhaps very little, to undergo spasm. Hence in atrophied abdominal walls, as occur in women from overdistension, such spasm may not occur. In a case of perforating gastric ulcer with oncoming peritonitis, operated on by Keen, within six hours of perforation, no spasm or resistance was detected. Similar cases of such character have occurred in cholecystitis, when often for similar reasons—mural atrophy—the muscle spasm is wanting. (b) It disappears with the onset of toxemia, and hence a rapidly lessening resistance with the slightest evidence of advancing toxemia, as indicated by the expression, the tongue, the pulse-rate, the mental condition, even though the temperature falls, is of grave significance. It may be found that the leukocytes do not increase, but may even fall to a moderate height, as 9,000 to 12,000 or even less, as we also find in grave pneumococcus infections, when a moderate leukopenia may be present.

*Tenderness of Cutaneous Surface. Hyperalgesia.*—Hilton, Head, Mackenzie, and others have repeatedly called attention to alterations of cutaneous sensibility in the distribution of spinal nerves related to affected organs within the body. Sherren\* has called renewed attention to this cutaneous hyperalgesia, elicited by gentle friction or pinching of the skin or by the head of a pin or some blunt instrument. That such hyperalgesia may exist is well known, but the point I wish to make is, if it exists and then disappears, as may also spasm and pain, the change is of ill omen unless all other symptoms subside. The absence of, or rather the disappearance of hyperalgesia means the occurrence of gangrene or perhaps perforation.

#### PAIN IN THE ABDOMEN DUE TO GENERAL CONDITIONS.

*The Intoxications.*—I shall pass over that due to lead-poisoning, only venturing to reinforce the warning of Janeway, and speak of abdominal pain due to uremia. The French authors have long since called attention to this symptom, and many years ago I made a verbal communication to the West Philadelphia Medical Society on it. I had seen it, as had likewise the French observers, in or preceding the uremic convulsions of puerperal nephritis. In the instances under my observation, the pain was in the epigastrium and both hyperchondria. Only recently I

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\*“On the Occurrence and Significance of Cutaneous Hyperalgesia in Appendicitis,” James Sherren, F.R.C.S. Eng., *Lancet*, September 19th, 1903.

was asked to see a case of alleged severe indigestion with cramps in a woman who had been delivered four hours previously, and who had nephritis in the latter part of her pregnancy. I warned them of the oncoming of uremic convulsions and coma, which unhappily was too true four hours later.

#### UREMIA SIMULATING PERFORATING GASTRIC ULCER.

In my service of 1902, in the University Hospital, a patient was under my care for well-defined syphilis and nephritis. She had some epigastric pain, constant vomiting, and hematemesis. For reasons a gastric analysis was not made, but the vomitus did not give signs of any definite organic disease. On one occasion, while vomiting was temporarily arrested, sudden pain and shock ensued. The temperature fell to 96 degrees and the pulse rose. I was informed perforation had taken place. Professor Frazier saw her with me a few hours later. As the toxic features of uremia appeared to be increasing, operation was deferred. Temporary recovery from the uremia took place, but death followed within a month.

At the autopsy a marked chronic gastritis, with ecchymosis and abrasions of the mucous membrane, were found, but no ulceration of the stomach. The patient narrowly escaped operation.

The next patient was not so fortunate. I saw him on an afternoon, with well-defined uremia. He suffered very much from abdominal pain. He had an inguinal hernia. I sent him to the hospital, and asked that a surgeon see him to discuss with me the relation, if any, of the hernia to the pain and vomiting. We were prevented conjoint attendance upon the case, and the surgeon, thinking I had sent him in for operation, performed it without delay. Neither incarceration nor strangulation were found, and later the autopsy showed that pain could not be accounted for by any abdominal conditions. It was evidently toxic.

*Hysteria and the Neuroses.*—I mention these states for the purpose of disclaiming against the accepted ideas of the frequency of abdominal pain of such origin. Too often we take refuge under the cloak of hysteria; too often such diagnosis is a confession that we are ignorant of the true cause of suffering. As our experience increases I am sure we can "run down" these so-called neuroses. The more I learn of abdominal disease, the less I see of hysteria. Not many years ago I saw a seemingly well-defined case of hysteria. The patient had great pain in the region of the liver and the right shoulder, and ill-defined symp-

toms of gall-stones. Her mother had had gall-stones. Because of the general symptoms, and especially the nervous symptoms, I gave it as my opinion that the pain was probably a neurosis, and advised against an operation. Later, gall-stones were passed, and soon the patient was restored to health. The non-hysterical origin of the pain, formerly attributed to the neuroses, is strongly supported by our increased knowledge of headaches. The ophthalmologist has hunted down many of the headaches formerly described as neurasthenic, and within a few years the mysteries and vagaries of sinusitis, giving rise to various forms of headache and neuralgia, to which belongs the headache of early morning, continuing throughout the day, "disappearing as the sun goes down," has deprived hysteria of many accusations.

#### ABDOMINAL PAIN NOT DUE TO DISEASE BELOW THE DIAPHRAGM.

Speaking to clinicians, it is not necessary to go further than to remind them *seriatim* of the many cases of abdominal pain due to extra-abdominal causes. Thus we have pain due to:

1. Crises of locomotor ataxia and other organic spinal cord diseases.

2. Sp̄ndylitis rhizomaliq̄ue. A case of this nature was brought to me, considered to be cancer of the liver or kidney. Many cases are referred to in the literature of the subject.

3. Caries of the vertebra.

4. Cancer of the vertebra.

5. Aneurysm of the thoracic aorta, especially located above the diaphragm.

6. Diaphragmatic pleurisy and rheumatism of the diaphragm.

A case that caused much interest was that of a robust man, who had been operated on for hemorrhoids. The man was evidently infected at the time of operation in the field of the operation. Fever and a mild leukocytosis were present. After a cold bath three days later the patient had a chill, severe pain in the lower thoracic and upper abdominal region, tenderness along the diaphragm, dyspnea, and slight cough. No signs of pleurisy could be brought out. When the liver was brought down by a full breath against the palpating hand it excited pain, which suggested a tender liver. There was some myalgia about the shoulders. The fever and leukocytosis persisted. Although the development of multiple abscess of the liver or sub-diaphragmatic infection was suggested, the general picture was that of diaphragmatic pleurisy, or rheumatism, with myalgia

in other situations, occurring incidentally in a person with an infected rectal wound. The difficulties of the case can be imagined when it is known the patient was a highly neurotic physician, who bore pain badly, and the attendants were two brothers, who were maximally sympathetic and keenly alive to pathologic possibilities, the one a leader in ophthalmology, the other a great nose and throat specialist.

7. Pulmonary affections. Pleurisy need not further be considered as a cause of abdominal pain. Of pneumonia much more must be said. During the past five years two or three cases occurred each winter, in which I was called upon to decide if the anticipated operation, for a reputed abdominal affection, was or was not required. My notes of six cases belong to children, and it is chiefly in them we find pneumonia with symptoms of some acute abdominal affection, chiefly appendicitis. I have seen cases of pneumonia in older subjects treated as some form of liver disease, because of pain in the right hypochondrium and jaundice.

8. Cardiac affections. We can only refer to the epigastric pain of acute pericarditis, a disease so often void of symptoms and signs; of a congested left lobe of the liver in acute failure of compensation; of angina pectoris. When it is remembered in all these conditions, as well as pulmonary affections, vomiting and also flatulency may occur, we can realize possible difficulties to many.

#### ABDOMINAL PAIN DUE TO (a) GASTRIC AFFECTIONS.

The pain due to forms of gastritis, that due to ulcer, and that to carcinoma are so well known it is not necessary for me to enter into their consideration. I will content myself with calling renewed attention to the pain of pyloric spasm, due to hyperacidity or to gastric ulcer, and to the pain of the incontinence of retention in cases of mild or perhaps spasmodic pyloric stenosis; to the change in location of the pain due to gastric ptosis; and to the extreme rarity of gastralgia, apart from hyperchlorhydria or organic spinal disease. Alleged gastralgia is so frequently an aberrant form of hepatic or pancreatic colic, that these conditions must be definitely excluded before we rest content with the diagnosis of a functional disorder. I must take this opportunity to urge alertness on the part of the clinician to detect the earliest evidence of shock, for, as an attendant upon perforation, its significance must be realized if we want to diagnose the accident. Instead of "shock," in the true surgical

sense, a chill, a syncopal attack, some faintness or a hurried pulse may be the only expression of a perforation.

*Epigastric Hernia.*—It may be proper here to say a word regarding that infrequent condition, epigastric hernia. The occurrence of epigastric hernia gives rise to symptoms which may simulate gastric affections or diseases of the gall-bladder and gall ducts. Careful inspection and palpation will disclose the presence of the small subcutaneous tumors characteristic of this lesion.

(b) HEPATIC PAIN.

Only to be mentioned to remind you of the many excellent papers on this subject read by members of this organization, and that the pain of early primary affections should be heeded, for it is the operative relief of these affections that prevents the long series of secondary affections.\*

(c) RENAL PAIN.

This must be passed over with the memoranda that the recognition of renal calculi can be wonderfully aided by radiographs, and to call attention to a rare condition which simulated renal pain.

*Phlebitis.*—The patient had had a movable kidney transfixed by operation. Obstinate pain followed and simulated in part renal pain, although neither clearly paroxysmal nor attended by hematuria, as in renal calculus. The radiograph showed an apparent calculus in the ureter about the brim of the pelvis. Operation for its relief disclosed varicose veins in this situation with two or three phleboliths the size of peas in the veins coursing parallel with the ureter.

(d) PANCREATIC PAIN.

Exhaustively discussed recently, time forbids my going further than to state my conviction that pancreatitis is a more frequent affection than we are wont to believe. We recognize the rarer fulminating cases that are usually fatal. Cases subacute, mild in character, and chronic cases are more common. Pain attends these affections. I fully believe, with the additional experience that comes to us, we can recognize this cause of pain.

The problem for solution in these cases of localized pain is to differentiate the various causes, and to recognize if the pain

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\* See Trans. American Congress of Physicians and Surgeons, 1903.

is the expression of a mortal lesion, requiring immediate action to save life. For the former it requires a most careful arraignment and analysis of all the facts in the historic diagnosis, of great importance in qualifying the subjective and objective phenomena; an analysis of the symptoms, a careful elucidation of the objective phenomena and the physical signs, and an accurate estimation of laboratory findings. Alteration of function must be correlated with physical conditions. For the latter, not only must such observations be made, but alertness and unceasing vigil must be not only daily, but hourly, employed, to estimate properly the degree of danger of nature's outcry, expressed in pain. With breadth of view, nicety of observation, and eternal vigilance, the true significance of abdominal pain can be appreciated, human suffering assuaged, and fortunately much oftener than formerly, life saved.

#### THE DISAPPEARANCE OF PAIN.

The occurrence of relief to suffering must not lull us into false safety. Such disappearance may be of diagnostic importance. Apart from termination of the disease in its natural course, such subsidence may be due to the (*a*) onset of gangrene; (*b*) to an oncoming toxemia; (*c*) to both; (*d*) to perforation of a hollow viscus, as the stomach or gall-bladder or appendix, or the rupture of an abscess. If pain disappears suddenly there must be gradual, but prompt, amelioration of all general and local symptoms if the patient is safe.

Pain due to gangrene is seen in appendicitis, and one must be wary lest he be deluded into a false hope by its subsidence. This is all the more liable, as spasm and cutaneous tenderness may subside simultaneously. To exclude gangrene the clinical course of the disease must be closely analyzed; we must observe if the pulse-rate fall, the temperature fall, the expression improve, the tongue become moist, and the mind perfectly clear. Remember, as with gangrene, perforation usually occurs under manifestly the same symptoms. If pain subsides because of the toxemia, an incident in the course of gangrene, its subsidence is more gradual. We must, therefore, appreciate the very slightest suggestive indication in cardiac, respiratory, or cerebral, action, in the temperature, the condition of the skin, and—not readily portrayed, but most important—the expression. I fear many a toxemia has crept on until the patient is within its fatal grasp because of the darkened sick-room.

As evidence of the toxemia, a leukocyte count is of great value. It is probably just as significant when it falls or remains

stationary. You know in pneumonia we look upon a leucopenia with much dread, and so it is in abdominal inflammations if the leukocytes fall or remain at 8,000 or 10,000 it is a more dangerous sign than if they rise, providing there is no improvement locally or generally. Hence, a low white blood-cell count, without improvement in symptoms—and especially of the general symptoms due to toxemia—is very grave. I have seen practitioners relieved when with relief to pain any tumor which had been presented disappeared. It is obvious if such tumor does not rupture into the natural passages, its disappearance bodes great evil. Sometimes a tumor will disappear from one region and appear in another. I was asked to explain the occurrence of a tumor in the left iliac fossa shortly after its disappearance from the right. The original tumor, due to pus, was bound down by adhesions, and so the confined pus took the route of least resistance into the pelvis, around the rectum, and up to the opposite side.

#### PAIN ABSENT IN CONDITIONS WHERE IT SHOULD BE FOUND.

Pain is the earlier, more common, and, from its special characteristics, of greater value than the usual symptoms of obstruction when the closure is slow in progress. The *absence* of pain enables us to decide upon the nature of the lesion. Thus, in a patient of Dr. Riesman's, upon whom Dr. Keen operated for intussusception, the symptoms were favorable until five days after operation, when causeless vomiting, increasing in frequency, began; at first gastric fluid alone was vomited, followed in about four days by the vomiting of the intestinal contents. We give the opinion that the vomiting was due to obstruction of the bowel of paralytic origin. I quote from Dr. Riesman's notes—which he has kindly placed at my disposal—the appearances found:

*Notes of Mrs. V. B.*—Operation to relieve intestinal paresis causing intestinal obstruction. An incision was made on the left side, outside the first incision. On opening the abdomen no fluid escaped, but the hugely distended small intestine at once bulged into the opening. It was drawn out, and its color was found to be bluish purple. The vessels were injected; and the calibre of the bowel that of a man's forearm, or even larger. Peristalsis was not visible, and the intestine dropped upon the table as lifelessly as if it had been that of a corpse. The distension began at about the duodenum and extended far down the intestine, ending abruptly somewhere in the ileum.



