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VOL. L. TORONTO, OCTOBER, 1916. No. 2

INDEX TO CONTENTS

EDITORIAL 49
Awake! To Arms!—Medical Attendance in Remote Districts—Canada's Share in the War—Mental Defectives—Infantile Paralysis—Some Large Fees—The Latest German Crime—The Training of Nurses.

CHRONIC CYSTIC MASTITIS .... Dean Lewis 55

ECLAMPSIA .... J. Fleming Goodchild 73

CURRENT MEDICAL LITERATURE 80
Treatment of Diphtheria—The Tobacco Habit in School Children—Fifty Laparotomies for Gunshot Wounds—Treatment of Hypothyroidism—French Substitute for 606.

PERSONAL AND NEWS ITEMS 82

OBITUARY 87
R. P. Campbell—D. B. McLean—Elizabeth C. Secord—Stuart A. Ross.

BOOK REVIEWS 89
Occupation Diseases and Vocational Hygiene—Kendall's Bacteriology—Surgical Diseases of the Spinal Cord and Its Membranes——Progressive Medicine—New Jersey Department of Health—The Murphy Clinics—Medical Clinics of Chicago.

MISCELLANEOUS 92
Toronto Medical Examinations--Contagious Diseases in Toronto—Saskatchewan Physicians Gone to the War—Ontario Vital Statistics—Col. Bruce's Report—The Medicine Man--Queen's Medical Degrees—In Defence of Doctors—Varsity Base Hospital.

MEDICAL PREPARATIONS 96
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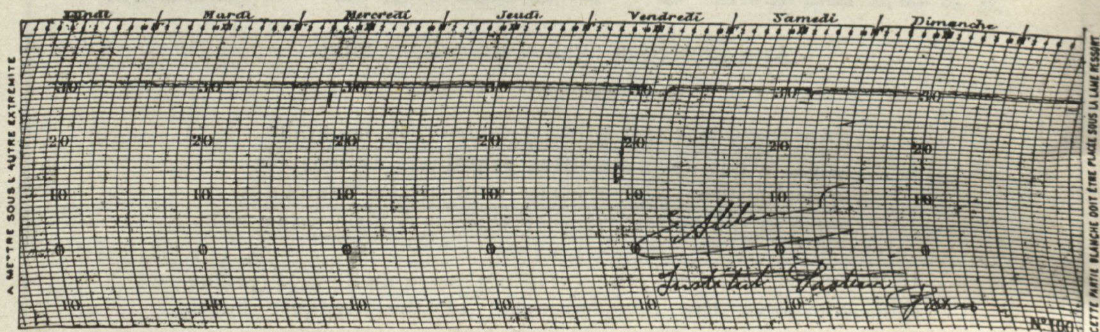

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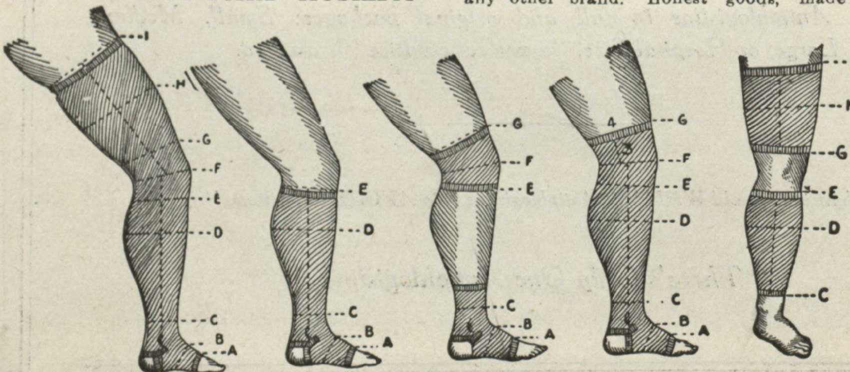

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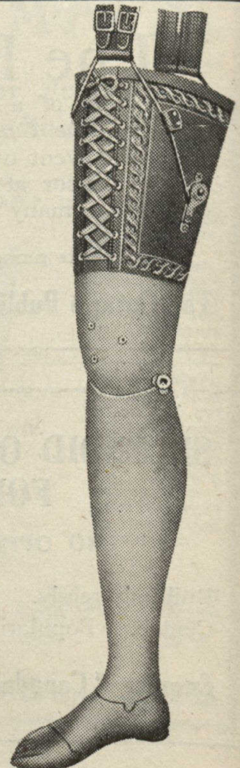

The Canada Lancet

VOL. L. TORONTO, OCTOBER, 1916 No. 2

EDITORIAL

AWAKE! TO ARMS!

The hour has come when the medical profession throughout the Province of Ontario must become militant doctors in the defence of the people's rights against a threatened danger greater than any epidemic. That danger is the risk of very partially educated, or entirely uneducated persons being granted legal status, and a right to practise some branch of medicine and legally collect fees. The medical profession has always stood for the safeguarding of the people against disease. It has been the guiding influence in sanitary legislation, and it has constantly advocated a steadily rising standard of medical education.

Who derives the benefit from these efforts? It is not the medical profession, but the people, who gain. Disease is prevented, ways and means are thought out whereby accidents in industrial life are reduced in numbers, and a higher degree of skill is furnished for those who require professional care. If one will take the trouble to compare the training a medical student received forty years ago with what is given to-day, he will at once realize the immense strides forward which have been taken in the matter of raising the standard of medical education.

But there are some, yes, many, who wish to practise medicine, or some part of it, under some special name, but who are unwilling to pursue a full course of medical study. Some of these wish to practise a certain part of ophthalmology under the name of optometry; others wish the right to offer their services under the names of chiropractic and osteopathy, which are only phases of manipulation treatment; while others come along with Christian Science as the cure-all, though a travesty on religion and a fraud on science.

Reduce this to the final analysis. Allow optometry, and how can the right be refused to the man who wishes a short cut to the practice of dermatology? He goes somewhere and takes a few weeks' instruction on the diseases of the skin, and comes back a doctor of dermatology, a new type of D.D.! So we might have a doctor for the liver, one for the stomach, and so on. Then, come down to chiropractic and osteo-

pathy. They are anly mechanical treatment. And this in turn is only a portion of therapeutics in general. Just think of how it would sound to graduate men after a course on therapeutics only! Much worse, indeed, to graduate men on only a portion of therapeutics. Christian Science is downright nihilism. No anatomy, no physiology, no hygiene, no pathology, no drugs; for these things retard the work of the Science healer! According to Mrs. Eddy these things cause disease. Here then the whole matter comes down to one of suggestion; for no one but a fool believes that God will listen to the prayers of a system founded on the ignorance and cupidity of Mrs. Eddy. Think of suggestion for a case of diphtheria or cancer.

Every medical association in the Province should at once become busy. They should take steps to inform the member of the Legislature of their constituency what the medical profession really wish. It is not class legislation. We do not wish to prevent optometrists, chiropractics, osteopaths, or Christian Science from practising, but only to compel them to be properly educated. The name they select for themselves afterwards is a matter entirely of their own chosing. The duty is once more at the door of the medical profession to protect the people against a real and serious danger.

It is vastly easier to prevent bad legislation than to correct it, once on the statute. Every member of the medical profession can do his bit. He can do it where it will be most effective, namely, in his own locality. To the position that all who wish to practise medicine must first be thoroughly trained there can be no answer; but never discount the influence of the lobby and the desire to find an easy way out of a difficulty, for it is the easier way to grant legislative privileges than to refuse them. The profession is now defending the people, and

In case of defence, 'tis well to deem
The enemy more mighty than he seem.

MEDICAL ATTENDANCE IN REMOTE DISTRICTS.

In the opening up of a great country like Canada, there are sure to be many districts in which there may be no medical man present, or near. These pioneer settlers are certain to suffer severely because of this. The number of persons located in many of these outlying places is not sufficient to enable a doctor to live. The consequence is that no doctor is to be found in many of them.

For some time there has been a good deal of discussion on this subject. The desperate needs of some of these remote settlements have been pointed out, and various suggestions have been offered. One thing is clear, that these people must have skilled attention when taken ill, or

if they meet with any injury. If settlers are necessary, then it is necessary to supply them with medical aid. It is now admitted that it is one of the first duties of the state to care for the public health of the people, and to take steps to avert the spread of epidemic diseases, and to curtail the sale of injurious drugs.

But it is equally sound to assist in the furnishing of medical skill. If the Governments of the several Provinces wish the wild lands to be settled upon, one would think that a factor in bringing in settlers would lie in the fact that there was competent medical skill obtainable. To induce a doctor to make his home among these sparsely settled districts it would be necessary for the Governments to subsidize such doctors as would be willing to make their homes among these people. We regard this as one of the pressing obligations of those charged with the management of the affairs of the several Provinces. There is no use casting asperse reflections upon the medical profession because no doctor has located in such places. Without Government aid he would be starved. We feel sure that a solution will be found; and already a strong committee of the Saskatchewan Medical Association is at work seeking a remedy.

CANADA'S SHARE IN THE WAR.

Canada has done her part nobly, and will continue to do so to the end of this horrible war. The war is the result of the clash of two ideas: the growing spirit of liberty and democracy among the Allies, and the prevalency of the Dionysian theory of brute force held for many years in Germany. The former ideal is now becoming dominant, and "Thus saith Zarathustra" is waning rapidly.

The various Provinces have given valuable help in the form of useful gifts to the mother country. The Federal Government has also furnished its full share of men and money, and given valuable aid in other respects. Canada has furnished already a large army.

But this country has sent to Britain, France, Greece and Egypt at least 800 physicians and surgeons to do service for the men that do battle. A large number of nurses have crossed the seas to smooth out the pillow and apply the soothing balm to raise the wounded from their beds of pain. In every field of duty our doctors and nurses have won for themselves the highest praise. They have faced the greatest dangers and endured the greatest hardships.

When the full history of the war is written this country will be justly proud of her share in it. Of the many fields, however, none will yield finer fruits than the Canadian Army Medical Corps. Already it has won much praise from those highest in command.

MENTAL DEFECTIVES.

The combination of defects, bad environments, evil impulses, and hereditary taints produce the criminal. Those who are born to become criminals are few; and some authorities do not admit such a class. It is very difficult to say in what sense a person is born to crime. With regard to defectives it is generally felt that children more than three years behind their age are so classified. But no absolute method of testing has yet been agreed upon. It is almost impossible to draw the line between the defective and the criminal.

A child born to drunken, vagabond, or criminal parents has a strong probability of becoming a criminal. Such a child is usually naturally obtuse in its discrimination between right and wrong, and has generally inclinations of a perverted kind. Such persons are often spoken of as moral imbeciles. But some of these, if taken from their environments and placed under proper training develop much self-control, and cease to belong to the class of moral imbeciles. Children of evil parentage have often been trained into well-behaved and well-ordered individuals.

It is an oft repeated experience, however, that children born of criminal parents cannot be reclaimed. There is in them a criminality that cannot be taken out of them. Criminal families have been found to exist in most countries. In one family there were 800 descendants who were thieves, burglars, tramps and murderers. In another 100 such.

INFANTILE PARALYSIS—ANTERIORPOLIOMYELITIS

For many years Sweden has enjoyed the reputation of being the most severely afflicted country ,so far as this disease is concerned, of any country in Europe. This has caused much activity among Swedish medical men to discover the cause, the prevention ,and the cure of the disease. So far the admission by them is that they can do but little as yet.

In Sweden it has been observed that the disease prevails mainly in August and September, though occasionally the cold months of winter yield most cases. This latter fact has led the Swedish savants to doubt the fly theory as the means of spreading the infection. The Swedish experience confirms the value of early and thorough isolation.

But it has been noted that there are so many carriers that all efforts at isolation largely fails in arresting the spread of the disease. Virus carriers greatly exceed the clinically positive cases. Disease carriers are found among healthy members of families where there have been cases of poliomyelitis.

Another danger lurks in the secretions of the mouth and nose of

those who have had the disease for a long time afterwards. This has been found to be the case for periods exceeding seven months. Experimentation with animals go to prove that in most cases the virus loses its intensity soon after the subsidence of the acute stage. From the best data to hand it appears that there should be a period of isolation for some weeks after the disappearance of the acute symptoms.

SOME LARGE FEES.

The surgeon who recently operated on the Turkish Sultan was paid a fee of $30,000 and $6,000 for expenses.

Professor Lorenz, of "bloodless" fame, in 1903 operated on Armour's little daughter in Chicago and received a fee of $30,000.

Dr. Gale, of Bristol, was paid $250,000 for curing the injured knee of a wealthy patient.

The fees paid to Sir Morell MacKenzie for attendance on Emperor Frederick of Germany amounted to $65,000.

The late Jay Gould paid his doctor $15,000 a year, and $90,000 for two months' attendance on his daughter.

Dr. Dimsdale, of London, vaccinated Catherine II. of Russia against smallpox and was rewarded for his skill with $50,000, $10,000 for expenses, a life pension of $2,500, and the office of physician to her Majesty. He was made a baron and councillor.

The Paris Rothschild paid the celebrated Dupuytren a very large sum, which he had made for him by speculations on the Bourse.

A patient of Sir Astley Cooper set aside the profits on $10,000 of a British loan. This was turned his way by Sir F. Baring. Another patient of Sir Astley's tossed him his night-cap and said, "Take that for your fee." It contained a cheque for $5,000.

It is reported that John D. Rockefeller has offered $1,000,000 to the physician who can give him a new digestive apparatus. The fee has not yet been claimed by any one.

THE LATEST GERMAN CRIME.

That Germany has acted in a most cruel manner to prisoners of all countries opposed to her has been proven beyond dispute. The latest act of this disregard of the laws of humanity and nations has recently been made public. The evidence appears to be so conclusive that the French Government has accepted it.

The action complained of is to compel prisoners to live in camps with consumptives until they become infected, and when too ill to do any more work they are dumped on some neutral country. At the

time of the report there were 13,000 French and British consumptive soldiers in Switzerland who were so far gone with this disease that Germany sent them out of her country. France had evidence that at least 50,000 of her prisoners in Germany were well inoculated.

The disease seems to be given to the prisoners held by Germany by sending them to work in secret camps, the majority of which are salt, coal and iron mines, and in drainage and marsh reclamation schemes. In these camps are placed a number with open tuberculosis, until the disease spreads to those confined with them. In one of these secret camps a German doctor said, after mixing tubercular patients with the prisoners: "Thus do I wage war in my own fashion." Poisoning bayonets, bullets, shrapnel, wells, streams, etc., have all been proven, but inoculating with tuberculosis is the last act. When Herod had John the Baptist beheaded, the sacred record tells us: "This one thing more Herod did."

THE TRAINING OF NURSES.

That the place the trained nurse fills in the community is an important one is now admitted by all. This brings with it the need for facilities for a thorough education of those who desire to become nurses. This education should be both practical and didactic. In this country the duty of training nurses has been assumed by various hospitals. After a period of training, usually three years, and a varying amount of instruction, according to the curriculum of each hospital, and the passing of an examination, which may vary very much in different hospitals, the nurses are graduated.

In a general way it may be said that the results have been very satisfactory, and that the hospitals have honestly discharged this self-assumed task of educating the nurses of the country. But every system has its beginning, and, as time goes by, improvements are made. There is room for improvement in the method of training and graduating our nurses.

The University of Cincinnati has established a school for nurses in the hospital under its control. A broad and liberal training and course of instruction will be given, and there will be special post-graduate courses of study, training for sanitary work, preventive medicine, and institutional duties.

The Canadian universities might very well take this matter under their consideration, and establish a course of studies. Any hospital living up to this curriculum would have the right to send their nurses up for examination. If successful, these nurses would receive a university diploma.

ORIGINAL CONTRIBUTIONS

CHRONIC CYSTIC MASTITIS.

By Dean Lewis, M.D., Chicago.

AS a result of the attempt to educate the public concerning the early recognition of maligant disease, many more benign tumors of the breast are observed than formerly. In some clinics more benign than malignant tumors of the breast are seen; whereas a few years ago the malignant outnumbered by far the benign growths. This change probably accounts for the renewed interest which has been taken in cystic disease of the breast. As any mass in the breast arouses suspicion, we now frequently see patients who a few years ago would have paid little or no attention to an irregularity of or a mass in the breast, or the pain or tenderness which may have been associated with some pathological change in this gland.

The pathological picture of cystic mastitis is not a constant one, and this probably accounts for the number of descriptions which have been given of the disease. No fewer than 12 different descriptions have been published of the disease, to each of which a different name has been attached, and in each of which a different arrangement of the cells or some apparently non-essential pathological change has been described. The diversity of opinion regarding what are apparently very similar changes would lead one to suspect that many of these are stages of one and the same process.

The important thing to determine, as far as surgery is concerned, is whether or not chronic cystic mastitis is a precancerous lesion, as it is regarded by many, for if it is the lines of procedure to be followed is definitely established, and we have an opportunity to reduce considerably the incidence of cancer of the breast. Cancer of the breast is frequently seen in association with cystic mastitis, but when such a relationship exists, it is difficult to determine whether the cancer developed upon a chronic cystic mastitis or whether the hypertrophy and degeneration occurring in the part of the breast not affected by the cancer was not secondary to the growth stimulation provoked by the malignant tumor. Judd is practically convinced that every case of cancer of the breast has associated with it some degree of chronic cystic mastitis. It is important to bear this in mind, although no definite relationship between the two has been demonstrated.

Reclus, in 1865, grouped a number of these cases together and de-

* Read before the Ontario Medical Association.

scribed them as a clinical entity. The succeeding articles dealing with this disease came out of France, for the disease had not attracted much attention in other countries. When some of these early descriptions are read it soon becomes evident that a number of lesions entirely different are often described under the name given to this disease. This accounts for much of the confusion regarding the clinical manifestations of the disease, and the pathology associated with it.

There is more and more a tendency to regard the changes occurring in chronic cystic mastitis as primary in the epithelium and the connective tissue changes, when such are present, as secondary. Much of the discussion regarding the tissue primarily involved dates back to the descriptions given by Schimmelbusch and Koenig. The former described the disease as one which is not rare in middle-aged women, developing with the same frequency in those who have and have not borne children. According to Schimmelbusch the changes occurring in the diseas leads to the formation of numerous cysts the size of a pea or bean, rarely larger, which contain a greenish or brown, somewhat viscid fluid. Both breasts are almost always affected, either simultaneously or one soon after the other, the changes occurring most often and being most marked in the posterior part of the gland. Histologically the process is characterized by a marked increase in the number and size of the acini and ducts. The epithelial proliferation is marked, the dilated acini often being completely filled with epithelial plugs. Two or more neighboring dilated acini may fuse to form cysts which become larger as they are distended by the secretion of the lining epithelium or the products resulting from degeneration of the same. No marked inffammatory or hyperplastic changes occur in the connective tissue, although not rarely it is sclerotic. The axillary lymphatics are at times enlarged, but when this enlargement exists it is not inflammatory in character. Among the forty-three cases observed by Schimmelbusch, three were malignant.

From the above abstract from Schimmelbusch's description it will be noted that he emphasized the tendency of the disease to involve eventually both breasts and that the changes resulting in cyst formation were primary in the epithelium.

Different conclusions have been drawn after a study of material presenting much the same histologic changes. Koenig in particular has advocated the inflammatory origin of the disease and has been supported by Kausch and Borst, Toupet and Glanteney, Cornil and Petit, and others. He emphasizes particularly the inflammatory changes occurring in a breast the seat of such a lesion and that the disease may be and is not infrequently limited to one breast. Koenig believed the inflamamtory changes followed by occlusion of the ducts leading to disten-

sion of the acini to be the most important etiological factor. The epithelium may degenerate completely so that finally nothing but a serous sac is left. In a number of cases studied by Koenig the cysts did not become large. The smaller cysts may disappear as the contents were absorbed. When this occurs the surrounding connective tissue contracts and the part of the breast in which this change occurs then becomes hard and leathery. Koenig regarded as entirely distinct from this disease and as a true tumor the papillary growths developing from the inner side of a cyst wall. Both Schimmelbusch and Koenig evidently described much the same disease. The periodic inflammatory changes insisted upon by Koenig are not given so much clinical importance by many other men as he attached to them.