At the point at which the distension ended, the bowel was contracted to about the calibre of a finger. This contracted bowel was pale and empty. There were no adhesions, no signs of peritonitis, and no exudate. On opening the distended part of the bowel, enormous quantities of yellowish, fluid, fecal material escaped and ran down upon the floor in a stream. Not a peristaltic wave could be seen. Even after the bowel had been emptied, slapping and hot applications failed to evoke any peristalsis. The colon was of normal color, was somewhat contracted, and contained—especially in the ascending portion—putty-like fecal masses that could be moved with comparative ease by applying the finger externally. The transverse colon was prolapsed as far down as the left iliac region. The sigmoid was greatly elongated. Union had taken place between the upper part of the rectum and the abdominal wall, along the line of sutures.”

The absence of pain therefore in cases in which the outer symptoms of obstruction of the bowel prevail is an indication that such obstruction is due to paralysis, from overdistension, from inhibition of nerve influences or from thrombosis on account of which the blood-supply is cut off.

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## BREAD.\*

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The principal functions of food are to supply the body with energy for the work it has to do, and repair the waste continually going on in the tissues. In the production of energy the food is burned in the body just as truly as the coal in a furnace, large quantities of heat, which serves to keep the body warm, being given off in the process. The chief end product is carbonic acid gas, which is the same substance formed when coal or carbon is burned in presence of oxygen.

Every food may be placed in one of three groups, each one of which will supply a definite quantity of heat per unit weight,

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\*Read before Canadian Household Economic Association.

and has a definite function in nutrition. Besides these, water and certain salts are essential in nutrition, although in the strict sense of the term, are not foods. These groups are:

1. Carbohydrates.
2. Proteids.
3. Fats.

The carbohydrates, such as the sugars and starches, are fuel, and supply their latent energy to the body when burned in the tissues, just as wood, another carbohydrate, yields up its energy when burned in an engine. The amount of heat required to raise the temperature of one gram of water 1 degree C. is taken as the unit of heat, and is called a calorie. One gram of sugar burned will yield 4,000 calories; in other words, will raise 4,000 grams of water 1 degree C., or 40 grams from the freezing to the boiling point. Carbohydrates are completely burned in the body, no salts being left as residue to be afterwards eliminated.

The proteids, on the other hand, are tissue-formers, and contain nitrogen and sulphur, besides carbon, hydrogen and oxygen. Waste and repair of the tissues is continually going on in the body, by which proteid is broken down and eliminated as carbonic acid, water, and various nitrogenous salts. Carbohydrates or fats cannot replace proteid as tissue-formers. *Anyone attempting to live on sugar only, for instance, would soon die, because the nitrogenous elements being absent, the body tissues would soon wear away.* Proteid, however, can replace carbohydrates and fats as heat-producers, but if one lived on this alone the quantity of excretory salts would be so great that evil results would soon follow. The proteids include substances such as the white of egg, lean of beef, milk casein, and wheat gluten.

In animal foods, or food products, proteids are in excess, while in vegetable foods carbohydrates predominate.

Fats are also fuel principles only, and do not replace proteids at all. Their function is closely allied to that of carbohydrates, but not exactly similar. One gram of fat will yield 9,000 calories, or more than twice as much as a carbohydrate or proteid, each of which yield only 4,000 calories; it is, therefore, a very concentrated fuel. An Esquimaux requiring a large amount of heat, can eat quantities of fat which would kill the inhabitant of a more temperate climate.

Now, every diet should contain a proper proportion of these various chemical compounds, and the amount and proportion will vary with the climate, the age of the individual, and the amount of work done by him. The laborer requires more car-

bon than the clerk, because he has more work to do; this extra energy results from oxidation of carbon and hydrogen.

The cereals, and the products derived from them, form the basis of almost all human nutrition, in civilized countries at least; in almost all climates, and in every class of society, bread of some kind is the one food in general use, and forms the nucleus around which almost every diet is constructed.

The various cereals are of much the same composition, but wheat flour makes a better quality of bread than flour from any other cereal, because it possesses a substance, gluten, upon which its bread-making qualities depend, and one obtainable from no other cereal. Oats, maize, or rye, for example, do not contain gluten, and therefore do not make good bread.

If wheat flour be made into a stiff dough, and gently kneaded under a stream of water the starch granules are gradually washed away, and a grey rubbery mass is left, the gluten or gum obtained on chewing wheat. It is this substance that entangles and retains the gas bubbles given off by the yeast organism, so that the mass of dough becomes light and spongy. Gluten is exceedingly plastic and yet to a certain extent elastic; it can be drawn into fine threads or thin sheets. If it be broken in pieces, and thrown into 70 per cent. alcohol, the pieces retain their shape, but are found after some hours to have lost all their elasticity, in fact, are mushy, like starch paste. The alcohol has extracted something which can be thrown out from its solution by strong alcohol or water. The dissolved material, gliadin, is an extremely viscid, sticky substance. The residue is called glutenin. Gliadin is present in the other cereals, such as rye and barley, but glutenin is found only in wheat. It is this combination of gliadin and glutenin in certain proportions which makes gluten, and thus confers a peculiar value to white flour. Gliadin is unaltered by heat, but glutenin coagulates at a temperature of 70 degrees C., therefore when bread is baked, this as well as some of the other proteids of flour coagulate, allowing the bread to retain its expanded state when removed from the oven.

White flour is obtained by grinding up the endosperm of the wheat grain, that is, all of the white inner part left when the bran, or outer indigestible coats are removed and thrown aside.

Whole wheat flour is white flour with some of the inner coats of the bran.

Graham flour consists of the entire ground-up grain.

For all practical purposes, flour may be divided into two kinds, namely, (1) patent; and (2) strong bakers, which is put up under a hundred different names, and is the one commonly

used in the household. The chief differences between them are in the quality of the gluten and color of the flour. Patent flour is very white, its whiteness being largely due to absence of minute particles of bran, found in strong bakers. The proportion of gliadin to glutenin in patent is such that it will expand very highly, therefore yields a larger loaf, absorbs more water, and contains a little less proteid than strong bakers.

Winter and spring wheats both yield these two varieties of flour, but winter wheat flour is very different from spring wheat flour. The former is chalky white, possesses a relatively large amount of gliadin, and makes a small loaf. Spring or fall hard wheat, such as we grow in the West, makes a very large loaf, as the expansive power of its gluten is great. Bakers avail themselves of these properties by mixing the white winter wheat flour with the hard spring to modify the color of flour and character of the gluten in each. Winter wheat flour contains an excess of gliadin, and produces a sticky dough—deficiency of gliadin produces a dough lacking in expansion. A soft wheat may have 70 per cent. of gliadin, a hard Fife wheat only 58 per cent.

In a large modern bread factory, the process of bread-making is essentially as follows: Several barrels of flour are sifted by machinery into the mixer, or kneader, a more or less barrel-shaped iron box lying on its side, and raised several feet above the floor. Through the centre runs an axle, carrying several iron bars, or beaters, parallel to the axis, and capable of being revolved at a high rate of speed. The necessary quantity of water containing the yeast and salt, sugar, shortening with perhaps milk or malt extract, having been added, the cover is placed over the top, and the beaters made to revolve for twenty minutes at about sixty revolutions per minute. Air is blown into the kneader to keep the dough from getting too warm. At the end of this period the dough is found to be wound around the beaters in sheets and strings like silk on a reel, and hanging from the roof and sides in long threads. The dough is then cut away from the beaters, and allowed to fall into steel troughs, where it ferments at 70 degrees F. from six to eight hours, according to the kind of flour used. During this period it is kneaded down several times, and then cut into pieces of the required weight, allowing for evaporation of water which will take place in the baking process.

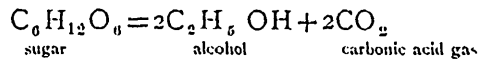
The pieces are then molded, allowed to rise, molded again, placed in pans, and proved for a short time. The prover is merely a steam chest maintained at a high temperature, so that the dough rapidly expands and completely fills the pans. These

are then placed in the oven, scores at a time, and baked for about half an hour at a temperature of 350-400 degrees F. Taken out and rapidly cooled in a free circulation of air, the loaves are ready for distribution.

Mechanically, the process is a simple one; chemically, it is extremely complex.

In the first place, a certain amount of fat, such as lard, cottonseed, or milk is added for the purpose of "shortening" the bread; what the chemical action is in lessening the toughness of the gluten we do not know. Perhaps, it is merely a mechanical effect.

Sugar, in the form of cane sugar, brown sugar, dextrose, molasses, or malt extract, is added as food for the yeast organism, since, by giving it plenty of available nourishment, its growth is hastened, and thus the time of fermentation is shortened. The yeast cells distributed throughout the mass of dough find themselves in a suitable medium with plenty of food material at hand, and with an agreeable temperature; they immediately begin to grow by a process of budding, and seizing upon the surrounding sugars and soluble starches, convert them into alcohol and carbonic acid gas.



The gas cannot escape, being entangled in the gluten, and, forming tiny bubbles or pockets, which increase as the yeast cells continue to grow, the whole mass becomes light and spongy, and swells up. The dough is then "knocked down" by kneading, the gas escapes, and the yeast chains are broken up and brought into contact with more food material; thus multiplied activity ensues, since each yeast cell has given rise to several more.

This process of rendering the dough porous is an extremely important one, but may be imitated by means of baking powder, or by mixing the dough in a machine with gas under high pressure—the aerated method. Another process goes on, however, which we cannot as yet imitate, namely, the softening and change in the composition of the gluten, and the development of the peculiar flavor of bread. The yeast cell, in its growth, requires a certain amount of proteid as food, and in some way, possibly by excretion of a ferment, it modifies the quality of the gluten, so that the resultant loaf is very different from one made by the use of baking powder, or the aerated process.

Yeast works best at a definite temperature (about 70 degrees

F.), and during its growth prevents the growth of other organisms, especially the omnipresent bacteria. If the temperature rises too high, or falls too far below this optimum temperature, or if the yeast has exhausted all its available food, then bacteria begin to grow.

Compressed yeast, such as Fleischmann's, is an almost pure culture of a specific variety, but with it are always associated wild yeast and bacteria. For all practical purposes, it is a pure culture, but from an ordinary specimen, I have isolated five distinct species of wild yeast and numerous bacteria. There are, therefore, these wild yeasts and bacteria, besides various bacteria from the flour, water, and other ingredients, as well as those in the air to start with. Doubtless, a good deal of the delicate flavor of fermented bread is due to the activity of these organisms. Every species of bacterium has a definite kind of work which it prefers to do; thus some live on dead matter (saprophytes), some live on living tissue (parasites); some attack carbohydrates, others break up fats or proteids. These organisms are held in check, or are crowded out largely during the rapid multiplication of the yeast, but do propagate somewhat. Just as soon as the yeast, however, has become exhausted or used up all available food, bacteria begin to multiply, and sour bread results. The lactic acid bacillus usually starts, and as soon as it is exhausted, butyric acid and other bacilli begin, producing a very offensively smelling mass. The speed with which this occurs is sometimes astounding, but when one considers the rapidity with which bacteria grow, it is not to be wondered at. A great many bacilli split into two every half hour. Take one and see what that will come to in twelve hours, or twenty-four half hours. At the end of one half hour there will be two, in the second half hour, four; in the third, eight; in the fourth, sixteen and in the twenty-fourth the sum of 19,154,432, so that you see with a few million to start with, all waiting for an opportunity to multiply, great damage can be done in a very short time. Fortunately, they do not continue to multiply at this rate very long, as they are paralyzed or killed off by the poison of their own activities.

A glass slide rubbed over with a swab from the throat of a diphtheritic patient, will, when examined under the microscope, often not show the presence of more than a stray diphtheria bacillus, often none at all, and yet when the same swab is rubbed over the surface of sterile blood serum, its surface, twelve hours later, will be covered with literally billions of diphtheria bacilli. I have emphasized this point to try and impress upon you the

tremendous amount of work these individually tiny organisms are capable of doing in a very short time.

Like human beings, bread is subject to some diseases, particularly in unclean bake shops. Ropy bread, due to the entrance of a bacterium after baking, is occasionally found. Sometimes red spots appear, due to the growth of a red color-producing bacterium; its appearance in mediæval times sometimes produced consternation, as auguries of things to come, or even resulted in the sudden demise of the unfortunate baker.

Wheat bread is probably more nearly a perfect ration, and is capable of maintaining life longer, than any other single food, because its tissue-forming constituents (the proteids) and its energy-yielding portion (the carbohydrates) are more nearly in the proportions demanded by the system from a normal diet.

The body requires, per diem, about 100 grams proteid, 50 grams fat, 450 grams carbohydrate. Bread consists of 9.2 grams proteid, 1.3 grams fat, 53.1 grams carbohydrate, 35 grams water in 100 grams. So that, to obtain the requisite amount of proteid, one would have to take  $100 \div 9.2$  times 100 grams bread per day. But, since only 85 per cent. of the proteid of bread is digestible, one would have to take  $100 \div 85$  times this quantity, or about 1,300 grams. This would yield 100 grams proteid.

$$\begin{aligned} 1.3 \times 13 &= 17 \text{ grams fat.} \\ 53.1 \times 13 &= 690 \text{ grams carbohydrate.} \end{aligned}$$

or about 35 grams too little fat and 240 grams too much carbohydrate; but as fat can, to a considerable extent, be replaced by starch, a diet of bread alone would give about 170 grams (about 6 ounces) too much carbohydrates. We have instinctively recognized these facts by eating bread with butter, a fat; or combining it with milk, which contains much proteid and fat; or with cheese, which is proteid and fat.