Although the tendency at present is to regard the changes as primary in the epithelium rather than in the connective tissue and as neoplastic rather than inflammatory, some take a mid-position, recognizing both types. Saase, in 1897, after studying a large material, came to the conclusion that there were two principal classes of cysts of the breast:

1. One which follows a chronic interstitial inflammation and results from distension of the acini and ducts as a result of pressure exerted by the inflamed tissue.
2. The multiple cysts of the breast resulting from epithelial proliferation and cystic dilatation of the acini. Cysts of this class are frequently bilateral. The cysts occurring in breast affected with carcinoma, in parts of the breast not involved in the malignant process have the same origin. Different forms of cystic tumors, such as the intracanalicular cystadenoma and the circumscribed cystadenoma, occur and are related to the cysts just mentioned.

These different descriptions have been quoted at some length to show how much difference of opinion as to the clinical and histological characteristics of the disease under discussion. I have not seen the lesion described by Koenig characterized by recurring inflammatory attacks often, although I have repeatedly noted periodic variations in the size of cysts almost always accompanied by some pain or tenderness, but without distinct evidences of an inflammatory reaction or the secondary changes, followed by a leathery induration of the breast.

Epithelial hyperplasia is the predominating factor in the production of the disease. Although three stages, the adenomatous, the ectatic, and the adeno-cystic, have been described, they do not always seem to follow a sequence, and it cannot be stated what determines the formation of the small and large cysts. As the disease is most common at the

period of life when the breast is undergoing an atrophy, histological studies of the senile breast might throw some light upon the frequency with which epithelial changes which might eventually end in cyst formation occur in breasts which are passing through what may be called their normal cycle.

The life history of the female breast may be divided into five periods: that of infancy, puberty, lactation, of the resting stage of the adult gland, and that of late life, the senile breast. The senile breast should normally atrophy. In this atrophy both the parenchyma and stroma should be affected. As the senile changes advance the stroma becomes replaced by fat, and as a result in somewhat well-nourished women, notwithstanding advancing age, the breasts do not perceptibly decrease in size, because of the replacement of the breast tissue proper by fat.

It is of interest to note the epithelial changes which occur in the senile breast at the same age at which chronic cystic mastitis is most common. Tietze found in 25 per cent. of the breasts removed from women during or past the menopause, who did not suffer from cancer of the breast or of any other part of the body, definite epithelial changes which were very like those occurring in chronic cystic mastitis. The changes found in the breast of a woman 64 years of age who died of pulmonary embolism, in whom no trace of carcinoma could be found, are so striking that I shall quote from his description of the histologic findings. In sections of this breast there is more glandular tissue than is usually found at this age. This is imbedded in a heavy connective tissue, poor in nuclei. This glandular tissue appears in the form of small, grape-like masses, in which the acinar structure of the gland is beautifully demonstrated. There are also present long spaces lined with one or more layers of epithelium, which are quite characteristic of the senile breast. These findings may be considered normal, but in an area the size of the head of a pin, closely adjacent to the field just described, were found a number of circular or oval spaces, in which were found numerous projecting epithelial buds, with or without a connective tissue stalk, and a lining of high epithelium. The histological changes in this small area were the same as those found so frequently in and considered to be characteristic of chronic cystic mastitis. There were also found in the neighborhood of the area just described acinar spaces surrounded by concentric layers of connective tissue filled with plugs of epithelium, to which Schimmelbusch originally drew attention, and which those who have since studied the disease recognize as rather characteristic of one stage of cystic mastitis. These changes were not found in breasts of subjects under forty years of age. Tietze is in-

clined to regard this hypertrophy in the senile breast as a physiological change associated with this period of life. It is rather difficult to conceive how this type of hypertrophy associated with such degenerative changes can be considered as at all physiologic, although it must be conceded that no explanation has yet been given which explains the etiologic factors leading up to this change which occurs in such a relatively large proportion of the senile breasts. It is quite probable that this change occurs more frequently than has been suggested in one or more areas of one or both breasts and reaches a certain age to disappear spontaneously.

These changes in the senile breast apparently occur without many or even no clinical symptoms, and it seems probable that they are more common than is indicated by the figures just quoted. Bloodgood believes that there is no doubt that this senile pathological process may be present in one or more areas of one or both breasts, that is may reach a certain stage of development and then disappear spontaneausly. He is inclined to think that this lesion is present in the breasts of those older women who consult physicians because of one or more areas of localized discomfort. On examining such breasts there are found one or more areas in one or both breasts, usually multiple, in which the breast tissue is of firmer consistency than normal. According to Bloodgood operation is not indicated in this condition. I have recently removed in some patients at the menopause these firmer areas which were not isolated from the breast tissue, because of some doubt as to the lesion with which I was dealing, and have found a hypertrophy of the breast tissue. The changes were those usually described as the adenomatous stage of abnormal involution. Clinically they have not differed from similar areas in other cases which have not been removed and have disappeared spontaneously. From the histological changes which I have observed I have been unable to determine what the changes leading to the spontaneous disappearance of these firmer areas are or what the histological picture is after they have disappeared.

The essential factors leading up to these changes have not been determined. They bear a certain resemblance to the changes occurring in the prostate in simple hypertrophy or to the changes occurring in the thyroid gland in certain types of thyroiditis, as described by De Quervain. These analogies are based entirely upon comparative pathological studies. No definite causal relation between an inflammatory process and this hypertrophy has been established.

In the cystadenoma changes are found in both the epithelium and connective tissue. This proliferation leads to dilation of the acini or the formation of epithelial plugs which fill them. The coincident

changes in the connective tissue leads to the formation of papillary processes. Both types of changes may be found in the same breast, but the epithelial should probably be regarded as the primary, the connective tissue as the secondary change. It cannot be determined why large cysts forming rapidly are found in one breast, while in the other cysts may be small and multiple and apparently remain as such during the entire course of the disease.

The following histories will indicate the different clinical manifestations of the disease:

1. W. P., age 46, unmarried woman, complained of pain in the right breast, which often radiated into the right forearm and arm and the right side of the neck. This pain has been noted on and off for twenty years. Severe pain radiating into the right arm has been complained of for the last eight to ten months. It is more noticeable when the weather changes. The right breast is distinctly larger than the left and has been so for a number of years. There has been no evidence of an inflammatory change. When palpated the breast had the peculiar shotty feel of microcystic tissue and was tender. Palpation induced the pain, which radiated into the arm. A resection of the glandular portion of this breast was performed by a modified Warren procedure. When the breast was incised innumerable small cysts were found, scattered evenly throughout the glandular substance. They contained a greenish, in some instances a mucoid material. Histologically these cysts were formed by dilated ducts and acini, in which there were distinct evidences of degenerating epithelium. In some of the cysts, the lining epithelium had almost completely disappeared.

In this case of chronic cystic mastitis the most marked clinical features were severe radiating pain extending over a period of some months and a distinct enlargement of the breasts, which had been noted for years.

2. E. M., age 19, unmarried. Patient's attention was first attracted to the left breast some six months before examination by a somewhat milky discharge from the nipple. At times the discharge was considerable, so that the underclothing was stained, even when a pad was worn over the nipple. This discharge was at first regarded by the patient as purulent. The patient thought that this discharge followed a trauma, for shortly before it appeared the breast had been injured while she was carrying books. Because of the discharge from the nipple, an intracanalicular systadenoma was suspected, but none could be found. The breast had a shotty feel, and when pressure was made upon any part of the breast, the amount of discharge from the nipple was increased. A diagnosis of cystic mastitis was made, and the entire glan-

dular portion of the breast was removed through a small curved incision made to the inner side of the areola. The breast, especially that part lying adjacent to the axilla, was riddled with small cysts. Histologically the most marked feature in this instance is the presence of large papillary growths in the dilated acini. The relation of these growths to discharge from the nipple will be spoken of later, when discussing the diagnostic significance of the bleeding nipple.

3. Mrs. McK., age 40, mother of three children, was admitted to the Presbyterian Hospital, July 31, 1915. She noticed swelling of the breasts in February of the same year. She states that the swelling was associated with pain, chills and fever. These general symptoms subsided in a few days, but the pain and tenderness of the breasts persisted. During the week before entering the hospital there was an exacerbation of these symptoms. Upon examination both breasts were found to be tender. The changes were most marked in the right breast, and because of the induration which was found in this breast a radical operation was performed, although a diagnosis of carcinoma had not been made. The gross and microscopic examination revealed microcystic changes. The clinical history of this case resembles more closely than any I have seen that which Koenig has given in his description of chronic interstitial mastitis. There was a distinct history of periodic inflammatory attacks, and the breast had a peculiar leathery feel.

4. Mrs. C. W., married, age 50, mother of four children. Patient first noticed a mass in the left breast two and one-half months before examination. This has gradually increased in size until it is as large as a hen's egg. The mass has not been painful until nine days before, when it became tender. It caused no spontaneous pain. This mass occupied the upper and outer quadrant of the breast. It was movable, not adherent to the skin, but was hard and the surface was somewhat nodular. Because of the suspicion of malignancy, a radical operation was performed. When the breast was examined a solitary cyst with milky contents and a smooth wall was found. The epithelium lining this had degenerated. No changes could be made out in the right breast, and the changes in the remainder of the left breast were not at all striking.

5. Mrs. A., married, age 47, no children. Accidentally discovered in the upper and inner quadrant of the right breast a mass the size of a pigeon's egg. It has caused no pain, and has not increased in size. The nodule was discovered accidentally. This cyst was removed. The breast tissue adjacent to it contained many small cysts containing greenish viscid material. It is a year now since the operation was performed, and there has been no change in the remainder of the breast containing these cysts.

6. Mrs. L. S., age 44, married, no children. Eight weeks before examination patient noticed a mass in the upper and inner quadrant of the right breast. This was not painful or tender and there has been no history of recurring attacks of pain. Some kind of paste was advised by a physician. According to the statement of the patient the mass reduced somewhat in size after its application, but became stationary three weeks before entering the hospital. A large cyst containing a straw-colored fluid with several smaller cysts in the immediate neighborhood were removed from the right breast, and a similar but smaller growth was removed from the left breast. Small cysts were found in both. It is almost twenty months since the operation was performed and there has been no decided change in either breast.

7. M. C., age 41, unmarried, admitted to the Presbyterian Hospital March 19, 1916. During the latter part of January, 1916, patient injured left breast while turning in bed. Severe pain was noticed in the breast for three weeks, which was followed by extreme tenderness when deep pressure was made. There was also a sensation of pressure in the left breast when a deep breath was taken. After about three weeks all these symptoms disappeared except an uncomfortable feeling about the left breast and some tenderness on pressure about the mass. The mass has recently increased somewhat in size. A few days before entering the hospital some pain was experienced in the left breast. This was not severe, and she thinks that she would not have noticed it if she had not had trouble with the left breast.