Brown breads, such as whole wheat or graham, are inferior to white bread as food, in that they contain less available nutriment weight for weight than it does. Text-books, medical men, and lately patent food makers, reiterate the statements disproved years ago, that the best part of the wheat grain is milled out and thrown away as bran. There is absolutely no scientific foundation for the claims of the whole wheat faddist, all the evidence being in favor of the white bread.

If you take a pound of brown bread, containing, say, half an ounce of bran, and a pound of white bread, the value of the brown bread as nutriment is less by the amount of bran present.

It is true that whole wheat flour contains more proteid than white flour, but we live not by what we eat, but by what we digest. If we could digest anything, then the cheapest way to get our carbon would be to eat coal or wood, and our nitrogen from crude ammonia or ammonium sulphate. We cannot do this, neither can we digest the cellulose walls which surround the proteid contents of the aleurone cells of the bran, and the enclosed substance is just as securely locked away from us as is the carbon of coal.

An ox can live contentedly for weeks on hay and bran, which are both largely cellulose or woody fibre, but a human being can digest practically none of it.

I have digested thin sections of wheat for days with artificial gastric juice, and found the contents of these cells unaltered when examined under the microscope. Experiments have been made on human beings with precisely similar results. As to the loss of iron and phosphates of the bran (a loss so magnified by the proprietors of whole wheat food factories), it has as yet not been proved that we require abnormal quantities of these salts. In fact, the quantity in white flour is sufficient to maintain equilibrium of these salts in the body. Almost every food we eat contains plenty of the various salts, so that the body receives plenty from other sources.

There is no such thing as a special food for brain or nerves. Do not believe the advertisement on the boxes of patent food. You cannot get more from wheat or other cereal than you started with. The food manufacturer may make good digestible material, but it is no better, and may not be as good, as the original. One does not think of eating the shell of a walnut, or the skin of a banana, because it grew there, or because of the salts present, and why should one eat bran, even if the patent food manufacturer claims that the Creator attempted to make a perfect food in the whole wheat grain.

It has been found by numerous experiments on human beings that there is not as much food absorbed from whole wheat or graham bread as from white. So many experiments have been made, and in so many different parts of the world, by Rubner, Voit, Meyer and the various experimenters in United States scientific laboratories, with the same general conclusions, that the evidence must be accepted as final.

In the United States a number of men, from college athletes and students to hard-working teamsters, were experimented upon with bread diets, and by actual accurate physiological chemical



methods, it has been invariably found that more available nutriment was yielded to the body from white, than from graham flour breads. An average of many experiments gave:

	Digestible Proteid	Digestible Carbohydrate
White bread.....	85 per cent.	97 per cent.
Whole wheat bread.....	80.5 "	94 "
Graham bread.....	77.6 "	88 "

Not only does graham flour yield 7 per cent. less of its proteid to the body, but its branny particles, by irritating the intestinal muscles, promote peristalsis, and hastens other food more rapidly through the alimentary tract, so that complete absorption cannot take place. Of course, in persons of sedentary occupations, or in those subject to costiveness, this increased peristalsis may be of great benefit, and many people find the use of brown breads beneficial for this reason. As with all other foods, eat what you find agrees best with you, and avoid what does not. It is literally a fact that a normally wholesome food, such as milk or eggs, may actually prove poisonous to certain individuals.

The working man always has endorsed the white loaf, not as the great physiologist, Bunge, imagined, from a perverted instinct, but because he finds he can work better on it. Less than 15 per cent. of the bread used in Toronto to-day is brown bread.

With reference to the question of so-called pre-digested foods, allow me to say a word on appetite. Pawlow, the great Russian physiologist, in his work on digestion in dogs, during a period of ten years has obtained exceedingly instructive results. By observing strict antiseptic precautions in laboratories equipped primarily with this object in view, they have been able to perform surgical feats hitherto found impossible. The animals operated on in some cases were kept alive and well for several years.

By means of a double incision a flap of stomach wall was turned over with all its nerves and blood vessels intact. The opening was then sewn up, and the flap converted into a second miniature stomach, with its opening to the outside of the body; it had no connection with the original stomach, but when the original stomach received impressions, it received them also. Thus secretory experimental effects could be readily studied.

When food was taken into the large stomach, the small stomach acted as if still part of it, and secreted gastric juice,

which could be collected and measured. For instance, experiment showed that for 100 grams of flesh eaten, 26 cubic centimetres of gastric juice were secreted by the small stomach; for 200 grams, 50 c.c.; for 400 grams, 106 c.c. In other words, a quantity of gastric juice was poured out exactly proportional to the amount of food to be digested in the stomach.

Every individual food was found to call forth a particular activity of the digestive glands; that is, the amount of digestive juice varied with the kind of food. For instance, the digestive power of "bread juice" contains four times as much ferment as "milk juice," and three times as much as "milk juice." That is, the different kinds of proteid receive quantities of ferment corresponding to the differences in the digestibility of their proteid. The extra demand is supplied by a more concentrated juice, in order that an excess of hydrochloric acid may be avoided.

Appetite, they found, was the great factor in the flow of gastric juice. The gastric glands begin to secrete, if one is hungry, a few minutes after food is seen or smelt. It is a nerve impulse from the brain which causes the glands to secrete, when the brain itself is stimulated by the sensory nerve endings of the nose or mouth. When one is not hungry, this secretion is not called forth, nor is it if food be placed in the stomach unknown to the subject (dog), with the exception of flesh or fleshy extracts. The latter and water stimulate secretion directly. This initial secretion does not last very long, but it is ample to start a vigorous peptic digestion; then the products of digestion themselves stimulate the glands to renewed activity, and the food is all reduced to a semi-fluid condition. Mechanical or chemical stimulation does not cause a flow of gastric juice, but the desire for food does. We are, therefore, justified in saying that appetite is the first and mightiest exciter of the secretory nerves of the stomach.

The value of appetite was shown graphically by Pawlow in the following experiment. Weighed pieces of meat were introduced through a fistula into a dog's stomach unknown to him. Similarly weighed pieces were introduced into the stomach of another dog after sham feeding (the food eaten by the dog dropped out of an aperture left in his esophagus; he experienced all the pleasures of gastronomy, and would eat in this way for hours without becoming satiated). Both were withdrawn after one and a half hours; the latter had lost thirty grams in weight, the former only six grams. The difference was due to appetite

juice alone, or the digestive value of the passage of food through the mouth, the value in short of an appetite.

Now, when food is taken without appetite against the will, or in indigestion, this initial secretion does not take place, and the food may lie in the stomach for hours before digestion sets in—a prey to bacterial fermentations. When long continued, this may lead to chronic disease of the mucous lining of the stomach. So you see that as Pawlow puts it "appetite is juice," and the truism that "good digestion waits on appetite" has only of late years received scientific confirmation.

Since meat extracts and water alone stimulate these glands to activity, the use of soups at the beginning of a meal has now received a scientific explanation and endorsement.

The reason that bread proteid is four times as difficult of digestion as milk proteid he found to be due to the fact that the vegetable proteid was so largely diluted with starch. He proved this by making an artificial bread, using the proportions of flesh proteid and starch which are found in bread. The juice poured out on this artificial bread was of exactly the same strength as that on ordinary bread. The precision of these glands is remarkable, and is one example of how exactly nature adapts herself to the work in hand.

As the semi-fluid food passes on into the intestine, it stimulates a secretion of pancreatic juice, which again is proportional to the amount of food to be digested.

In this sketch, I have endeavored to give an epitome of our knowledge of the subject of bread in its various aspects, without attempting to go too fully into details. The subject of food investigation is a slow, laborious and costly one, and one we are but now beginning to realize the value of. It has already been the reason for the origin of domestic science; there could be no domestic science without the data and precision of fact supplied by the laboratory.

The disease and suffering in the world from *mal-nutrition*, and lack of knowledge of the preparation and uses of foods, is probably greater than from any other source. With advance of the knowledge of the principles which govern nutrition this condition ought to steadily improve, so that, in a few decades, indigestion, with its accompanying train of diseases, may practically be matters of history.

## THE LITERATURE OF TUBERCULOSIS AT THE TUBERCULOSIS EXPOSITION IN BALTIMORE.

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The Tuberculosis Commission of Maryland, appointed by the Legislature in 1902, brought their labors to a very successful close by uniting with the Board of Health, and jointly presenting to the public and the profession the results of their work in a most tangible form, an object-lesson of great value. For by means of charts, diagrams, photographs, models, literature, and an immense amount of other material, the whole subject of tuberculosis, its history, distribution, varieties, causes, cost, prevention and cure, was placed before them.

Reports of the Exposition have appeared in all our medical journals, and the addresses made will doubtless all appear in due course. Every department was complete and full of interest, but of particular interest was the collection of books and portraits covering the history of tuberculosis. Much credit is due to Dr. Osler, Dr. Jacobs and Dr. Fitcher for their efforts in collecting and arranging this department of the Exposition, for it was doubtless one of the most complete of its kind ever brought together.

In the department of literature, first in chronological order were the writings of Hippocrates (460-377 B.C.), represented by two volumes of the Latin "Editio Princeps" of 1525, the first lying open at his description of the form of chest in tuberculous patients, the second at the page when he describes pulmonary tabes (phthisis). Then the description of phthisis written by Aretæus, the Cappadocian (250 B.C.), one of the most graphic in literature. Galen's (131-200 A.D.) "Methodus Medendi" lay open at the page where he so strongly recommended a milk diet and dry air in the treatment of phthisis. The description of the varieties of consumption so well observed by Celsus (30 B.C.-50 A.D.), was to be read in the "Editio Princeps" of 1479, while his treatment of the disease was to be read from the open pages of "De Medicina," where he strongly advocated a change of air and long sea voyages. In the works of Franciscus Sylvius (1614-1672) was the first accurate description of tubercles in the lungs. Some splendid plates of the gross appearances of the

disease were exhibited in Gideon Harvey's "Morbus Anglicus," published in London, 1672, the work being quite superior to much of that appearing in our modern text-books.

John Brown's "Adenochiradelogia" could not but attract attention, being a complete exposition of the king's evil or scrofula, and its method of treatment by the royal touch. At the end of the book appears a list of the number of patients touched during the years 1660-1682, a total of 92,107.

The writings of the celebrated Sydenham (1624-1689) lay open at his description of the riding cure. He certainly believed in vigorous exercise, and maintained that he saved several phthisical patients through horseback riding.

Richard Morton's works were represented by a first edition, (1689), and a second edition (1720) of his "Phthisiologia," in which he recognizes the identity of scrofula and tubercle. He was one of the first English authors to lay stress on the contagiousness of phthisis.

The first recorded attempts at inoculation were shown in Kortum's "Commentarius de Vitio Scrofulosa" (1789), where he cites his experiments in rubbing scrofulous matter into the neck of a boy, with a negative result. Kortum was the first to compare tuberculous matter to fresh cheese.

One large case was almost filled with various editions of Lænnec's works, amongst them being a first edition of his immortal "L'Auscultation Mediate," published in two volumes in 1819. In this was illustrated his stethoscope, the introduction of which marks a new era in physical examination of the chest. Most interesting in connection with this collection of Lænnec's works and his illustrations, was a stethoscope which had been used by the master himself, and brought to America in the early part of the nineteenth century. It was loaned by Dr. V. Y. Bowditch, of Boston, who also exhibited the instrument case used by his father, who first advised and practised thoracentesis, containing a varied assortment of trocars and cannulas, and all the instruments used in aspiration.

One edition of Lænnec lay open at his description of the miliary nodule, and another at his statement of the unity of tuberculosis. He believed in the curability of the disease. Whether he believed it to be contagious cannot be definitely said from his writings, but he himself was accidentally inoculated while performing an autopsy on a tuberculous subject, and died of consumption twenty-four years later as a result of this infection.

One of the first to introduce to America the physical means of diagnosis of diseases of the chest as taught by Lænnec, was Samuel George Morton (1799-1851), whose "Illustrations of Pulmonary Consumption," published in Philadelphia in 1834, was the first important treatise on the subject on this continent. "It will always stand as a monument of his industry and accuracy, and a credit to American medicine." This volume was very remarkable for the accuracy of its plates, and for the beauty of their coloring. His conclusions regarding the nature of tubercles were extremely accurate.

Robert Carswell's "Morbid Anatomy" (London, 1838), showed also a splendid series of figures and plates, illustrating the racemose distribution of the tubercles.

Bodington's "Essay on the Treatment and Cure of Pulmonary Consumption," London, 1840, is the first work which outlines accurately what is now known as sanatorium treatment. This he advocated very strongly, carrying it out himself at Sutton Coldfield, in Warwickshire. He was really a predecessor of Brehmer and Dettweiler, but his writings were not taken seriously, and only after the great success of the sanatorium in Germany did English physicians recognize that one of their own number had been advocating the same line of treatment years before. This essay has been recently re-printed by the New Sydenham Society.

There was a second edition (1843) of Louis' "Recherches sur la Phtisie," one of the most thorough studies of pulmonary consumption, subsequently translated by Henry J. Bowditch. It had an important influence in introducing proper methods of study of pulmonary tuberculosis in this country. Dr. Osler's note on this book directed particular attention to page xx. of the advertisement, containing Louis' statement of the advantage of the numerical method as applied to medicine, a method the importance of which was first recognized by Louis, and to which we owe much of our present knowledge of disease.

Another volume, the name of which could not but attract attention, when the date was considered, was Wm. A. McDowell's "A Demonstration of the Curability of Pulmonary Consumption in all its Stages," published at Louisville, Ky., 1843.

The first accurate description of the histology of tubercle was that of Addison—this was to be read in his original communication to Guy's Physical Society in 1845.

Klucke's observations, published 1843, were interesting in that he was the first observer to definitely state that tuberculosis

is inoculable, and to have successfully made experiments supporting this. The production of tubercle by injection of foreign matter was observed by Cruveilhier, and his paper published in 1826 showed his systematic inoculation experiments with mercury into the veins, tubercles resulting in the lungs, liver and mesentery.

Of greater significance were the writings of Villemin, his "Etudes sur la Tuberculose" (1868), and his original communication of his demonstration of tuberculosis being a specific infectious disease, presented to the Paris Academy of Medicine, December 4th, 1865. This communication startled the whole medical world, and was very reluctantly accepted until the specific cause was discovered later. Though Villemin was unaware of this specific cause, he fully recognized that the source of the infection was tubercular matter, particularly the discharge from tubercular areas. The following translation of a part of his conclusion seems little short of wonderful, when read in the light of our modern knowledge: "Now that we know the nature and intimate cause of tuberculosis, that we can produce it at will in animals, does not the future open out before us a plenitude of consoling hopes? . . . . From the many and repeated experiments upon animals, which we cannot make with man, may we not look for some results . . . . and what immense results would emanate from a neutralizing agent applied at the beginning of the malady, and destroying in the organism the morbid principle there multiplying. For the danger of phthisis is not in a few tubercles which interfere often so little with the respiratory functions that the patient ignores their presence, and that careful auscultation scarcely reveals them, but in the impregnation of the whole economy with the pathologic substance which results in successive outbreaks of tuberculosis of greater or less frequency and severity, which lead inevitably to death. Such are the ideas which should guide us in the search for prophylactic and curative measures against tuberculosis. Such are the hopes raised before our eyes by our discovery. May it bear in the future the fruits that our fancy pictures."

There was also Kleb's communication citing his feeding experiments on animals with tubercular material.

The new Sydenham's Society's translation of Felix von Niemeyer's "Clinical Lectures on Pulmonary Consumption" (London, 1870), was very interesting reading in the chapter on treatment, though the pathological teachings of Niemeyer had a most pernicious influence, based as they were on his ideas that pulmonary phthisis with cavity formation was the result of an inflam-

matory process, a chronic catarrhal pneumonia, and that tubercles if also found in the lungs developed themselves at a later stage of the disease, and did not precede softening and excavation. His treatment was very sound, advocating rest for pyrexia, fresh air at all times, and recognizing the value of the modern sanatorium regime in this sentence (the italics are his): "The chief point, under all circumstances, is *that the patients, wherever they may be, live prudently, and be under the care of an intelligent and firm physician.*"

Almost hidden in a corner of one case, and very inconspicuous in its appearance, though quite entitled to have its inscription in red and gold was the *Berliner Klinische Wochenschrift*, of April 10th, 1882, containing Koch's memorable and epoch-making communication of March 24th, which covered the whole ground of the causation of tuberculosis, and gave us our first description of the tubercle bacillus, and so thoroughly worked out that it has been often remarked that the succeeding twenty years have scarcely added anything further than to confirm Koch's findings, and this seemed to be the opinion of the Committee in Charge of Literature, for though case after case was filled with the works of writers previous to Koch, one case contained the works of those more recent, amongst which were the writings of Knopf, Latham, Bridge, Flick and others.

The popular side of the subject was well represented by many essays written for the lay reader, particularly striking being a large collection of the various translations into foreign languages, some twenty-seven in number, of Knopf's Essay on Tuberculosis, which received the prize of the Berlin Congress.

In the case of modern works and pamphlets were the reports of the various International Congresses, as well as copies of the current publications devoted to tuberculosis: *La Revue de la Tuberculose*, *La Lutte contra la Tuberculose*, *Zeitschrift fur Tuberculose und Heilstattenwesen*, *Tuberculose Infantile*, *Tuberculosis* (London), *Tuberculosis* (Deutsch Cent. Com.), *Journal of Tuberculosis* (since discontinued), and *La Tuberculosis*.

One could not but wish that the essays of Brehmer and Dettweiler had been procurable.

The collection of photographs and engravings of the various workers and writers was not as complete as the Committee had at first intended, but was nevertheless very interesting, comprising the following: Hippocrates, Celsus, Galen, Lænnec (1781-1826), Louis (1787-1872), Broussais (1772-1838), Andral, Benjamin Rush (1745-1813), James Jackson, Jr. (1810-1834), Samuel George Morton (1799-1851), Austin Flint



(1812-1826), Henry Ingersoll Bowditch (1808-1832), Wm. W. Gerhard (1809-1872), Koch and Cohnheim.

Particular mention must be made of a loan from Dr. Knopf of the photographs and autographs of Brehmer, Dettweiler and Trudeau, "The Three Pioneers of Sanatorium Treatment," three noble men whose lives have been spent for others, and two having themselves been stricken with the disease, and after regaining health, devoting their energies to the permanent establishment of institutions for the more needy classes, laboring under great difficulties, and forming excellent examples of the oft-repeated saying that the world's greatest work is done by invalids.

This short sketch has been written from a few notes made while at the Exposition, in hopes it may be of interest to some who were not privileged to attend. It covers only one department of many, all of which were as complete as this.

GRAVENHURST, March 15th. 1904.

## Clinical Reports

### REPORT OF CASES.\*

BY H. B. WILKINSON, M.D., SARNIA, ONT.

#### FRACTURE OF HUMERUS—ANATOMICAL NECK.

Male, aged 46, with a negative family history. One brother had fracture of humerus, with permanent wrist-drop. Met with the following accident: February 24th, 1903, he slipped through a hole three feet in diameter in going down a stair from sidewalk to a platform twelve feet below. In trying to save himself he thinks he struck the inner surface of his arm on the edge of the opening. When he regained consciousness, he was lying on his right shoulder on the platform below, and had lost the use of his right arm. No pain unless arm was moved. When he allowed the arm to hang down there was severe pain in the shoulder, and extending down the arm. No pain when the arm was supported. He crossed the river in a small boat, and went to Dr. Bell's office, who found the following condition: Pain referred to the shoulder joint when the arm was moved; from

\*Lambton Medical Association.

the acromion process to condyle of humerus, same both sides. Vertical circumference of shoulder joint increased two metres on right side. No visible deformity. Under chloroform, and slight traction upon arm, the head of humerus moved outward, but not with the sensation of a reduced dislocation. He felt quite easy if slight traction were made. Arm practically paralyzed, wrist drop complete, no radial pulse. All measurements normal. I saw him at this stage and found fracture of anatomical neck of humerus in position. No pulsation in the artery until reaching the middle axillary, where the dividing line was as abrupt as if it had been ligatured at that point. Complete paralysis of muscles supplied by the musculo-spiral. Sensation slightly improved. With the X-ray the same evening, Dr. Logic found humerus in perfect position. The shadow of shoulder was darker, but nothing could be discovered to account for symptoms. February 24th, we gave him a thorough examination under complete anesthesia. Length and vertical circumference normal, position normal, crepitus present; with a finger on each side of the axillary artery it could be traced from above to the occlusion, but nothing abnormal could be felt. The bone was smooth and an inch away. Usual fixation for twenty-four days. Good union. Motion and sensation good, except the distribution of the musculo-spiral. April 7th, thirty-four days after injury, we thought it best to explore the seat of injury to artery and nerve. In the presence of Drs. Newell and Bell, I cut down and found a triangular piece of bone half an inch each way, and as thick as thin cardboard, driven into the artery about one-third of an inch. At the point of occlusion, at the same level and by a similar piece of bone, the musculo-spiral nerve was severed for half its diameter. No other fragments. The callus could be felt. The spiculae were removed. No hemorrhage from the artery. No attempt was made to repair the nerve. It was thought that the fibres intact were a better connecting link than could be made.

Three days after injury both galvanic and faradic currents gave normal reaction. March 20th to the day of operation, electrical reaction nil. He was treated with massage and galvanism until June 15th, when the muscles reacted to the faradic current, and first voluntary movement took place, which current was used for several months. He has almost perfect use of the forearm.

#### OVARIAN CYST.

Mrs. L., aged 84. For several months has complained of pain, vomiting and enlargement of abdomen. Pain gradually became so severe that she could not lie down. Physical exam-

ination: Classical signs of ovarian cystoma, large as a seven months' pregnancy. Had her removed to the hospital, where Dr. Johnston saw her. He confirmed the diagnosis, and remarked that the centre of the abdomen was very prominent. Removal decided upon. While using vessel after a preparatory enema, she had a sudden pain in abdomen; became blanched and pulseless. When Dr. Johnston and I saw her a few hours afterwards, we found the prominent abdomen was flat, and the usual signs of ascites present. Diagnosis—rupture of sac. We waited a few days; when our diagnosis was confirmed on the operating table. She made a very smooth recovery. One year afterward she died of acute intestinal obstruction.

#### LIGATURE OF THE COMMON CAROTID.

Female, aged 49. From early childhood has had an angioma of left side of face, from lower lid to chin, and involving roof of mouth to such an extent that only semi-solids and liquids could be used. Pulsation strong and painful; superficial vessels on the nose were as large as the radial. She has had numerous and severe hemorrhages. In 1897, ligated the facial, as pressure as it curves around the lower maxilla gave relief. The artery degenerated at the seat of ligature, and formed an aneurysm. In 1902, she demanded further relief. I ligated the common carotid in the usual situation. She has had almost complete relief of symptoms. Did not suffer any inconvenience from the ligation. The roof of the mouth has decreased in size so she can use her food to much better advantage. I used kangaroo tendon to ligate the vessel. She is relieved of the painful pulsations entirely.

#### THALMA'S OPERATION, OR SHORT CIRCUITING THE RETURN CIRCULATION IN HEPATIC CIRRHOSIS.

Male, aged 46; saloon keeper; steady drinker for years. Family history negative. For two years he has had progressive symptoms of cirrhosis of the liver. Four hemorrhages from stomach; vomiting; progressive anemia; anasarca of lower extremities; ascites. He had been tapped four times. Urine scant; bowels regular and normal color. When I first saw him on August 20th, the circumference of abdomen was fifty-six inches; dyspnea marked. I tapped him on August 22nd, and drew off a large quantity of light-colored fluid, and found liver very much hypertrophied. His general condition improved after tapping. Dr. Harvey saw him in consultation. We decided to give him the benefit of Thalma's operation

on August 30th. The following was done: A median incision immediately below umbilicus, extending downward four inches, after drying the abdominal cavity. The parietal peritoneum on each side of the incision was stripped from the abdominal wall for about three inches, and the omentum tucked into these pouches, and stretched there with cat-gut. The abdominal wound was closed with silk-worm gut. The ascites increased as rapidly as before, until the abdominal circumference was forty-four inches, beyond which point it did not increase. The urine increased in quantity. He had very little anasarca of limbs. The anemia persisted, and he died from asthenia on October 25th. From the literature and the improvement, I think he would have received much benefit from an early operation. This operation is best suited to the hypertrophic form of cirrhosis.

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### Selected Article

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#### GONORRHEAL INFLAMMATION OF JOINTS.

BY A. E. HALSTED, M.D., CHICAGO, ILL.

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Gonorrheal inflammation of the joints, or gonorrheal rheumatism, was recognized clinically before it was known that the gonococcus of Neisser was the essential cause of the primary disease. The earliest explanation of the occurrence of metastatic joint affection in gonorrhea was that it was the result of a toxic product of the gonococcus acting upon the joint capsule, rather than the gonococcus itself. Of late years many observers have found this micro-organism in the synovial fluid, and there no longer exists any doubt that in all cases of gonorrheal rheumatism the gonococcus exists in the joint, although its presence cannot always be demonstrated. Nasse, after a most careful and systematic examination of thirty cases, found the gonococcus in nineteen only. Walter Rindfleisch, in 1897, was able to isolate the gonococcus in twenty-seven of thirty-two cases of gonorrheal arthritis.

In the fluid aspirated from a joint the seat of a gonorrheal inflammation the gonococcus may not be found. Those that are present in the fluid are usually dead and no longer capable of producing a growth in a culture medium. The micro-organism

is found most frequently in the leucocytes or in the endothelial cells of the joint capsule, which are quickly deprived of their vitality, and the latter are then desquamated. When disintegration of the infected cellular elements is complete, the effused fluid in the articular cavity, possessing some bactericidal properties, ultimately destroys the germs. For this reason, when searching for the gonococcus, attention should be directed principally to the recently detached endothelial cells and to the leucocytes, rather than to the fluid itself.

As a rule, the symptoms of joint metastasis come on late, but in a few they develop immediately after the infection of the urethra. The process seems not to depend upon the extension of the disease to certain parts of the urethra, but rather on the involvement of the deeper parts of the urethral mucosa. It must also be remembered that infection of other regions than the urethra with the gonococcus may lead to gonorrhoeal arthritis.

In the female, infection of the vaginal, cervical, uterine or tubal mucous membrane may give rise to metastases as readily, provided the deeper layers are involved, as the urethra.

It has also in numerous instances been demonstrated that gonorrhoeal conjunctivitis may be complicated by infection of the joints with gonococci. Clinically, gonorrhoeal inflammation of joints may be grouped as follows:

1. Acute serous synovitis.
2. Acute sero-purulent synovitis (mixed infection).
3. Purulent synovitis (usually mixed staphylococcus and gonorrhoeal infection).
4. Sero-fibrinous or the sero-membranous, of Ollier, where the fluid is present in small amount, or has the consistency of coagulated serum or is gelatinous. This is often associated with a proliferative synovitis, and defects in cartilage from prolonged inflammation. This form may be from the beginning subacute and not associated with severe pain, as is common in the other varieties. Not infrequently a considerable degree of peri-articular inflammation is coincident.
5. The peri-articular, ankylosing inflammation, with practically no fluid in the joint cavity. In this group we have a low grade of inflammation, closely simulating arthritis deformans, and usually associated with considerable pain, marked muscular atrophy, and pronounced anemia. The temperature may be but slightly above the normal at any time. This, with the muscular atrophy, the anemia, and the spindle-shaped joint, may present a picture that simulates tuberculosis.