Upon examination there is found in the left breast a mass the size of a small hen's egg. This feels hard. No fluctuation can be elicited. When the right breast is palpated it has a distinctly shotty feel. No large systs can be found. The large cyst removed from the left breast contained a milky fluid. The epithelial lining had completely disappeared, the wall of the sac being formed of thick, condensed connective tissue. In the immediate neighborhood of this cyst are several ducts with a high columnar epithelium, in which large vacuoles are found. This epithelium is undergoing distinct degenerative change. No operation was performed upon the right breast.

This patient's mother had previously had both breasts removed for a similar disease of the breast.

8. Mrs. L. E., age 42, married, mother of four children, has had two or four miscarriages, admitted to the Presbyterian Hospital the 14th day of May, 1916. Three or four weeks before entering the hospital patient felt a small mass in the left breast. This never caused any pain, was not tender, and could be easily moved about in the breast. No discharge from the nipple. No history of injury or infection. Dur-

ing the week before entering the hospital this mass increased rapidly in size, so that at present it is three or four times as large as when first noticed. A dull ache is experienced in the breast most of the time, and there is a sensation as if the nipple were being pinched. This sensation is experienced most of the time. A mass the size of an orange is found in the upper half of the left breast. This is hard, no fluctuation can be elicited, and the surface feels nodular. The mass is freely movable. There is no enlargement of the axillary lymphatic nodes and the mass is not adherent to the skin or surrounding structures. The surface of the tumor was so suspicious that a radical operation was performed. When the breast was removed, the mass was found to be a large unilocular cyst, filled with a milky fluid. The walls of the cyst were smooth. The connective tissue surrounding the cyst was enormously thickened and greatly condensed. The nodular feel imparted on palpation was apparently caused by irregularities in this condensed connective tissue of the breast.

9. Miss J. W., age 39, admitted to the Presbyterian Hospital March 9, 1910, entered the hospital complaining of a nodule in the right breast just to the median side of the nipple. This lump was first noticed accidentally three days before. There has been no pain or any inconvenience. There is a small hard nodule the size of a pigeon's egg in the right breast. This unilocular cyst was removed. It had a smooth lining and contained a milky fluid. Some smaller cysts were found adjacent to this larger one, but they were not removed. Two years later the patient returned with the same kind of cyst in the left breast. This cyst was removed. At this time several small cysts were present. I have seen this patient within a few months, and there are very definite evidences of microcystic disease of both breasts. I advised this patient to postpone any operative procedure, for the only thing that would accomplish the desired result would be a resection of both breasts or a complete removel.

10. Mrs. E., age 41, married, has borne children, admitted to the hospital July 18, 1911. About seven months ago noted pain in the upper median quadrant of the right breast. This pain rather shooting in character would be felt for a few days and then disappear, sometimes for a month. One week before entering the hospital the patient accidentally discovered a nodule at the site of the pain. When examined, a small mass was found in the right breast two inches from the nipple in the upper and inner quadrant. This nodule was not fixed and was freely movable beneath the skin and on the surrounding structures. This cyst was extirpated and numerous small cysts resembling small grapes were found adjacent to the large one. January 29, 1914, two and one-

half years later, two small cysts were removed from the same breast. There were very distinct evidences of multiple cysts, but no evidences of malignancy. No further operative procedure was undertaken.

11. J. W., single, age 41, admitted to the hospital January 15, 1912. Patient has noticed a large tumor in the breast for one year. This proved to be a single large cyst.

12. Is of especial interest. A cyst the size of the fist developed rather suddenly in patient about forty years of age. This cyst was removed and in the base near its attachment to the pectoral muscle there were distinct evidences of carcinoma. A radical operation was not performed until three days after the cyst was removed. This case is of interest as the malignant changes occurred in a large smooth-walled cyst.

The histories just cited would indicate that chronic cystic mastitis is protean in both its clinical and pathological manifestations. While it is usually a lesion of advanced life, one of the most typical examples occurred in a girl of 19. The clinical picture varies from the single solitary cyst the size of a pigeon's egg or child's head, tense or relaxed so that fluctuation can be elicited, with or without a nodular surface, to the microcystic type involving both breasts which have the peculiar shotty feel which is so characteristic. Between these two extremes there are numerous transitions and variations. Trauma and mastitis are incidental and are not determining factors.

The disease lasts from a few months to years, and while in some instances there is no pain, in others severe radiating pains, increasing during menstruation, predominate in the clinical picture.

The clinical significance of a discharge from the nipple of a non-lactating breast has been variously interpreted. Saar, in an article published in 1907, found that a discharge from the nipple occurred frequently with cystadenomata. It was found in 31 per cent. (15 out of 48) of the cases analyzed by him. In some instances it was the first symptom which attracted the patient's attention and for which the surgeon was consulted. The amount of secretion varied, usually coming out in drops, but when pressure was exerted it could often be forced out in a stream. It was watery, milky, or serohemorrhagic; rarely pure blood.

A scanty, thin, sanguinolent discharge is usually regarded as suggestive of carcinoma; a mucoid discharge of a benign growth; and a marked bloody fluid as of an intracanalicular papilloma. Bloodgood states that a discharge from the nipple ,except during lactation, may be looked upon as a sign of a benign lesion and not as a symptom of cancer. If the discharge is serum or blood, this is a positive sign of an intra-

canalicular papilloma. In senile parenchymatous hypertrophy one can often express from the nipple a thick brownish material, the accumulation of degenerated epithelium. This the patient rarely observes. In a personal communication Bloodgood also states that he is inclined to think that many surgeons look upon a discharge of blood from the nipple as a sign of cancer.

The pathological processes associated with the discharge of a hemorrhagic or serohemorrhagic discharge from the nipple have many interesting features. The tumor most frequently associated with the discharge is regarded by some (Kaufmann) as rare, but most surgeons having considerable material can recall some few cases of bleeding nipples, most of which have never been reported or carefully analyzed. The pathological changes associated with his symptom have been so variously interpreted and have received such a variety of names—encysted medullary carcinoma, cystofibroma, villous carcinoma and duct cancers—that it is often impossible to determine whether the lesions under consideration is benign or malignant. By some—Koenig, Saase and Greenough—the intracanalicular papilloma, by all odds the lesion most frequently associated with a discharge from the nipple, is regarded as distinct from abnormal involution, while Saar and Tietze consider this type of papilloma as intimately associated with or a part of abnormal involution, and consider the two together.

I have observed clinically seven cases of bleeding nipples, five of which have been operated upon. One case had been operated upon previously and several cysts removed. A discharge from the nipple subsequently developed in this case, but no operation has been performed up to the present time. The following histories indicate the course of the disease associated with the discharge and the pathological findings.

1. Mrs. W., age 42. Married. but never pregnant. One sister has had a radical removal of the left breast for carcinoma; lately there has been a recurrence in the scar. Five years ago I operated upon Mrs. W. and removed two small cysts from the left breast and one from the right. These cysts, the largest of which was the size of a walnut, contained a thick milky fluid. When examined histologically the cyst-wall, which was composed of a thick fibrous tissue, was found to be lined by a layer of degenerating epithelium, which in some places had almost disappeared. Three years after these cysts were removed a milky discharge from the left nipple was noted. This continued for about one year. One year later a watery secretion was noted from the right nipple. Last January this discharge became serohemorrhagic in character, the amount of blood being increased by manipulation of the breast. During March, April and June no discharge was noted, and during the

past three months there has been none. The milky discharge has gradually grown less in amount, until at the present time there is very little. There has been no distinct tumor or cyst formation associated with the cessation of the discharge.

The diagnosis of senile parenchymatous hypertrophy was made when the cysts were removed, some small cysts being found adjacent to the larger ones. When I examined the patient last spring a serohemorrhagic discharge from the right nipple was noted, and a somewhat milky discharge from the left. A careful search was made for a tumor beneath the left areola, but none could be found. A secretion could be expressed from the nipple when the breast was manipulated, but no definite tumor could be found, although the breast had the peculiar shotty feel of microcystic disease. Operation was refused by the patient. Subsequently the discharge stopped, apparently without the filling of a cyst, as might have been expected if a duct containing a papilloma had become occluded. There is no clinical evidence of any malignant change in the breast. An operation is undoubtedly indicated, but I believe that a plastic resection of the breast rather than removal should be attempted.

Case 2 is considered with the preceding because both are apparently examples of abnormal involution associated with a serohemorrhagic discharge from the nipples.

2. Mrs. A. T., aged 37, was admitted to the Presbyterian Hospital February 11, 1915. She has given birth to three children. It was noticed that the clothing covering the nipples was bloodstained in June, 1914. Shortly after this the patient became aware of an itching sensation about the nipples, but did not know whether there was any relation between this and the bloody discharge. September 7, 1914, she consulted a surgeon, who advised that both breasts be removed, a radical operation being advocated. A second physician advised that nothing be done for three months. During September and October the bleeding seemed to be more profuse and was great enough to show through the clothing. During the past few months the discharge has not been very profuse. There has always been more discharge from the left than from the right nipple. The itching sensation has been more marked about the right nipple. Both breasts are rather large. When palpated they have the shotty feel of microcystic disease. A serohemorrhagic discharge can be expressed from the nipples when the breasts are palpated. No single cysts beneath the areolæ can be felt.

An operation consisting of a plastic resection was performed upon each breast ,through a curved incision made on the median side of the areola. The entire glandular substance of the breast was removed

through this incision. The glandular tissue was fairly riddled with small cysts, varying in size from a buckshot to a cherry. Some of the cysts had a milky, others serohemorrhagic contents. No distinct papillary growths could be seen in gross examination. Because of the peculiar granular feel of some of the cysts a careful histological examination was made of tissue removed from differet parts of the gland in order to be sure that there were no malignant changes.

Microscopic examination revealed distinct evidences of papillæ formation. The epithelium in many of the cysts was grouped to form definite papillary growths supported by a connective-tissue stalk. This is a form of the adenocystic type of chronic mastitis. The same process results in the formation of papillomata in the ducts, the growths most frequently associated with a serohemorrhagic discharge from the nipple.