In the simple serous synovitis the changes in the joint are

very slight. The capsule, although the seat of an acute inflammation, is not materially thickened, and if the proper treatment is early instituted, the joint will regain its normal condition. In these cases the chief danger is that mixed infection with some of the ordinary pus microbes, particularly the staphylococcus, will occur. In such case we have the symptom-complex rapidly changed. The temperature increases; the pain becomes greater; the swelling becomes more pronounced, and the patient's general condition becomes distinctly septic.

In the milder degree of mixed infection the character of the fluid in the joint may not materially change. In the early stage it may be but slightly turbid. Later it becomes distinctly purulent, in which case the disease takes on the characteristics of a suppurative arthritis, with all the local changes in the joint, and the manifestations of general infection that are so well known.

In the sero-fibrinous or sero-membraneous form there exists from the beginning a subacute inflammation, which may closely simulate syphilitic and tubercular arthritis. In this form comparatively little fluid is found in the joint. The thickening of the articular structures, with the marked peri-capsular infiltration, may lead the surgeon to suspect fluid, but on opening the joint a thick gelatinous material, closely adherent, like a membrane, to the capsule, is all that is found. The cartilage is generally eroded more or less, the ligaments infiltrated, and the capsule thickened. Between the capsule and the fascia and the ligaments a fibrinous exudate is found. This exudate, with the infiltration of the articular structures gives the swollen, tense appearance to the joint which can readily be mistaken for an intracapsular serous exudate.

The diagnosis of gonorrhœal arthritis is often difficult to make. In acute serous gonorrhœal synovitis the disease may be mistaken for acute articular rheumatism. This is particularly true when the disease is polyarticular. In the majority of cases gonorrhœal arthritis is limited to one or two joints; in the male, to the knee or ankle; in the female, more frequently to the wrist or elbow. The hips, small joints and vertebral articulations are infrequently involved. The disease is often ushered in with a chill, which is not common in articular rheumatism. Sweating, which is so characteristic of rheumatism, is not a prominent symptom of gonorrhœal arthritis. The pain in most cases of gonorrhœal synovitis is more acute, and does not yield as promptly to the administration of salicylates as it does in rheumatism. Muscular atrophy, ankylosis and deformity are more common in the protracted cases of gonorrhœal synovitis than in

muscular rheumatism. Endocarditis, although it may be a complication of gonorrhoeal inflammation, is not as common as in articular rheumatism.

The most important factor in the diagnosis of gonorrhoeal arthritis is the presence of the gonococcus in the secretions of the urethra, vagina or uterus. In many cases, in the male, the presence of a discharge, or history of a recent attack of gonorrhoea, will direct attention to the nature of the infection. As gonorrhoeal synovitis is probably the most common of the acute joint inflammations, too much stress cannot be laid upon the importance of a careful inquiry into the venereal history of patients suffering from acute arthritis.

In the sero-fibrinous or sero-membranous group the history of gonorrhoea, or the presence of the gonococcus in the secretions of the genital mucous membrane, must be relied upon to differentiate this form of the disease from tuberculous and from syphilitic joint disease. The chronic ankylosing form often closely simulates arthritis deformans. The presence of a chronic urethral discharge will go far toward clearing up the diagnosis. It must be borne in mind, however, that what is now considered true arthritis deformans frequently follows acute gonorrhoeal arthritis.

The treatment of gonorrhoeal rheumatism differs according to the type of the disease that is presented.

In the acute serous synovitis, if the case is seen early before the effusion is great, rest and pressure, best accomplished by the application of a plaster cast, have given the best results in my hands. If the effusion has already become very great, immobilization of the joint by a suitable splint and the application of ice gave the most relief.

I do not agree with the writers who claim that the salicylates do no good in this disease. On the contrary, I use large doses of salicylate of soda, and have had good results follow. When the effusion is large, I always aspirate the joint, and fill the cavity with a 1 per cent. solution of protargol. Having used this treatment for three years, I can heartily recommend its trial.

After the fluid has been removed and the protargol solution injected, it is better to secure immobility of the inflamed joint by applying a plaster-of-Paris cast for a week. After the condition of the joint warrants it, massage and passive motion are employed.

I would strongly advise the diagnostic puncture in all cases of acute synovitis. In case a mixed infection can be demonstrated, or where the fluid is sero-purulent, or purulent, it is

advisable to resort to arthrotomy and drainage at once. In these cases, as soon as the joint infection has been controlled, massage and passive motion should be employed to preserve a functionally useful joint.

In the sero-fibrinous or membranous arthritis, early arthrotomy, with lavage of the joint and subsequent massage and passive motion, give the best results.

In the chronic ankylosing form, when the disease is mostly confined to the ligaments and peri-articular structures, massage, super-heated air and passive and active movements will accomplish more than operative treatment.—*Int. Jour. of Surgery.*

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## Therapeutics.

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### Notes on the Treatment of Pneumonia.

W. Gilman Thompson (*Journal of the American Medical Association*, March 19th, 1904), says:

It is best to give alcohol to the extent of from four to six ounces of whiskey or brandy in the twenty-four hours—seldom more than this. Many patients do best without it, but with a feeble dicrotic pulse, a dry tongue and a profoundly asthenic condition, it is indicated as above.

In the delirium of pneumonia, trional is a very safe, non-depressing remedy in moderate doses (grs. xv.-xx.), a remedy which acts particularly well in conjunction with codeia.

*Oxygen Inhalation.*—In many cases it is certainly of doubtful utility and fails to make any impression on either cyanosis or the embarrassed respiration. Thompson believes it often, nevertheless, of distinct service, and does not like to treat a severe case without it.

*Topical Applications.*—He does not believe that topical applications to the chest wall, such as hot poultices, ice poultices, ice packs, mustard pastes, cold wet dressings, the pneumonia jacket of cotton or flannel reinforced with oil silk, have the slightest influence on the course or outcome of the disease.

Hypodermoclysis is a valuable therapeutic measure adopted in recent years. With considerable experience with this in the treatment of pneumonia, he has yet to see any ill effects follow it. It is indicated when the respiration is shallow, intermittent and irregular, with extreme cyanosis, scarcely perceptible pulse, coma and complete asthenia. Inject hypodermically into the flanks 1,000 or even 600 c.c. of hot (110 F.) normal salt solu-



tion (0.6 per cent.). This will sometimes produce a surprising response, and enable the patient to rally for an hour or two, when the procedure should be repeated. Salt solution into the rectum may also be of service.

In sthenic cases, with a full bounding pulse, and every evidence of a vigorous heart irritated into too forceful activity by a sudden toxemia, aconite may prove a most useful remedy for the first twenty-four or thirty-six hours, but not longer. The return to venesection in such cases is not necessary or wise.

*Cardiac Stimulants.*—In one case strychnine may prove the best form of cardiac stimulant; in another digitalis is better combined with nitroglycerine; in yet another strophanthus, caffeine or alcohol may prove the better remedy. In any critical case, strychnine, nitroglycerine, or the tincture of digitalis, are all best administered hypodermically, for their absorption from the stomach is not only slow but unreliable during fever.

Thompson discountenances wholly the entire coal-tar series and jaborandi or pilocarpin.

At the Presbyterian Hospital, in New York City, during the past decade more than 12 per cent. of all cases of pneumonia have resulted in recovery without any medicine whatever.

#### **Notes on the Treatment of Adenoid Vegetations.**

John R. Winslow in the January-February number of the *Journal of Eye, Ear and Throat Diseases*, says:

If the adenoid is very small and is producing no symptoms it should not be removed as a prophylactic against possible trouble. If the growths are found to interfere with any of the physiological functions of the parts concerned, then our duty is to remove them else irreparable damage may result.

In infants from a few weeks old to about two years, no anesthesia; unarmed finger.

In children over 14 years of age and in adults, use cocaine anesthesia, combined with adrenalin at times, the patient in the upright position; if a child, wrap in a sheet, mouth gag, curette, examine with mirror afterwards.

General anesthesia should be reserved for patients too unmanageable or too nervous to be controlled.

A simple adenectomy, when the tonsils are not enlarged, and there are no ear complications, can be thoroughly performed during the forty seconds of nitrous oxide anesthesia, only for hospital or office use, and a rapid operator with everything ready.

Statistics show an exceptionally high mortality from chloroform anesthesia in individuals of this constitutional type.

The supported hanging head (Rose) position is the most satisfactory and safest.

Recurrence of the growths takes place, no matter who the operator or what the instruments, whether with or without general anesthesia, and despite after treatment in a more or less definite percentage of cases (10 per cent.).

**Locomotor Ataxia (N.Y.M.J. and P.M.J.)**

R. Sodium cinnamate ..... 10 parts  
Sterilized water..... 100 parts

Sig.: For subcutaneous injection in the interscapular space.

—Paul Bartholow.

Sodium cinnamate is a remedy for locomotor ataxia of recent date, and has been proved to have special value. The solution should be kept in dark-colored bottles, and be freshly prepared for each injection. There is scarcely any pain on injection. As a rule three injections are deemed sufficient. Beginning with twenty minims the amount can slowly be raised to sixty. The almost immediate effect of the injections noticed were a decided gain in weight and strength; some of the nervous phenomena diminished in severity, and co-ordinate movements were performed with more vigor and accuracy.

**Indications for the Use of Normal Saline Solution.**

Palmer (*New York Medical Journal* and *Philadelphia Medical Journal*), states that the most frequent indication for the use of normal saline solutions is to combat the effects of hemorrhage, traumatic, operative, post-operative, postpartum, pulmonary, gastric and intestinal.

In shock, it is a most valuable remedy.

In uremia and puerperal eclampsia the frequently repeated injection of 200 c.c. will assist in stimulating the kidneys and skin to activity, and will promote the excretion of toxins from the system. In these conditions the results are most satisfactory.

In the local treatment of burns, gauze saturated with normal saline solution makes an excellent dressing.

In acute prostatitis the frequently repeated rectal irrigation, with normal saline solution with temperature 115 to 120 deg. F., using from two to four litres at a time, will be followed by satisfactory results.

In chronic gastric catarrh a large glassful of hot normal saline solution, taken a half hour before each meal, will cleanse the stomach of an excess of mucus and increase its motility.

## The Physician's Library

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*The International Medical Annual.* A Year-Book of Treatment and Practitioner's Index. 1904. Twenty-second year. New York: E. B. Treat & Co.

As a means of keeping abreast of the times in medical literature the "International Medical Annual" continues to fill, as it now has done for twenty-two years, a distinct field. This volume bears particularly on the practical side of professional work, and, as in former years, there are a series of original illustrations of practical and of permanent value. In addition there has been added this year a number of stereoscopic views—a new feature, and one of distinct importance. One series of plates on small-pox is timely, and will be sure to prove acceptable as well as valuable. We hope to see some Canadian names in future issues as contributors.

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*Anatomy Applied to Medicine and Surgery.* By D. E. MUNDALL, B.A., M.D., Professor of Applied Anatomy, Faculty of Medicine, Queen's University; Ex-examiner Practice of Medicine, Ontario Medical Council; Surgeon to Kingston General Hospital, Kingston. Kingston: R. Uglow & Co. (Printed at the *British Whig*.)

We are glad that we have been favored with a copy of this book for notice in our pages. The fact that it is written by a Canadian practitioner appeals to us, because we fully believe we have men in our ranks who are splendidly qualified to take front rank in medical authorship. True, there have been many who have contributed valuable and well-known articles to great systems, but our individual works are *nil*. An examination of this book satisfies us that it will make a valuable addition to the textbooks in this department, and that it will appeal to medical students as a clear and concise exposition of applied anatomy. Whilst there are a few typographical errors, attention to which is directed by an "Errata" page, we are satisfied that another edition when it appears, will have these rectified. We hope there will be sufficient demand for this book, that the author will feel justified in enlarging thereon, and so make it a work equal to the best now in use. It is neatly gotten up, leaving nothing to be desired in this direction.

*Pain and its Indications.* By EDWARD C. HILL, M.D., Professor of Chemistry and Toxicology, Denver and Gross Medical College.

Pain, from the standpoint of the patient, is the most important of symptoms. To recognize its cause and give relief is the first duty of the physician.

Dr. Hill has written what may be considered an "encyclopedia of pain," enabling the physician to trace this symptom to its origin and then suggesting the indicated remedy or remedies.

This work has been carefully classified, so as to present the facts in the most available form for the physician's use.

It will be found a valuable work of reference and an indispensable vade mecum in the treatment of this symptom.

It abounds in valuable prescriptions, garnered from many sources.

Treatment, as a matter of fact, occupies a very important part, it being the object of the author to point out the indications through which the cause of each and every pain can be reached, so as to effect a cure when possible, as well as to indicate the remedies of most value in each individual case, to be used for the purpose of giving relief. Cloth, gilt top, \$1.00. G. P. Engelhard & Co., Publishers, Chicago.

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*Commoner Diseases of the Eye; How to Detect and How to Treat them.* By CASEY A. WOOD, C.M., M.D., D.C.L., Professor of Clinical Ophthalmology in the University of Illinois, etc., and THOMAS A. WOODRUFF, M.D., C.M., L.R.C.P., Professor of Ophthalmology in the Chicago Post-Graduate Medical School, Chicago, etc.; 250 illustrations; seven colored plates; 500 pp. 5 x 8 inches. Bound in green buckram, gold side-title and top. \$1.75 net. G. P. Engelhard & Co., Chicago.

We have examined this little volume quite carefully, and are prepared to give it our endorsement. It will be found practical, up-to-date, and valuable to the medical student and general practitioner. Whilst we do not believe it is the proper thing for general practitioners to treat to a termination all diseases of the eye—it is too valuable an organ for that—he does require a working knowledge of the subject, and oftentimes has to do the best possible under existing circumstances. This work will be found an excellent assistant, especially as it is clear and concise on the commoner diseases of the eye—a field which it only aims to cover. Dr. Casey A. Wood is well-known to Canadians, and many will, no doubt, be glad to have his opinion at their elbows.

*Progressive Medicine*. Vol. I., March, 1904. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 337 pages, 7 illustrations. Per annum, in four cloth-bound volumes, \$9.00; in paper binding, \$6.00, carriage paid to any address. Philadelphia and New York: Lea Brothers & Co., Publishers.

The adaptability which has enabled American genius to profit by the painstaking work of the Old World, to grasp its import and then improve upon it, is nowhere more strikingly exemplified than in the present series of quarterly digests.

In medical matters particularly, we have received many good things from Europe and have nearly always managed, in making them our own, to add features of characteristic ingenuity and practicality, and, thanks to the zealous effort of the distinguished editor and a most efficient corps of collaborators, we can now boast of possessing in "Progressive Medicine" a conspectus of medical progress which equals the great German "Jahrbucher" in scholarliness of treatment and in accuracy of the material, while it excels them in convenience of reference and in the extremely serviceable manner of presentation.

No worker in medical or allied fields, whether he be specialist or general practitioner, whether his province be pure science, or applied surgery or medicine, can fail to find this series of the greatest service. The man of note who is preparing a paper will find here the modern references with digests of the articles he requires to make his bibliography complete, and the plain, everyday doctor, puzzled by an obstinate case can instantly refer to the methods of diagnosis and treatment employed to-day by the most eminent specialists of the world.

It cannot be too much emphasized that this is not a mere collection of miscellaneous abstracts and translations gathered at random but is a strictly original work in which men of international reputation have written, in monograph form, the advances that are being made in their respective departments, giving references to the original articles with careful digests, and in the light of their own experience and judgment selecting the wheat from the chaff, correlating results from different quarters of the globe, adjusting apparently contradictory observations, and everywhere indicating how and why and where progress has been made. The scope of the present volume includes extensive essays on such im-

portant and essentially progressive subjects as cerebral pressure, heart surgery, the treatment of tic douloureux, exophthalmic goitre, the transmission of diseases by insects, the theories as to the etiology of rheumatism, tetanus, paratyphoid, modern views on the nature of hay fever, etc., in which the latest work of foreign and domestic observers is fully discussed.

The change of form to that adopted by the Continental publications puts it on a par with them in point of price, since the cost of cloth binding is omitted, while the paper cover is sufficiently stout to withstand all ordinary wear and tear and makes the volume much more easy to carry and handle. In addition it permits the great advantage of binding in conformity with one's personal taste and uniformly with other books.

Considered from every point of view, that of authoritative-ness, completeness, adaptation to practical needs, agreeable style, availability for reference, convenient form, satisfactory press-work, telling illustrations, and marvellously low price, the work is one that the medical profession may well be proud and grateful to possess.

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*Obstetrics for Nurses.* By JOSEPH B. DELEE, M.D., Professor of Obstetrics, Northwestern University Medical School, Chicago; Lecturer in the Nurses' Training Schools of Mercy, Wesley, Provident, Cook County, and Chicago Lying-in Hospitals. 12mo of 460 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Canadian agents: J. A. Carveth & Co., Limited, 434 Yonge St., Toronto. Cloth, \$2.50 net.

Although this work was written, as the author says, primarily for nurses, yet from our interesting examination of it we firmly believe that medical students will find in it much of value, since the duties of a nurse often devolve upon him in the early years of his obstetric practice. There are really two subjects considered—obstetrics for nurses and the actual obstetric nursing—and Dr. DeLee has combined them so that the relations of one to the other are natural and mutually helpful, presenting this important branch of medicine in a clear and interesting form. The illustrations have not been borrowed from other works, as is too frequently the case, but have been made expressly for this book. The photographs were taken by the author from actual scenes, and are true to life in every respect. The text is

the outgrowth of eight years' experience in lecturing to the nurses of five different training schools.

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*Atlas and Epitome of Operative Gynecology.* By DR. O. SCHAFFER, of Heidleberg. Edited, with additions, by J. Clarence Webster, M.D. (Edin.), F.R.C.P.E., Professor of Obstetrics and Gynecology in Rush Medical College, in affiliation with the University of Chicago. With 42 lithographic plates in colors, many text cuts, a number in colors, and 138 pages of text. Philadelphia, New York, London: W. B. Saunders & Company. 1904. Canadian agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto. Cloth, \$3.00 net.

This new addition to Saunders' admirable series of Hand-Atlases is excellent. It is unfortunate that medical students graduating each year know less about gynecologic operations than about almost any other department of operative surgery. This atlas, therefore, is opportune, and the excellence of the lithographic plates and the many other illustrations render it of the greatest value in obtaining a sound and practical knowledge of operative gynecology. Indeed, the artist, the author, and the lithographer have evidently expended much patient endeavor in the preparation of the water-colors and drawings. They are based on hundreds of photographs taken from nature, and reproduce faithfully and instructively the various situations which they intend to illustrate. The text closely follows the illustrations, and we have found it fully as accurate. We consider it of great value to the up-to-date practitioner and surgeon, as well as to the specialist.

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*Preventive Medicine.* Two Prize Essays. Issued by the Maltine Company, Brooklyn.

Our readers will remember that some time ago the Maltine Company of Brooklyn, N.Y., offered prizes of \$1,000 and \$500 in cash for the best two original essays on Preventive Medicine. In all there were submitted in this competition 209 articles, the winners carrying off the prizes being W. Mayne Babcock, M.D., Lecturer on Pathology and Bacteriology, Medico-Chirurgical College, Philadelphia, and Lewis A. Somers, M.D., of the same city. The title of the first essay was, "An Essay upon the Gen-

eral Principles of Preventive Medicine;" the second, "An Essay upon the Medical Inspection of Schools: A Problem in Preventive Medicine." Both of these have been published in neat paper-covered book form, and will be supplied gratis to any physician making application for same to the Maltine Company.

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*Who's Who in History and Who's Who in Mythology.* Being two small, neat volumes, respectively devoted to 1,000 classical characters, and 1,000 mythological characters, briefly described. New York: Hinds & Noble.

Mythological and historical characters are constantly cropping up in literature, as well as in conversation. These little volumes will act as handy reference books. It is sometimes embarrassing when we run across these names, and have forgotten for the time being "Who's Who." It will be convenient to have at our elbows a handy work which will readily tell the name of every god or goddess or hero whose name is ever likely to be broached.

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*Clinical Lectures on Diseases of the Lungs and Heart.* By JAMES ALEXANDER LINDSAY, M.D., F.R.C.P. (Lond.), M.A., Professor of Medicine, Queen's College, Belfast; Physician to the Royal Victoria Hospital, Belfast; Consulting Physician to the Ulster Eye, Ear and Throat Hospital, Belfast; the Ulster Hospital for Children and Women, Belfast, and the Coleraine Cottage Hospital; Examiner in Medicine in the Royal University of Ireland; late President of the Ulster Medical Society. London: Balliere Tindall & Cox. Canadian agents: J. A. Carveth & Co., Parliament Street, Toronto.

Chiefly clinical and essentially practical, this volume embraces the substance of the author's clinical lectures to his classes at the Royal Victoria Hospital, Belfast, during the past fifteen years. It will be sure to be a successful production, and will be found of exceeding great value to both medical students and practitioners. It is clearly and concisely arranged. The examination



of this book has given us great pleasure as well as much profit, and we do not hesitate to recommend it to our readers. It is, in fact, a book of such sound common sense, and of so much good practical material, that we cannot fail but state it is a distinct acquisition to medical literature. We think no student of medicine or practitioner but will say once he has gone carefully through its pages, that it is a valuable possession. It can be obtained through J. A. Carveth & Co., Yonge Street, Toronto, and all will do well in obtaining it right away.

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*The Man Who Pleases and the Woman Who Charms.* By JOHN A. CONE. New York: Hinds and Noble, Publishers, 31-35 West 15th Street.

One of the elements of success in the practice of medicine is to know how to handle your patients well, and not a little element in this direction is deportment. A man may be ever so clever, imbued with the scientific spirit, but a crusty manner may counterbalance all his knowledge. This little volume is decidedly interesting, and will tend to refresh and educate. The price is 75c., postpaid.

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## THE MEDICAL EXPERT.

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Some person has remarked that all of us should be held to be dishonest until proved to be honest; but it is a well-known axiom of the English law that all accused persons are innocent until adjudged guilty. The worst criminal can always get some lawyer to defend him. That is the business of lawyers. The system, however, which arrays medical men in opposite camps, some fighting for the crown or the people, whilst others are equally solicitous for the defendant is bad and vicious. All medical men should be brought into court at the instance of the judge, and adequately paid for their services by the State, a system which would do away with the sneers and gibes at the "doctors differ." Time and again medical expert testimony has come in for some very severe criticism and hard knocks, through the fact that the medical expert is there to testify for the side which calls

him and which pays him. All this redounds to the disadvantage of the entire profession and many an individual member thereof feels chagrined over it. In many instances this may come about through the medical expert being not properly qualified as such; and it might be well for medical men to refuse to go into court, when they can refuse, when they do not feel qualified to give evidence upon the points at issue. No living medical man is qualified to give expert evidence in every case which comes before the court, and he should realize this. The surgeon is not an expert in insanity; nor is the medical man an expert in surgery. No man who is not a specialist in diseases of the eye could possibly either by experience or knowledge qualify to give expert evidence in a case of this description. Then why should he do it? Is it to bring ridicule upon himself, or sneers at his confreres? It is said that there are some medical experts who have never been known to refuse to give evidence when called upon. That they have as much knowledge of fractures from experience as they have of gall stones and other stones; that they know all about insanity and all there is worth knowing about poisons. Is a man who has never seen a case of strychnine poisoning qualified to give expert testimony in regard thereto? We trow not. He may rest assured that this will come out in court to his infinite disgust, and he will feel cheap in the face of all his auditors. Such medical expert testimony as this is valueless, ridiculous, nonsensical. Medicine is too broad a subject for any man to be an expert in everything therein; nor do years in general practice qualify therefor. If we saw a little more in the way of conscientious refusal to go into court, it would enhance the individual in the eyes of his confreres, and the gain would be with the profession of medicine. A few instances will lend emphasis thereto. One surgeon once testified that the temporal artery ran into the skull and then ran out again. The writer of a well-known book on toxicology once attended court to give expert evidence in a case of strychnine poisoning and had to admit that he had never seen a case of poisoning by strychnine. Another after an extensive family practice of forty years was chief expert in a case against a large city for damages for a Pott's fracture and had to finally back down by acknowledging that this was the first case he had ever treated of that description. Such things only serve to discredit medical expert evidence in the eyes of the jury. They do not take into consideration the fact that the expert may have a good technical knowledge of the subject. They require more; they want actual experience. No one should go into court on a given case unless he has actual experi-

ence thereon, and cannot be tripped up by any common, ordinary cross-examiner. Certainly all when they are required to go into court should do so well bolstered up with all knowledge bearing on the subject. The most trifling case should demand just as broad a knowledge as any of greater moment.

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### THE SOCIAL PROBLEM IN TORONTO.

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A short time ago a well-known clergyman, a doctor and lawyer, met in the latter's office, and the conversation turned on the extent of prostitution in Toronto. To the doctor who had some practice amongst this class of the community, it was rather a revelation to learn from the other two professional gentlemen that the city was permeated with these houses. That in short you did not know who your next door neighbor might be, and that the system adopted by the authorities here had been effective in scattering these places all over the city on respectable streets, and amongst decent and upright people. It was quite apparent to the medical man that neither the clergyman nor the lawyer considered the system a success, but that on the contrary, it provoked greater latitude and resulted in more crime, and in consequence more disease. Just whether it would not be more wise to confine these people to one quarter, is an alternative demanding, we think, at the hands of our moral authorities, most serious and careful consideration. Laymen whether engaged in enforcing law and order are, we think, not sufficiently possessed of the murderous effects on the human offspring as syphilis, and have scarcely any knowledge of the destructive influences upon the health of women as regards both her health and procreative functions. This is alone known to physicians and the unhappy and unfortunate mortals themselves. In curtailing the spread of disease, we are not so sure that the regulation of prostitution by law has been provocative of good results in those countries where that procedure has been adopted. One thing is sure that alcohol plays an important part in the dissemination of these venereal diseases, and it is markedly incumbent on the medical man that strict warning should be given all, that the innocent do not suffer thereby. An eminent and distinguished sociologist has said, "man is the most precious capital of states and empires." Granting such, can there be any more important problem in

sociology, than, as Dr. Morrow puts it in his admirable work on "Social Diseases and Marriage," "the relations with marriage of diseases which especially affect those physiological functions through which life itself is perpetuated."

As an evil prostitution is said to be growing, and is certainly spreading in Toronto; and it will be wise for the morality authorities to consider whether it would not be better to confine these unfortunate mortals to a given quarter.

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### THE PUBLICATION OF ORIGINAL ARTICLES.

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We very recently had the pleasure of turning down an original article, which has since appeared in some twenty medical journals. We do not hold that this wholesale distribution of an author's efforts adds either to the journal's prestige which publishes same or to that of the author himself, but rather that it detracts very much from each. Whilst we have no objection to an original article being given to two journals for publication, a weekly, a special or a local one, we do object to an author, when requested for his paper for exclusive publication, giving same, and then sending it to others without saying a word about it to either. In this way often articles are noticed in four or five journals, and the editors are chagrined at its repeated appearance. The *Montreal Medical Journal*, in its March issue, has something to say on the same subject. Writing on the coming meeting of the Canadian Medical Association at Vancouver next August, the editor states: "Something should be done to prevent the unseemly scramble for papers by editors of journals, intent only upon filling their pages somehow during the lean summer months." We quite agree with the *Montreal Medical Journal*, but the "lean summer months" are past when these papers are sought for. Gentlemen who read papers at the annual meetings of our medical societies should allow themselves to be governed by those clauses in the constitution which provide for the publication of papers, and allow the publication committees to apportion the papers amongst the different medical journals. It should be the strict rule that a copy, or rather the original paper itself, should be left with the secretary; and in the absence of any designation by the author, all such papers should be dealt with by the Publication Committee. And there would be probably

no objection to some of these papers appearing in at least two publications. Authors, no doubt, are often pestered for copies of their papers, and are reluctant to refuse. It is a question to be decided, as there seem to be different opinions on the subject, whether the author or the society before which he reads his paper, has the right to direct its publication.