3. Mrs. A. D., aged 51. Patient had given birth to one child. Nine months before entering hospital she sustained a slight injury of the right breast. Four months later she noticed a nodule in the breast, located superficially, about one inch above the nipple. During the last three months there has been at times a discharge from the nipple. At first this was serous in character. Later it became tinged with blood. The discharge is intermittent. There may be intervals of ten days or more during which there is no discharge. Then the nodule in the breast enlarges and there is a sensation of fullness. When the discharge is poured out the nodule decreases in size and the sense of fullness is lost. The nodule is tender on pressure. There is no spontaneous pain.

The nodule is the size of a hazelnut. It is situated beneath the areola above the nipple. When this nodule is pressed upon a serohemorrhagic discharge can be expressed from the nipple. At the time the patient was examined the discharge consisted almost entirely of pure blood, which could be expressed drop by drop, when the nodule was pressed upon.

A radical operation was performed in this case because of the suspicion of malignancy. When the nodule was incised a distinct intracanalicular papilloma was found. The base of this cyst has a distinctly granular feel and appearance, differing from the intracanalicular papillomata about to be described.

Upon histological examination, it was found that the epithelium had broken through the basement membrane at some points. Malignant degeneration of the papilloma had already occurred, but the operation had evidently been performed at a very early stage of the malignant change.

Within a year a large mass developed rather suddenly in the left breast, which was removed at another clinic. There were no microscopic evidences of malignancy in this breast, which represented the

cystic type of chronic mastitis. This patient was operated upon in the spring of 1911 for the malignant papilloma, and there has been no recurrence of the growths.

4. Mrs. N. W., aged 46, was admitted to the hospital April 13, 1914. For eight years she had noticed an intermittent discharge from the left nipple. The discharge had recurred every four or six months. For nine weeks before entering the hospital the discharge had been almost continuous. Two weeks before entrance she noticed a tumor about the size of a hazelnut, situated superficially beneath the areola to the inner side of the nipple. This tumor developed rather quickly. The general examination revealed nothing and the remaining history has no bearing upon the subject under discussion.

A serohemorrhagic discharge can be expressed from the left nipple when pressure is made upon the small tumor above mentioned. The tumor could be reduced in size by pressure and the serohemorrhagic discharge became more bloody when pressure was made. The tumor was not adherent to any of the surrounding structures and could be easily displaced. The examination of the breast was otherwise negative. No cysts or irregularities could be found in the right breast.

A radical operation was performed. Upon section of the tumor, a typical intracanalicular papilloma was found. There were no evidences of malignancy. A gross examination of the other parts of the breast revealed none of the changes associated with abnormal involution and no other papillomata.

The patient has remained well since the operation, and as far as can be learned there have been no changes in the remaining breast.

Irregular tortuous openings and spaces are found and there is apparently an attempt to form ducts and acini. Club-shaped processes project into some of the large spaces. These are covered by epithelium supported upon a connective tissue stalk, the ends of which in some instances are rather thick. They are so thick in some instances that the villus-like projection might easily break off and thus give rise to bleeding within the duct. The glandular type of epithelial reproduction is not always preserved, and in some instances there might be a suspicion of carcinoma, for the bases of the villus-like ingrowths are in some places so thick that it is difficult to determine the exact limits existing between epithelium and connective tissue.

The two following cases are examples of bleeding nipples in which no tumor could be palpated, but during the operation a small papilloma was found within a duct, deep in breast tissue.

5. Mrs. C. F., aged 35. Never pregnant. Was admitted to the Presbyterian Hospital May 12, 1914. She had noticed a discharge from

the left nipple for some weeks. At times this was serous in character, but often became blood-stained. The discharge varied considerably in amount, and at times almost entirely ceased. There were no other symptoms. The breast was not perceptibly enlarged, and no pain was complained of. Upon palpation no distinct evidences of a tumor could be found, and the breast did not have the shotty feel of adenocystic disease. When pressure was made over the upper and outer quadrant of the breast, a serous fluid could be expressed, and the fluid became blood-stained if the pressure was continued.

As no definite tumor could be found, the upper and outer quadrant of the breast was resected, as pressure over this quadrant caused the nipple to discharge. As one of the larger ducts was cut across near the nipple a serohemorrhagic discharge was noted, and deep down in this duct was found a small papilloma about the size of a small pea. As far as could be determined by gross examination there were no changes in the rest of the tissue removed, and there has been no recurrence of the discharge since the operation.

6. Miss M. B., aged 38, was admitted to the Presbyterian Hospital November 16, 1915. She had noticed a discharge from the right nipple for ten months. At times the discharge had been great enough to soil a rather large breast covering in 24 hours. No distinct pain had been noticed. Neither breast was enlarged. No definite tumor could be felt, but the discharge could be increased in amount when pressure was made over the upper and outer quadrant of the right breast. A plastic resection of the breast, according to the Warren method, was performed. When one of the large ducts was cut across near the nipple a serohemorrhagic discharge escaped. Situated deeply in this duct was a small intracanalicular papilloma, such as that described in case 5. There were some evidences of beginning microcystic disease upon gross examination, but the changes were not nearly so marked as would be inferred from the findings revealed by palpation of the breast.

7. This case has been offered me by Dr. Carl B. Davis, who has had the patient under observation for some time. Mrs. C. F., aged 48, noticed last September some bleeding from the left nipple. The discharge was slight, but was enough to stain the underclothing. The bleeding soon stopped and now there is only an occasional watery discharge. No tumor could be palpated in the breast, and there were none of the changes associated with cystic mastitis. The clinical findings in the breast correspond to those in cases 6 and 7, and the probabilities are that in this case the lesion is an intracanalicular papilloma which is so small and deeply situated that it cannot be palpated. Owing to the fact that the discharge is only occasionally observed and has become

watery, the patient has refused to have any operation performed upon the breast.

These seven cases all presented a typical serohemorrhagic discharge. The discharge in two of the cases at times became almost pure blood. In two cases the discharge was associated with chronic cystic mastitis, while in the remaining five small intracanalicular papillary cystadenomata were the cause of the hemorrhage.

Saase, in an article upon cysts and cystic tumors of the mammary gland, states that the papillary cystadenomata are not related to carcinomata for the adenomatous new-growths do not infiltrate the surrounding tissue and do not extend beyond the walls of the duct, which become dilated to form the wall of the cyst in which the papillary cystadenoma lies. As these growths are frequently situated superficially it is quite possible that the skin covering them might become ruptured or thinned so that the growth might extend externally, then a small mushroom or cauliflower-like mass is formed from the papillary cystadenoma. This has happened in some cases in which a cyst situated superficially has been incised and the growth not removed.

The important question regarding these cysts concerns their relation to malignancy. It is difficult to determine how many cases become malignant, for many of the cases, undoubtedly benign, were formerly regarded as duct cancers, and the cases were not followed subsequently, so that it cannot be determined whether recurrences occurred or not after operation. Bowlby and Mastermann report three local recurrences in sixteen cases collected or observed by them, but these were local, and were the result of incomplete operation, rather than an vidence of malignancy.

In a personal communication Bloodgood makes the following statements concerning a discharge of blood from the nipple. His cases are divided into the following groups:

Group A.—Cases in which women have had discharge of blood from the nipple without the findings of any tumor. This group can be divided into two classes. Class one—Two cases have been operated upon. The breast was removed in these two cases and a simple papillomatous cyst containing blood found. One case was operated upon fifteen years ago, and the other five years ago. Both patients are well, without recurrence. Class 2—No operation was performed. He has had about five or eight of these cases. In all but one the blood has disappeared, no tumor has developed, and the patient has remained well. In one case a tumor developed three years later and was removed. It was a cyst with a papilloma, and there has been no recurrence after a period of about two years.

Group B.—Discharge of blood from the nipple, associated with a papillomatous tumor. All of these cases have been operated upon, and in all a papillomatous cyst has been found. The majority have been benign. He thinks that in only one or two cases which were malignant was there a discharge from the nipple. From this experience he finds that discharge from the nipple alone is not an indication for operation.

Greenough and Simmons reported 20 cases of papillary cystadenomata of the breast in 1907. In eleven of these there was a serohemorrhagic or hemorrhagic discharge from the nipple. Three were malignant, but there is no mention made of a discharge in these three cases. There was one local recurrence in this group. The tumor recurred in the same situation from which one had been removed, and had persisted for four years, as another operation had not been attempted.

Rodman regards papillary cystadenomata as an advanced stage of abnormal involution, and states that they can usually be differentiated from cancer in a clinical way, because cystadenomata are nearly always situated immediately behind the nipple. The discharge of pure blood, the central location of the cyst, the age of the patient, usually 48 or 49 years on an average, will enable one to recognize it. But Rodman believes that these are potentially malignant from their inception, and that a radical operation should be performed. He has found but two exceptions. Of the six papillary cystadenomata that he has operated upon and has records of, four were definitely malignant, two were not. Rodman also reports two cases of bleeding nipple, associated with chronic mastitis.

Histological interpretation of the cellular picture presented by a papillary cystadenoma is often difficult. This is indicated, as previously mentioned, by the reports of earlier observers who regarded these as duct and villous carcinomata. If they were carcinomata there have been relatively few recurrences, even after incomplete operation.

The character of the discharge, whether serohemorrhagic, hemorrhagic, or brownish, apparently gives no clue whether malignant changes are occurring. Some of the benign papillomatous growths have been associated with a brownish discharge. In some instances the discharge has lasted as long as nine years, in one case as long as twelve. One of the cases observed by me showed beginning malignant changes. In this case a discharge had been noted for three months, but a tumor had been present for four. The character of either the discharge or of the tumor did not enable me to make a diagnosis of beginning malignancy, as they did not differ from those of a benign papillary cystadenoma. The granular wall of the cyst aroused suspicion of malignancy when the cyst was incised.

Bleeding nipples are most frequently associated with intracanalicular papillary cystadenomata, and the adenocystic type of chronic mastitis. The papillary growths occurring in the acini or ducts are essentially the same, and the papillary cystadenomata should be regarded as a part of abnormal involution, although not necessarily as a late stage. That the papillary cystadenoma may not be single is indicated by Saase's report. In only one of five cases observed by him were there no evidences of changes in the breast, with the exception of the cyst. Even in this case a statement cannot be made concerning the portion of the breast which was left, for only a small part of the breast immediately adjacent to the papillomatous cyst was removed.