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### ASYLUM PROMOTIONS?

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Without making reference to any particular appointment in the asylum service of this Province, we are in perfect accord with sentiments of a member of the Opposition when he states that the Government ought to make promotion in the asylum service a reward for faithful services. Nor do we see the need of passing by a faithful and competent assistant when a superintendent is required, as is too often done. The medical service in our various asylums should not be a means of awarding doctors who have done a little stumping and a little caucussing for party; and it is to the credit of no government to use the offices as bait for party angling. Our insane asylums should be hospitals, medical appointments to which should be made irrespective of party, and preferment given to those with experience, who have devoted their lives as internes since graduation. The doctor with political ambitions given the quietus, whether in general practice or in a specialty, should not be foisted upon the wards of the government.

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### News Items

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DR. LUCY, of Drayton, is moving to Chicago.

DR. JAMES BELL, Montreal, has gone to England.

WILLIAM RICHARDSON, M.D., of Burlington, is dead.

DR. GEORGE BROWN, Montreal, will return from Europe in May.

HAMILTON talks of erecting a sanatorium on its mountain's brow.

TORONTO University will erect a dispensary building for consumptives.

TORONTO has not been as free of scarlet fever for years as it was in March.

THE Dominion House of Commons decrees that the cigarette shall stay with us.

DR. BLACKADER has returned to Montreal very much improved in health.

THE vaccinations in the schools of Montreal numbered 20,736 this season.

A BRANCH of the National Sanitarium Association has been formed at Hamilton.

TUBERCULOSIS caused 30 deaths in Toronto during March; in 1903 the number was 38.

PNEUMONIA was the cause of 56 deaths in Toronto during January; February, 36; March, 42.

ACCORDING to an Ontario judge the law cannot force any one to undergo an X-ray examination.

DR. GRAHAM CHAMBERS, Toronto, will sail for England in May. Mrs. Chambers accompanies him.

DR. CLAUDE W. FREEMAN has been appointed Superintendent of the Hamilton City Hospital.

DR. WILSON, of St. Thomas, has been appointed to the seat in the Senate rendered vacant by the death of Dr. Landerkin.

DR. ARNOLD McCORMICK and wife, formerly of Wheatley, who have been in England the past six months, have returned.

THE death is announced of Dr. Carter, a medical practitioner at Moosomin, N.W.T., for the past twenty-two years. He was district coroner.

“ORGANIZED LABOR” in Victoria, B.C., purposes furnishing a room in the new Strathcona wing of the Royal Jubilee Hospital of that city.

WE are pleased to be able to announce that Dr. J. T. Fotheringham, Toronto, is recovering from a very severe attack of blood poisoning.



By the will of the late Mrs. Turnbull, of Quebec, \$500,000 has been bequeathed to the Governors of the Jeffrey Hale Hospital.

THE Federal Government has made an appropriation of \$3,000 towards improvements to be made at the Marine Hospital, Victoria, B.C.

TORONTO reported 88 cases of diphtheria in March and 122 in February; scarlet fever, 30 in March and 40 in February; typhoid fever 2 in March and 5 in February.

THE Montreal General Hospital passed through its wards in 1903, 3,066 patients, against 2,878 in 1902, or an increase of 188. The outdoor patients numbered in 1903, 35,984, against 31,993 in the previous year, an increase of 3,991.

THE Ontario Medical Association has received a very kind reply in response to its invitation to Sir Frederick Borden, to attend the June meeting. If his parliamentary duties permit, he promises to come to Toronto as the guest of the Association at that time.

MR. W. M. GRANT, for many years Toronto representative of Parke, Davis & Co., has been promoted to the position of business manager of their Canadian branch at Walkerville. We congratulate him on promotion to a position he is so eminently qualified to fill.

MR. ARCH. MCFADYEN, well and favorably known to the medical profession throughout Canada as travelling representative of J. A. Carveth & Co., Toronto, has entered the employ of Chandler & Massey Limited, Toronto, as manager of their book department.

THE Provincial Lunatic Asylum of New Brunswick will change its name by special act of the legislature to the Provincial Hospital for the Cure of Nervous Diseases. The bill will also authorize the commissioners to employ two disinterested and competent medical men, who with the superintendent, shall examine all patients, and see who ought to be in the asylum and who should be sent elsewhere.

THE Inspector of Asylums for Ontario, R. Christie, laid the report of lunatic and idiot asylums on the Legislature table recently. It shows that last year there were 889 admissions to asylums, or a decrease of 127 compared with 1902. The total number of inmates at the end of the year was 5,458, as compared

with 5,372 the previous year, while the total number of insane officially known to the department, including those in jails and private asylums, was 6,236, or a total increase for the year of 183. The entire expenditure for maintenance was \$715,918.

DR. A. H. ANDERSON, of Rainy River, has received the appointment of surgeon in the Japanese army, and left for the far East on 2nd April. Dr. Anderson is a former St. Thomas boy. He was once an officer in the 25th regiment and served in the South African war. He was practising at Rainy River with Dr. McCrimmon. He is a brother of Drs. H. B. and Duncan Anderson, Toronto.

DR. MOORE, Secretary of the Canadian Association for the Prevention of Tuberculosis, says the old Contagious Hospital on Rideau Street, Ottawa, will be converted into a sanitarium for consumptives. Negotiations are now under way with the Protestant Hospital directors to that end, and a wealthy citizen of Ottawa has promised the money to remodel the building to make it suitable for the purpose. It is high and dry in location and said to be quite suitable.

A DELEGATION of Canadian physicians composed of Dr. J. A. Hutchison and Dr. Armstrong, of Montreal; Dr. Murray McLaren, of St. John, N.B., and Dr. W. G. Anglin, of Kingston, Ont., have started on a trip through the different hospital centres of the Old Country. They sailed from Boston for Naples, on April 9th, and it is their intention to work their way through Italy, stopping at all the principal hospitals, and finally making their way to Vienna. The medical men will visit the home and hospital of the world-famous surgeon, Dr. Lorenz.

DR. HODGETTS, Secretary of the Provincial Board of Health, states that in future medical men must report all cases of infectious or contagious diseases. He has looked up the records and finds that in 1902 there were returned to the department 1,542 cases of typhoid fever, while the hospital statistics show 2,067, with 242 deaths. In 1903 a return from the 700 divisions showed 1,012 cases, while in the hospitals there were 1,918, with 298 deaths. The purpose of the Medical Health Act, he says, is being destroyed and the healthy condition of the province very much endangered. During the past few months several outbreaks of typhoid have been covered up by medical men failing to report. Prosecutions may be resorted to in order to wake doctors up and protect the public.

**ISOLATION HOSPITAL, VICTORIA, B.C.**—Among the matters discussed at the last meeting of the Board of Health was the question of admitting provincial patients to the Isolation Hospital. It was decided that a guarantee of payment will have to be made by the Government before these patients are admitted in the future.

**ANATOMY AT QUEEN'S.**—Queen's medical faculty has practically decided to place the subject of anatomy on the same basis as those of biology and bacteriology by appointing a demonstrator who will give his whole time to the subject, and not enter into general practice. This matter was brought before the Faculty by the Dean, Dr. J. C. Connell. A notice has been posted at the medical college regarding the Faculty's intention, and applications are invited for the position from final year students, one of whom will be chosen and expected to continue the study of anatomy as a specialty, particularly along comparative lines. Such demonstrator would have the standing of lecturer, and in time would be given the professional chair.

**THE MILITARY MEDICAL BRANCH.**—The medical branch of the Militia Department has now on order a large supply of material and equipment that will add materially to the efficiency of this service, and when certain reforms now in contemplation are carried into effect will make it one of the best arms of our citizen army. The purchases include eighteen ambulance wagons of a new type, designed by Lieut.-Colonel Fiset, Director-General of the Canadian Army Medical Service. Each wagon will be a hospital in itself, with room in it for four patients lying down, or thirteen sitting. There will be, beside, nine water carts, that is, one for each bearer company; twelve sets of medical panniers, twelve sets of surgical panniers, eighteen sets of canteen panniers, fifty surgical haversacks, and fifty monkey boxes. The wagons are being made by the Ottawa Car Company, whilst the other material is being brought from the Old Country.

**A SANATORIUM FOR CALGARY.**—Calgary, N.W.T., is to have a sanatorium for the treatment of pulmonary tuberculosis. Plans for the erection of such a building have been completed for Dr. Ernest Wills, of that city. Dr. Wills has visited a large number of similar institutions in England and the United States. From all these he has adopted the best points, and as a result the sanatorium to be erected will be one of the most complete in Canada. The first building to be erected according to the plans will be two storeys high with a stone foundation. It will be 100 feet

long, and at the centre 48 feet in depth. An eight foot verandah will take in three sides of the building. The building has a splendid south exposure on sloping ground. On the ground floor there will be recreation and reading rooms, a consultation room, dining-room, kitchen, pantry, storerooms and nine bedrooms. On the second floor there will be twelve bed-rooms, six of which are sun rooms, being almost entirely composed of glass.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.—As already announced, the above Congress will be held in St. Louis on 3rd, 4th and 5th of October, 1904. Dr. E. J. Barrick, of Toronto, is the president, and is putting forth great efforts to make the gathering a great success. So far, the indications are of a most encouraging character. From all sources come promises of assistance in the way of papers and the presence of well known authorities in medical science. A short time ago Mr. Clark Bell, LL.D., of New York, visited Toronto, and was the guest of Dr. Barrick. While in Toronto a number had the opportunity to meet Mr. Bell, who is editor of the *Medico-Legal Journal*, *Taylor's Medical Jurisprudence*, and a member of the New York bar. He is an enthusiast on the question of tuberculosis and the efforts that should be made for its suppression. The Federal Government of Canada has decided to send delegates to the Congress. Canada is taking an important part in this movement as will be seen by the following list of officers: Honorary Vice-Presidents—Dr. T. G. Roddick, M.P., Montreal, Que.; Sir William Hingston, M.D., Montreal, Que.; Hon. Senator George A. Drummond; James Loudon, President of the University of Toronto; Hon. William Mortimer Clark, Lieut.-Governor, Ontario; Hon. J. R. Stratton, Dr. John Ferguson and Prof. Adam Wright, Toronto. Vice-Presidents at large—Dr. W. P. Caven, Toronto, Ont.; Dr. Daniel Clark, Toronto, Ont.; Rev. C. S. Eby, D.D., Bracebridge, Ont.; Dr. R. W. Powell, Ottawa, Ont.; Dr. W. H. Moorehouse, London, Ont.

NO ADULTERATION IN CANADIAN LIQUORS.—The Department of Inland Revenue has issued a bulletin on distilled liquor. The samples analyzed consisted of: "Rye whiskey, 91, white, 30; Scotch, 24; Irish, 2; gin, 27; rum, 12; brandy, 30; total, 216." Mr. McGill, who made the analysis states: "No deleterious substances have been found in any of these samples. In accordance with special instructions, I have made examination for alkaloids in all whiskey samples, having less than seventy-five per cent. proof strength. A negative result was obtained in every case. The principal adulterant is water. In order to

enable me to say whether or not a sample may be styled adulterated from dilution with water, it is necessary to recognize some standard strength for alcohol. The British Sale of Food Amendment Act of 1879, fixed the minimum limit strength for gin at sixty-five per cent., and that for brandy, rum and whiskey at seventy-five per cent. of proof spirit. Although these limits are not legally recognized in Canada, I have used them (in the absence of any other standard), for purposes of comparison. The spirits most tampered with are whiskey (rye and malt), and gin, whilst gin shows a noteworthy falling off in strength." In conclusion, he says: "I may add that the furfurol test and the production of a distinct turbidity (opalescence) on the addition of water to the distillate are the chief means we possess for discriminating between a liquor which has been produced by direct distillation from the "mash" and one which has been manufactured by reducing rectified spirit with water to the desired strength and further addition of flavoring or coloring matter. Scotch and Irish whiskies, gin, rum and brandy are liquors of the first type (sometimes spoken of as pot-still spirits). Rye whiskey and white whiskey (malt whiskey) are usually manufactured from rectified spirit."

## Special Selection

### BRIEF OBSERVATIONS ON SOME CONDITIONS IN WOMEN THAT ARE OF MUCH CONCERN TO THE PRACTITIONER.

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By J. RIDGLY SIMMS, A.M., M.D., RACINE, WISCONSIN.

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The conditions of which I wish to speak are dysmenorrhea, and the state following miscarriage or abortion, in which there are retained portions of the placenta and membranes that require removal or expulsion.

For lack of space, I shall devote myself, in the present paper, chiefly to dysmenorrhea, and will dismiss the condition following abortion with a few remarks, which may as well precede the other part of my article. I reserve for a future communication the detailed discussion of this important and interesting clinical condition.

The effects of retained placental or fetal tissue in a partially successful miscarriage or abortion consist in hemorrhages, purulent discharge, enlargement of the uterus, subinvolution, metritis, endometritis and sepsis. The indications in these cases are, therefore, the thorough emptying of the uterus and the rendering of the womb-cavity aseptic.

In ordinary cases this must be done by surgical interference, including curetting and the removal of all decomposing and diseased tissue, followed by the application of antiseptics to the endometrium. There is a class of cases, however, in which for one reason or another curettage is refused by the patient, and in which it is incumbent upon the physician to give what relief he can by medical means. In such cases I have prescribed Ergoapiol (Smith), a combination of the active principles of ergot (ergotine) parsley (apiol) and certain other emmenagogues and uterine tonics. In one case of this kind which came under my observation some months ago, I used Ergoapiol (Smith) with such marked success, that I learned since then to rely upon this preparation in removing the retained fragments from the uterus, emptying the organ and reducing it to its normal size and functions. The remedy in question has proved so trustworthy in

my hands in these cases, that when it disappoints, which it rarely does, I look about to ascertain wherein I myself have erred.

A discussion of the causes of dysmenorrhea would lead us too far in the present brief clinical paper, and it will suffice if I assume that the reader is acquainted sufficiently with this part of the subject to follow me in the remainder of the article. The clinical diagnosis of dysmenorrhea is in itself easy enough, while the diagnosis of the cause is not always so simple. In the cases presented here I paid especial attention to the causation of the menstrual pain, as I believe that in this manner I was better able to outline the indications for treatment. It goes without saying that dysmenorrhea from mechanical obstruction is not amenable to medical treatment. Fortunately, however, it has been in my experience at least, not frequent, as dysmenorrhea depending upon congestion. The specially disagreeable and intractable form of dysmenorrhea which is accompanied by a fetid discharge as a result of the decomposition of the retained menstrual blood, also comes under discussion here, as the use of douches with antiseptics and deodorants cannot be hoped to affect it permanently, while the employment of more radical medicinal means does bring about the desired effect in this condition.

In congestive dysmenorrhea, and in that form which is accompanied by fetid discharge, the indications are to diminish congestion, by promoting the contractions of the uterus and relieving it of the accumulated blood, to stimulate glandular activity in the mucosa, to restore the tone of the uterus and the nutrition of its tissues to normal, and to relieve spasm and pain.

The following cases illustrate the effects which I obtained with the use of Ergoapiol (Smith) in the treatment of dysmenorrhea:

Some months ago I was consulted by a young woman who had suffered from scanty, fetid menstruation, accompanied by a great deal of pain, since the birth of her first child seven years previously. Her labor had been followed by a tear of the perineum which had been left unrepaired, and also a laceration of the cervix uteri. This patient consulted a specialist, but his treatment did not give her relief. Examination revealed the presence of the uterine and perineal lacerations already mentioned, and disclosed a chronic endometritis that had given rise to a fetid discharge and to pain during each menstrual period. I repaired the tears, curetted the uterus, and hoped in this manner to obtain permanent relief of the patient's symptoms. After she had

recovered from the operations, she declared that she was feeling better than she had been for years. But very soon the fetid discharge and the pain returned at each menstrual period, and evidently something else had to be done if I wanted to save my reputation. I then tried local applications, alteratives, uterine tonics, etc., all without avail, until finally Ergoapiol (Smith) was given. The result was immediate relief and a gradual and permanent improvement in the menstrual flow until it was free from pain and devoid of any disagreeable odor.

This patient was evidently suffering from congestive dysmenorrhea which was intensified by the presence of lacerations of the cervix and the perineum which had existed since parturition. The result attained illustrates very well how Ergoapiol (Smith) acted upon the uterus, restoring its tissues to normal condition and re-establishing the menstrual function upon its normal basis.

Another type of dysmenorrhea, that which I term "nervous," but which the authorities term "neuralgic," is illustrated by the following case which recently came under my care:

The patient was a young woman who had been married two years, but had not borne any children. She stated that she had pain during the menstrual period from the first onset of menses, and at the time of examination she also complained of a fetid discharge. The menstrual flow was scanty and rarely of blood red color. Just before and after the period, she had backache and headache, her complexion was unhealthy, not bright and clear as that of her sister, and she appeared older than she really was. She always dreaded the onset of the menses which recurred with a regularity that is not always present in these cases. She was easily excited, and received impressions vividly and indelibly. Her digestion was poor, and she was often sleepless, irritable, and peevish.

Vaginal examination revealed a slightly thickened os and slight endocervicitis with erosions of the cervix. Cod-liver oil, malt extract, hypophosphites, and aromatics, in combination, 25 per cent. of each, were given freely during the intervals between the menstrual periods, and for three days before the expected menstruation Ergoapiol (Smith) was given in capsules, one being given three times daily until the discharge ceased. At the fourth period after the beginning of the treatment she was relieved of all her symptoms, and was free from pain and fetor during menstruation. Locally, tincture of iodine and occasionally tampons of ichthyol and glycerine were applied. The cure was permanent and in every way satisfactory.



## CHRONIC NASAL CATARRH—A SIMPLE AND EFFECTIVE TREATMENT.

BY G. A. GILBERT, M.D., DANBURY, CONN.

We feel inclined to report this case here, not only because of the marked and speedy results obtained from the simple plan of treatment adopted after the usual measures had been tried and proven ineffective, but because of the frequency with which the particular group of symptoms complained of by this patient confronts the general practitioner in his every-day work.

Lena D., a young miss of 18, had been a sufferer from chronic rhinitis or pharyngo-nasal catarrh for more than ten years, being subject to periodical attacks of coryza and tonsillitis, especially during the spring, fall and winter months. The mucous membrane of throat and nose became habitually flabby, congested and swollen.

At the age of 12, the characteristic thick, indistinct speech and stertorous breathing of the catarrhal subject became manifest, while at the same time, the plugging of the pharyngeal opening of the eustachian tube by the thickened mucous secretions gave rise to slight deafness.

The treatment throughout had consisted of insufflations of the usual antiseptic powders, ante and post-nasal douches, with the modern germicidal solutions, while various astringent or disinfectant gargles and sprays were used for the tonsillitis, but these gave only temporary relief. It was apparent that only the membranous surface was thus freed of its obnoxious discharges and not the deeper sub-mucous tissues and gland sacs which harbored (unwillingly) the germs that gave birth to these discharges, and it became self-evident that some more active method of treatment must be adopted.

In dental surgery it is well known that an antiseptic solution having an alkaline base is the most effective for cleansing the mouth of putrefactive material arising from fermented food (starch particles in the substances adhering to the teeth), as well as that caused by the bacteria of dental caries, *leptothrix buccalis*, etc. This fact is explained on the chemical ground that the alkaline base readily combines with these various weak acids with which it comes in contact, thus breaking up the solution and liberating the oxygen or oxidising agent upon which its disin-

fectant properties depend. In a word, such an alkaline agent dissolves the mucous secretions and weak acids which form in the mouth.

Were the foregoing all that is required of an antiseptic, nothing further would need to be said, but it is essential that the bacteria hidden more deeply within the walls of the gland sacs should also be removed. Recognizing the force of the suggestion recently made by scientific investigation, *i.e.*, that a true alkaline germicide dissolves the bacterial envelope instead of coagulating it as do the acids, and that if the specific gravity is favorable to low exosmotic action it will be absorbed into the surrounding tissues and gland sacs where the germs are hidden, it at once occurred to us that an alkaline agent of this character was just what was needed.

Feeling convinced that an alkaline antiseptic was strongly indicated in this case, the best of its kind, Glyco-Thymoline, being selected, was applied thoroughly once every day by myself and three or four times daily by the patient. A 25 per cent. watery solution (warm) of Glyco-Thymoline was made by me, and applied in a fine spray to the post-nasal chamber by means of a hand atomizer. The nozzle was turned up at the end, so that, when introduced well back into the pharynx, the spray was thrown upward direct into the post nares.

The patient herself soon learned to operate the post-nasal douche satisfactorily, and was instructed to spray the parts in this manner twice daily, besides applying the solution (in the same strength) with the K. and O. douche. At the same time an ounce of a 50 per cent. solution of Glyco-Thymoline was gargled, and used as a mouth wash three times daily for the purpose of hardening the flabby, congested tonsils.

The outcome of this simple plan of treatment soon made plain the fact that a germicidal agent was being employed in this case which possessed the alkaline and solvent properties already mentioned as being essential to success. The patient's general system had first been thoroughly purged of retained waste by way of kidneys and bowels, after which the local treatment was adopted as above described. This latter procedure was not only effective, but the antiseptic proved very agreeable to the patient who for the first time in several years experienced the sensation of possessing a clean, sweet mouth.

The hypertrophied membrane itself grew almost normal in appearance, distinctness of speech and hearing was gradually restored, the breathing became natural, and at the end of three months we had accomplished a speedy and perfect cure.

## SURGICAL HINTS.

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When an extremity has to be rather firmly bandaged, it is a good plan to leave out the very tips of the fingers and toes so that they may be frequently examined in order to see that the constriction is not too great.

Never forget the fact that gauze will drain serum or very fluid discharges, but not pus. Hence the filling up of an abscess cavity with gauze is the surest possible way of blocking in the secretion and favoring sepsis.

It has been cleverly stated that "to say that a man with appendicitis has been cured by medical means is in many cases equivalent to saying that a man with stone in his bladder has recovered from calculus after the cure of a cystitis by rest in bed."

In blows upon the perineum it is well to remember that infiltration of urine may occur even when there have been no recognizable symptoms of laceration of the urethra, and that it should be watched for. Hematomata in this region must be kept under careful observation, and should be opened and disinfected if there is the slightest indication of sepsis.

In wounds of the liver packing with gauze is usually insufficient to stop hemorrhage, because the packing pushes the liver out of place so that no pressure can be maintained. If the wound is a small one it should be sutured or cauterized with the actual cautery. If it is large the liver should be sewn to the abdominal wall and the wound then packed with gauze.

In very severe dyspnea general anesthesia is usually contraindicated, for the reason that it abolishes the activity of the voluntary muscles of respiration, and hence may cause suffocation. In these cases the carbonic acid poisoning is often sufficient to lessen sensibility to a great extent, so that rapid operations can be done with very little pain. Otherwise local anesthesia should be employed.

Furuncles occurring on the back of the neck are in many instances the result of an inflammation around the hair follicles, or perifolliculitis. Early extraction of the hair and application of cotton and collodion are often sufficient to prevent the development of a large boil.—*Inter. Jour. Surgery.*

## Obituaries

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### A. G. BELLEAU, M.D.

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Dr. A. G. Belleau, district coroner of Quebec, who has been ill for some time past, died recently, aged 63 years. Dr. Belleau was a nephew of the late Sir Narcisse Belleau, Lieut.-Governor of the Province of Quebec.

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### JOHN CARROLL, M.D.

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Dr. John Carroll died in St. Catharines on Friday, March 25th, in his 57th year. During his earlier years he practised his profession in North Toronto, and amassed a comfortable fortune. Failing in health, he settled in St. Catharines, where he invested large sums of money in real estate, but abandoned the practice of his profession. He was a man of rare attainments and a botanist of considerable ability. He was a great helper of the poor, and educated several people to start them in life. He never married, and leaves one sister, Mrs. William H. McClive, of St. Catharines.

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### WILLIAM B. BURLAND, M.D.

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The news of the death from pneumonia of Dr. William B. Burland, the well-known and highly-esteemed physician, which took place at his residence, 288 Prince Arthur Street, Montreal, recently, will cause a great shock in many families where his kindly face and sympathetic nature had made him a general favorite. Dr. Burland was born at St. Johns, Que., on March 5th, 1844. His father was for many years collector of customs at that place. After graduating from the medical faculty of McGill University in 1872, Dr. Burland began practice in that city, winning an enviable reputation as a general family physician.

Dr. Burland took great interest in military matters, and was for many years connected with the militia, having served as captain of No. 7 company of the 1st Prince of Wales Regiment, and later as surgeon of the Royal Scots, under Lieut.-Col. Crawford's command. He was with his company at Sarnia, when Canada was obliged to protect the United States border from raids like the St. Albans affair, and served in 1866 in the Hemmingford and Huntingdon district when the Fenians threatened it from Malone. His company was selected on a night alarm, which none of them ever forgot, to march several miles toward the border and throw a screen of skirmishers across a road by which it had been learned the Fenians intended to come in. The lighting was their only consolation, for between flashes they could see where they were going. Some of the men never got over the exhaustion of that five hours' work. In 1870 Captain Burland was again with his regiment. No finer looking officer can be imagined than Captain Burland was then, and his company to a man would have followed him to the death. He was not only their commander, he was their warm friend. Captain Burland obtained the Fenian raid medal for his services in 1866-70.

Dr. Burland married Flora Stewart, eldest daughter of the late James Stewart Watt, in his lifetime an officer of the Hudson's Bay Company. Mrs. Burland survives, with two sons and a daughter.

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#### ALEXANDER BROADFOOT, M.D.

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Word was received recently of the death of Dr. Broadfoot, son of the late Alex. Broadfoot, of Tuckersmith. Dr. Broadfoot died at Mondovi, Buffalo county Wisconsin, on February 14th last. He was a native of Tuckersmith, and will be remembered by many of our readers. The *Mondovi Herald* of February 26th contains an excellent likeness of the deceased and makes the following reference to him. It says: Alexander Broadfoot was born in Huron county, Province of Ontario, Canada, November 9th, 1854. His early years were spent in the Clinton Grammar School one year, the Collegiate Institute at St. Catharines two years, the Science Department of the Toronto University two years, and in 1880 he entered the Toronto School of Medicine, from which institution he graduated in 1884.

The same year he began the practice of medicine in Enterprise, Kansas, where he remained two years, going from there to Minnesota, where he spent a short time, and from there went to Independence, Wisconsin, in 1887. He remained in Independence six years, during which time he had a large practice. In the fall of 1893 he came to Mondovi, and in April, 1894, entered into partnership with Dr. Hobard. In December, 1897, he moved to Gilmanton, where he remained till July, 1903, when he moved back to Mondovi. Later he went to Arizona hoping to regain his health, but returned the following April. From this time his health gradually declined till February 14th, 1904, when he peacefully passed to the great beyond. His remains were interred in the Gilmanton cemetery, February 16, under the auspices of the M. W. A. Dr. Broadfoot was a man of kindness of heart, and a physician of skill and ability. His experience was varied and his success a just cause of pride. He deserved the confidence that he enjoyed in the community, and is mourned by many a one to whom he ministered and many another who shared his friendship. A wife and seven children—three sons and four daughters—survive him.