A plastic operation should be performed in most of these. It should be perfarmed, unless there are evidences of malignancy. The changes associated with malignant degeneration, I believe, are quite definite, and can be determined by gross appearance when such a cyst is opened. I believe that an operation should be advised even when there is no evidence of a tumor, for in these cases a small intracanalicular papillary cystadenoma will be found deep down in the ducts. The portion of the breast in which the growth lies can be determined by the increase of the discharge when pressure is made.

The line of treatment to be followed depends entirely upon whether we regard this lesion as essentially precancerous or not. It is estimated that carcinoma develops in from 10 to 50 per cent. of the cases of chronic mastitis. It must be emphasized that but relatively few cases have been observed in which carcinoma has developed upon a chronic mastitis, and the cases in which a chronic masitis has been associated with a carcinoma does not demonstrate that the latter developed upon the former.

The statistics compiled by Greenough and Simmons from the Massachusetts Hospital are of especial interest in establishing the results of partial operation upon the breast in chronic cystic mastitis.

1. If 83 cases of partial resection for cystic disease of the breast, 17 or 20 per cent. were unsuccessful.
2. In four cases, carcinoma occurred in breast tissue after partial operation, 4.8 per cent.
3. In 5 cases the disease recurred only in the other breast, 5.9 per cent.
4. In 8 cases the disease returned to the breast tissue left by the first partial operation, 9.6 per cent.
5. The occurrence of carcinoma in cases of cystic disease, estimated at about 10 per cent. of all cases, demands radical treatment in all but the mildest cases.

The thought of the radical removal of the breast has deterred many a patient from seeking advice concerning chronic cystitis, which, I be-

lieve, should be operated upon in almost all instances. Removal of the breast, even without an axillary dissection, is a mutilating operation, and many of the plastic operations are unsatisfactory.

In operating upon chronic cystic mastitis all the glandular structure of the breast should be removed in order to prevent recurrences. This is most easily accomplished, and with the best cosmetic results by making an incision to the inner side of the nipple, and after cutting the milk ducts at their entrance into the nipple, the entire glandular portion of the breast can be removed if traction is made. After the glandular portion of the breast is removed, the breast can be reconstructed by placing several purse-string sutures through the fat and tying these from below upward. The conical shape of the breast is better preserved by this procedure than by any of the other plastic operations which I have employed. If there is a suspicion of malignancy, the radical operation should be resorted to at once. It has been my experience that in the majority of cases the diagnosis of malignancy or benignancy could be based upon the gross examination of the specimen. This operation, which is not mutilating, encourages patients to seek advice for chronic mastitis, which has in a certain number of cases a definite tendency to undergo malignant degeneration.

ECLAMPSIA.*

By J. Fleming Goodchild, L.R.C.P., Lond., M.D.

THE few remarks I shall make to-day on eclampsia are intended to be of practical use to the physician who has cases of eclampsia or pre-eclampsia to treat.

In discussing the subject from this standpoint it is unavoidable that one shall trespass on the domain of the speaker who is to follow, and here I wish to say, this overlapping is not intentional. When asked to read a paper before this society, I chose the subject "Eclampsia" with a view to emphasizing a special line of treatment, which in my experience and practice, and in the experience and practice of others, has, in such cases, shown itself to be very satisfactory. I did not then know there was to be another address purely on the treatment of eclampsia.

Should Dr. Wardlaw and myself "hit it" together, then, I think, we shall deserve congratulations. Should our views diverge widely, the discussion following the reading of these papers will be, at least, interesting, and by the debate truth may be discovered.

Not long ago an American physician, Dr. Williams, delivered an address before the Gynæcological Society of the United States, and

* Read at the meeting of the Ontario Medical Association.

arraigned the profession in regard to the absence of anything new read before that society. More recently Dr. Moulden, of Maryland, read a paper before the Washington Obstetrical and Gynæcological Society, in which he took up Dr. Williams' arraignment and tried to show that more is known now than formerly of the toxemias of pregnancy, and that these cases are better treated as a result of this advance in knowledge. He concluded that members of the American society had shared in bringing about the improvement.

Dr. Moulden then reported one hundred cases described as toxemic pregnancies, and, among these were eight cases of pre-eclamptic toxemia, all of which cleared up upon the institution of thorough elimination by the paths of excretion. The exception, or ninth case, was one that did not clear up, and, as eclampsia occurred premature labor was induced, and with this additional therapeutic measure recovery was brought about.

If it is a question which of these men is correct in regard to progress in dealing with cases of toxemia—other than eclamptic—in regard to this latter form there is no doubt, however, that Moulden has it on Williams, for there has been certainly a decided advance, if not in the knowledge of the cause, at least in the treatment of the pre-eclamptic and the eclamptic. Vast numbers of lives that formerly would have been lost in eclampsia are now saved, and, as nearly all of these cases go to their death without good treatment, this advance in prevention and in cure deserves credit rather than arraignment. This achievement in therapeusis and obstetrical technique is not only a cause of satisfaction to ourselves, but has undoubtedly enhanced the usefulness to mankind of a great group of practitioners engaged throughout the world in the obstetric branch of medicine.

Though eclampsia is a term which may be applied to various departures from health, associated with recurrent convulsions, and due to lesions or anæmia of the brain, or spinal cord—though it is quite usual to apply the term to four or five groups of symptoms where there are convulsions followed by longer or shorter periods of coma, yet, for purposes of discussion, even when obstetric subjects are not the sole topic, the word "eclampsia" suggests the disease we are here to-day to consider. We will, therefore, pass by such forms as eclampsia nutans—the so-called Salaam convulsions, or nodding spasms; eclampsia rotans —the swinging or turning spasms present sometimes in hysteria, and particularly in early life; eclampsia hæmatogenes—due to various morbid blood conditions; ordinary infantile eclampsia, pass by the uraemic eclampsia, resulting from the various forms of nephritis, or other lesions complicated with nephritis, till we come to that intoxication of pregnancy so correctly named "eclampsia gravidarum," and so well defined

by the author, who says: "It is a symptomatic disorder, characterized by convulsive or epileptiform seizures, that suddenly come on prior to, during, or after labor."

Though cases of this acute disease are reported occurring as early as the third month, the condition is generally met with during the second half of pregnancy, and the incidence of the cases rises in frequency the nearer term is approached. While toxemias of pregnancy manifest themselves more frequently, actual eclampsia occurs probably not more often than once in one hundred pregnancies. Of this one per cent of all pregnancies, the proportion of cases is about as follows: During the latter months of gestation, 50 per cent.; during labor, 30 per cent., and during the puerperal period, 15 per cent.

As the prognosis of the ordinary nephritis of pregnancy is generally favorable, unless it is a chronic nephritis having its onset previous to the pregnant term, it is the approach of eclampsia that is to be especially guarded against. It is the eclamptic state that requires to be so vigorously and actively treated, if the life of an otherwise usually particularly strong and healthy woman is to be saved.

Not only has the cause of eclampsia gravidarum not been entirely cleared up, but some authors seem to be still uncertain as to whether the condition is purely an affection of the kidneys. Against the claim that it is a real nephritis ending in uraemia is the fact that eclampsia sometimes develops without a previously existing albuminuria, and also the fact that it even appears without anything whatever of albuminuric symptoms. The pathologists, too, post mortem in fatal cases report usually simply a pale kidney, very little enlarged, and microscopically sections showing a slight interstitial œdema with more or less degenerative change in the epithelium of the tubules. There is one thing, however, on which all are agreed, and that is that the cause of this form of eclampsia is pregnancy itself, and that the onset of the state is due to insufficient elimination of some toxic product or products, which should either not be formed in the mother at all, or else, if always present in small quantities, should be kept diluted in order to preserve the balance of health.

Though we cannot in all cases do away with the cause pregnancy, and though we do not yet know *how,* in all cases, and do not always get an opportunity, to do away with the onset of the toxic state that leads to eclampsia, still we know how to ward off the disease to a very considerable extent; also when the disorder exhibits itself, we have knowledge of treatment that is singularly satisfactory, and if well applied in most cases, almost certain to cure.

Jardine, of Glasgow, obstetrician to the Royal Infirmary, professor of obstetrics of St. Mungo's College, has been very successful in treating

these cases. I do not know the proportion of deaths in all his cases, but I do know that his death rate is low, and certainly below that reported as a general average by Adolf Strumbell, professor of special pathology and therapeutics in the University of Leipzig, whose statement is that one-third of all the eclamptic mothers die, and one-half the children of those mothers. Having enquired into the reason that Dr. Jardine is so successful, I can find no other than that he puts such strong faith in the use of acetate of soda; to the use of this drug by transfusion methods, in addition to other forms of thorough eliminative treatment.

It is because there is so little nephritis present and so little of anatomical lesion in the individual that symptomatic treatment is of such value, and prognosis so favorable if the physician will be wise enough to work for the speedy elimination of the toxic substances, manufacturing or already manufactured in the individual. As cases occur without a pre-existing albuminuria, it is necessary to recognize other symptoms of onset, than the purely urinary, though an enquiry into the latter is always so necessary and important.

When symptoms of pre-eclamptic toxemia are noted early and treated, one may often ward off an attack, or at least put back the seizure till after the natural birth of the child, and thus bring about a very light case, and most likely save two lives, whereas if these premonitory signs are not noted and treated, the disease passes quickly into its usual violence, and at a time when the danger to life is greater than it would be at a later period of pregnancy.

Eclampsia is so easily diagnosed that it is not necessary here to go into the symptoms extensively. I will, therefore, recount the pre-eclamptic signs and state merely *some* of the findings and symptoms after the actual onset of the disease. The prodromal symptoms occur pretty much in order as follows: Virtigo, tinnitus aurium, persistent headache, pre-cordial distress, epigastric pain, disturbed vision, either blurred vision, blindness, or merely the common phenomena, muscæ volitantes. As general œdema may or may not be present, we must not wait until it appears and forget to observe other premonitory signs. Systematic examination of the urine for albumen, and occasionally for casts, brings early to light a very important sign, but, as the casts show simply the extent of the nephritis, and, as albumen is sometimes not present, it is more important to measure the quantity of urine passed in twenty-four hours. If the number of ounces passed is too few, then it is hardly worth while estimating for urea, immediate treatment is necessary, and we should institute at once a few days of blood washing and kidney cleansing.

The presence of the premonitory symptoms which I have enum-

erated indicate usually that the elimination of urea is defective, with these coming on, and the measurement of the quantity of urine in 24 hours being low, we must institute eliminative treatment immediately. The insufficiency of the kidney is a premonitory symptom easily and effectively treated if one commences this treatment early, whereas when the poison has accumulated sufficiently to cause convulsions, it is often impossible to get elimination short of terminating pregnancy.

It must be remembered,too, that a gradual increase in blood pressure is a premonitory sign and that a persistent systolic pressure of one hundred and sixty mm. of mercury is a danger signal. Taking into account the facts I have stated, and bearing out from the experience of practically all obstetricians, we find the statement of Applegate, of Philadelphia, true. He says the keynote to the situation is the premonitory subjective symptoms, the decreased percentage of urea excreted, and a persistently high blood pressure, and in this connection I may say that vascular tension is mostly increased except in women of the anæmic type, and in regard to the presence of œdema, this is usually proportionate to the amount of organic renal disease.

Now, in regard to the treatment by the *use of acetate of soda,* in conjunction with saline infusion, Jardine, of Glasgow, so far as I know, was the first to introduce specially this salt in preference to the potash salts. He argued that as the potasium salts were poisonous, and as they have to be used in fairly large quantity to be of any value as diuretics in the treatment of this disease, it would be better to use a non-poisonous and less depressing salt, such as sodium acetate.

Among his first cases treated in this way was a report of twenty-two, with two deaths, a death rae of 9 1-11 per cent., or one in eleven.

C. Purslow, member of the Royal College of Physicians, obstetric officer of Queen's Hospital, Birmingham, and surgeon, Birmingham Maternity Hospital, in his excellent article on the treatment of eclampsia, says one of the greatest improvements in treatment, and one of the few methods upon which almost all authors are agreed, is the use of saline intravenous, or subcutaneous infusion. He adds that this infusion is improved and made of greater value by the addition of one dram of acetate of soda to each pint of the saline solution, and, for my own part, I would add that the acetate is by far the most important ingredient of this infusion, is a drug that will certainly do what the obsterician requires of it, provided he will so prepare his patient that it becomes possible for a diuretic to act.

I would also add that if all authors are not yet agreed on the value sodium acetate, as they are on normal saline, it is but a question of time till they shall agree. The adoption of this treatment is bound to become more or less universal.

As Dr. Wardlaw will discuss in a broader way and go more fully into the treatment, I will confine my remarks to the measures I myself would advise, and which I have found so satisfactory in my own practice. In my experience as an obstetrician, the cases of eclampsia I have had an opportunity to treat, have, for the most part, been those that have gone through the pre-eclamptic state to the time when the first fit occurred without any notice being taken of the pre-eclampsia or any treatment whatever instituted; that is to say, that for some reason these women either neglected themselves or someone else neglected them. Symptoms of headache, giddiness, etc., defective elimination by the kidneys, were entirely overlooked till the arrival of the convulsion.

Among hundreds of cases, where one has had a chance to advise, and has been able on the first untoward symptom to measure the quantity of urine passed, to test it for albumen, the introduction of an effectual diuresis by the use of about one quart of Imperial drink daily for a few days, the use of this drink, with one free purgation, as by administering one ounce of castor oil, and continued attention to the bowels thereafter; for example, giving one ounce of Burrows & Welcome's Paroleine every night, and instructing the mother that the moment she should notice the passing of a lesser quantity of urine than usual to take more of Imperial drink, and to cease taking it when the kidneys seem improved again, and if there is any headache or other premonitory symptoms, to consult her physician immediately. When I find that this treatment is not sufficient to bring the urine back to a perfectly normal state, I add to each quart Imperial drink one dram of acetate of soda; this will put matters right more quickly, and the treatment may be repeated as required.

In numerous cases of pregnancy with mild toxemic signs, I have never hesitated to use the acetate of soda to enhance the value of the cream of tartar and lemon drink, and in all cases of eclampsia that I have treated since learning of the potency as a diuretic of this drug, I have used acetate of soda. By this method I have now treated some nine cases of eclampsia itself, six Toronto women and three girls, the latter primipara, who developed the disease in the woman's hospital. Among these nine cases not on death has occurred, and any of the women may be seen now perfectly well. Of the nine cases one only could be considered mild, and that was an instance where prophylatic treatment was fairly well carried out, though not as complete as it should have been, and where the convulsions were limited to one, which came on some twenty-four hours after labor.

In all pre-eclamptic cases, one should use expectant treatment as above, but the moment eclampsia has commenced one should hesitate no longer. He can save that woman's life and is most likely to save

the child's life, if he will save that of the mother. As the cases occurring during the pueperium are usually mild and easily managed by the hot pack alone, or, if necessary, one treatment by the saline and soda interstitial, I will dismiss them at that and say that in the more severe forms coming on before or during labor, the method I adopt is to institute treatment without delay. There is no great urgency for anxious flurry or hurry, but no time should be lost. If the patient is able to swallow, start at once by giving her three grains of calomel, and, say thirty grains pulv. jalap. co, and, if this fails to move the bowels at a later period—when one would expect a movement—give two drops of croton oil made up with sugar, olive oil or butter. The patient is given a drink of water to wash down the calomel and jalap; she is then put well under chloroform or ether anæsthetic, and by the hand the cervix is dilated, the fœtus turned and delivered. This usually takes about one hour, in a case where labor has not commenced, but where the cervix is not so easily dilated, as for example, the primæ gravidæ, it may take a little longer, especially if the cervix is very rigid. As I have trained my left hand for obstetric manipulation and the right for outside application of strength, I always dilate with the left hand, helping out with the right, when the fingers are tired. When the third stage of labor is over, I give the interstitial of acetate of soda, and sodium chloride of each one dram to the pint, and introduce one pint under each breast, and then put the patient in a hot pack. She is put into a fresh pack every twenty minutes, and this packing is done thoroughly under supervision of the physician, and must be continued until there is profuse perspiration. If there is reaction.

I may say that in addition to the enema always given previous to the induction of labor, if no movement of the bowel occurs in six hours after labor, a one-two-three enema is given and repeated two or three times, if necessary, until the bowels move; when once diaphoresis is free, the packing is stopped, the patient dried and kept thoroughly warm and comfortable. If the pulse has become fast or there are signs of shock, this must be treated in the usual way. Whether further active treatment is required will depend on whether the convulsions are becoming less and less frequent, and whether satisfactory elimination by the bowels, skin and kidneys is taking place.

As the patient often continues very restless, I do not hesitate to give a sedative, either by mouth or per rectum, of potassium bromide, 30 grains; chloral hydrade, 20 grains, and repeat this dose in two hours, if necessary. If the patient is unable to swallow, a double dose by the bowel of the same mixture is the rule.

As Professor Jardine was one of the pioneers in the introduction of the saline and acetate infusion as a routine treatment, I take opportunity to read a report of one of his very recent cases.

CURRENT MEDICAL LITERATURE

TREATMENT OF DIPHTHERIA.

George E. Ebright (*California State Journal of Medicine*, August, 1916) advocates an initial dose of eight to ten thousand units, usually the latter, and the repetition of the dose every six, eight or twelve hours as occasion demands until there is evidence of effect upon the membrane. He feels that this procedure is best even in small children; that it hastens the termination if the infection; that by stopping the diphtheria intoxication as early as possible, complications are less frequent, and also that probably the length of time for the disappearance of the diphtheria bacilli is shortened; in other words, that the tendency for the development of carriers is less. In the discussion of this paper Cullen F. Welty remarked that people who have had their tonsils removed are not diphtheria carriers, and that the only way to get rid of a fell-established infection if the throat is to take out the tonsils.—*N. Y. Medical Journal.*

THE TOBACCO HABITS OR SCHOOL CHILDREN.

An illuminating glimpse into the possible diversions of our boys and girls while away from sight at school is afforded by a recent report which contains the results of an investigation by Drs. Stiles and Richards of the Public Health Service. To be sure the children in question were largely drawn from a rather low stratum of society, but in the present democratic arrangement of our public schools the girl from a refined surrounding is so apt to rub elbows with the hooligan from Goat Alley that the fear is rather that she will absorb the mannerisms of the gutter from him that he will improve by her example. Drs. Stiles and Richards examined 2,215 pupils, ranging in age from 4 to 20 years. They were divided into two groups, those who had toilet facilities in the house being known as the sewerage, or for short, the "S" group, and those who had an outside privy only, the "P" group, this grouping being considered roughly indicative of the cultural level obtaining in the household. It was found that no girls chewed or smoked tobacco. About one-half of one per cent. in the S group dipped snuff, and slightly less than that in the P group. Only one boy in the1 ,043 examined took snuff, and it was not ascertained whether or not his home had plumbing. About 1½ per cent. of the boys in the S group chewed, and 3 per cent. in the P group, but 6.5 per cent. of the S group smoked, while only 5

per cent. of the P. group indwulged themselves thus. The tender age of some of these devotees of nicotine is surprising. Thus there were three boys of 11 years who chewed, two of 10 years, two of 9 years, and one of only 8 years. There were six 10-year-old boys who smoked, three 9-year-old ones, one of 8, and one of 6 years! Moreover, two boys had begun the habit at 6 years and one at the age of 3. This last prodigy will probably shatter the retro-barn-door record of all of us, no matter how precocious. There was one 12-year-old girl who dipped snuff, one 11-year-old, and a boy and a girl of 9 who indulged. One girl had begun this habit at the age of 4 and two at the age of 3. Of course, the inception of habits such as the above at the early age quoted can only mean gross neglect of parental duties, but the fact remains that if the conditions found in the city studied may be considered as at all typical the profession must change its attitude in regard to the tobacco habit and not arbitrarily rule out any age as too young in considering the possibility of its influence in a given case.—*Medical Record.*

OBSERVATIONS ON FIFTY LAPAROTOMIES PERFORMED FOR GUNSHOT WOUNDS OF THE ABDOMEN.

G. H. Stevenson and C. Mackenzie (in *Lancet*) present a synopsis of these 50 cases, of which 17 recovered and 33 died. The cause of death in the fatal cases was as follows: General peritonitis, 10 cases; hemorrhage and shock, 19; lung conditions, 2 cases, and secondary hemorrhage from the kidney in one case and sloughing of the gut in one case. Since the beginning if the war the opinion with reference to the expectant treatment of abdominal wounds has undergone a change and completely altered the outlook in such cases. Patients are operated on as quickly as possible. It is wrong to wait, no matter how bad the patient may appear, as so often in such cases hemorrhage and infection are progressing. Even thiugh no pulse can be felt, an operation is not thereby contra-indicated, as it gives the last possible chance of recovery. Many of the patients in this series were operated on within five or six hours of their being wounded, though many others did not reach the hospital for twelve to twenty-four hours. Regarding the question of whether a man will stand an operation or not, they took the view that, if intraperitoneal perforation of the gut is present he will almost certainly die if not operated upon, and that it is right to give him the chance, even though it be only one in a thousand. The technique used in these operations differs little from that in the similar operations of civil practice, end to end anastomosis being the usual method when resection is necessary, except when several feet of the gut have to be re-

moved, when the lateral anastomisis is employed, as this is undoubtedly stronger. Where suture is possible, suture in the transverse axis is preferable to the longitudinal in lesions of the small intestine. The writers have found pituitrin a most valuable drug in the after-treatment of abdiminal cases. In a recent article it is stated that it is not so usual in gunshot wounds of the bowell for the gut to be completely divided; in the present series this is a comparatively common occurrence.—*Medical Record.*

TREATMENT OF HYPOTHYROIDISM.

Scott (*Jour. Med. Soc. State of N. J.,* March) tests the blood pressure both before and during treatment. Hypothyroidism is usually associated with hypertension. In these cases the thyroid extract is not well borne. To overcome this, suprarenal extract is given, the proportion being ten grains of suprarenal extract daily to five grains of thyroid.

A FRENCH SUBSTITUTE FOR 606.

At a meeting of the Academy des sciences on March 20th, Laveran (*Paris Médical,* April 1, 1916) read a paper by Roger, Ralimier, and L. Frenkel, of the sixth army, who have experimented successfully with the "Danysz Compound" in rebellious cases of syphilis. This is a compound of arsenic, antimony, and silver which has been used at the Institut Pasteur, and bears also a numerical title—"102." Two important cases were one of aortic aneurysm and one of myelitis which improved rapidly under a series of extremely small doses.

PERSONAL AND NEWS ITEMS

Appropriations amounting to over $3,000,000 have been made by the Rockefeller Foundation this year.

The death rate in New York for the first thirty-six weeks of this year was 14.51 per 1,000.

The *Medical Press ad Circular* for 30th August advocated the creation of the office of a Minister of Health to co-ordinate the care of public health in Britain.

Dr. Robert A. Jones, who has been the medical superintendent of

Claybury Asylum, England, has tendered his resignation. He was an ardent scientific and clinical worker on mental diseases. It is understood that ill-health is the cause.

Dr. George H. M. Dunlop, a very noted physician, of Edinburgh, and who went early in the war to France to give medical attendance to British soldiers, died on 3rd July. He is deeply mourned.

In the latter part of July, Sir Clifford Allbutt received a presentation from his medical friends at Cambridge on the occasion of his 80th birthday.

Dr. Arthur Hugh Lister, a nephew of the late Lord Lister, died recently at sea, of tuberculosis, on his way home from Egypt.

Sir William Henry Power died on 28th July, in his 74th year. He was a distinguished epidemiologist and sanitarian. There have been few deaths in the medical profession in Great Britain of recent years that created such a feeling of loss.

Dr. A. D. Campbell, of North Battleford, has been appointed superintendent of the Saskatchewan Hospital for the Insane.

The Albert medal of the Royal Society was awarded, on June 29th, to Professor Elie Metchnikoff, two weeks before his death, "in recognition of the value of his investigations into the causes of immunity in infective diseases, which have led to important changes in medical practice, and to the establishment of principles certain to have a most beneficial influence on the improvement of public health."

Dr. William Taylor, of Edinburgh, died there recently in his 80th year. His student days went back to the time of Laycock, professor of medicine, and Spence, professor of surgery.

Attempts have been made to account for the holes found in prehistoric skulls as the relics of some religious rite, but Dr. Sören Hansen, while admitting that amulets and other charms may have been carved out of the skulls of the dead, regards this view as less plausible than the explanation that the skulls were opened during life to relieve pain. In Sweden, a grave was found in 1900 containing ten skulls, of which three had been trephined, and in every case the patient had evidently survived the operation.

After more than a year's use of the twilight sleep method in childbirth, the obstetricians of Johns Hopkins Hospital have discontinued its use. They concluded that the method was too dangerous and the menace to the life of the child too grave. They found that it could be used with safety only under exceptional circumstances and with the most skilful supervision.

Sir Clifford Allbutt was elected president of the British Medical Association. There is a good deal of discontent in the ranks of the association, and Sir Clifford may be able to do much to remove this.

In a paper on Infantile Scurvy, Dr. Funk, of New York, contended that the use of pasteurized milk was the cause of much of the disease. Dr. L. Emmett Holt agreed with this view. The pasteurizing impairs the "vitamines."

At the representative meeting of the British Medical Association two resolutions were passed. One called for the prescribing as far as possible British-made drugs. The other urged on the Government the necessity of aiding the home production of such drugs and chemicals as have usually been purchased in Germany.

Dr. G. S. Graham, for some time pathologist at the Boston City Hospital, has been appointed chief of the laboratories of the Vancouver General Hospital.

Major R. K. Kilborn, M.D., recently resigned his position as medical officer to the Royal Military College, Kingston, a position which he had held for fifteen years.

Dr. A. L. McQuarrie, Medical Officer of Health for New Westminster, B.C., has gone overseas with the 121st Battalion, and Dr. G. T. Wilson has been appointed his successor.

The Military Cross has been awarded to Capt. John Arthur Cullum, M.D., C.A.M.C., regimental medical officer of the 28th Battalion.

Considerable experience in the effects of sterilization of male patients in the Wisconsin institutions for the feeble-minded has shown much improvement in their mental state.

Consisting of ten surgeons and twelve nurses, in charge of Dr. Daniel Fiske Jones, of Boston, the third Harvard Red Cross unit sailed from New York on August 17th for Liverpool. The party will be sent direct to the British Expeditionary Base Hospital No. 22, on the French front, and will relieve the first and second units, whose terms of service have expired.

With the co-operation of the Philippine Government, the Rockefeller Foundation is preparing to send a hospital ship to the Sulu Archipelago for the treatment of the Moros and members of allied tribes, many of whom have been found to be suffering from skin diseases, malaria, hookworm, dysentery and other ills. In Mindanao and Jolo, it is said, the Moros have been reached to some extent by the dispensaries, but the great bulk of the population still stands in need of medical service. The ship, which is now being equipped, will be sent out for a five years' cruise.

Columbia University has recently received from Mr. James N. Jarvie a gift of $100,000 for the new dental school to be connected with the university, for which an endowment of $1,000,000 is being sought. It is now expected that the school will open in September in a temporary building near the College of Physicians and Surgeons.

Dr. R. H. von Ezdorf, surgeon in the United States Public Health Service, and at the time of his death in charge of the United States Marine Hospital at New Orleans, La., died at Lincolnton, N.C., on September 8th. He was born in Pennsylvania and was a graduate of the George Washington University Medical School, Washington, D.C., in the class of 1894, and entered the Public Health Service in 1898.

Studies of Rhus toxicodendron show that its poisonous principle is a volatile acid resin; therefore, the treatment of rhus poisoning with an alakali is theoretically right. In practice the correctness of the theory is borne out; a saturated aqueous solution of sodium bicarbonate being one of the most efficacious remedies.

Miss S. E. S. Mair and Mrs. A. M. Chalmers Watson, on behalf of women medical graduates, students and their friends, have offered to pay to the Edinburgh University $20,000 for the medical education of women.

Dr. Winford H. Smith, superintendent of the Johns Hopkins Hospital, Baltimore, who was selected by the trustees of the Jeannes Fund to go to Philadelphia, make a survey of its hospitals and medical work, and give them his opinion as to where the money would be of the greatest benefit, has recommended that it be given to the University of Pennsylvania Hospital. The fund, which amounts to more than $3,000,000, is the estate and its increment of Anna J. Jeannes, a noted Friend philanthropist, who died in 1908. According to the terms of her will the money is to be used for the treatment of cancer, nervous diseases, and disabling disorders.

Dr. W. M. Cotton, Canadian Army Service, is gazetted for duty with the Royal Flying Corps.

A woman of Detroit—Mrs. Lizzie Merrill Palmer—has pointed out to America in her will the importance of motherhood as the basis of national greatness. Mrs. Palmer has bequeathed a sum of money estimated at $800,000 for the establishment of a school for motherhood.

The late Dr. George Kennedy, for many years law clerk in the Department of Lands, Mines and Forests, Toronto, left $5,000 for a George Kennedy scholarship, and $5,000 for a Sarah Kennedy scholarship in the University of Toronto.

The Military Hospitals Commission for Canada has opened offices at No. 1 Queen's Park. Those present at the first meeting were Senator Lougheed, Col. Thompson, Sir Henry Pellatt and Mr. Lloyd Harris.

The University Court of Edinburgh has agreed to admit women students to medical lectures. For a long time the University would only grant medical degrees to women who studied elsewhere and passed the examination.

The contract for the Dr. Carroll wing to the Ingersoll Hospital

has been awarded. The work will commence at once. The addition will be 24 by 38 feet, two storeys high. There will also be a sun-room.

Numerous recent experiments have completely disposed of the common belief that infection is carried in books.

By the will of the late Miss Barbara Heyden bequests were left as follows: The Consumptice Sanitaria at Weston and Gravenhurst, each $150,000; Toronto City Dispensary, $1,300; Hospital for Sick Children, $7,000; Agen Men's and Women's Homes, each $500, and East End Day Nursery, $300.

On August 22nd, in German East Africa, from wounds received in action on 17th, Captain W. O. McCarthy, of the Second Rhodesian Regiment, son of the late J. L. G. McCarthy, Esq., M.D., of Barrie, in his 37th year.

The late Dr. John McBain, of Montreal, left an estate of $12,473.

Drs. A. A. Macdonald, H. T. Machell, R. B. Nevitt and C. R. Sneath, all of Toronto, have had a son killed recently in action.

Many of the returned soldiers are afflicted with tuberculosis, and there is much need for suitable accommodation for them, especially in Ontario.

Two cases of leprosy have been discovered in the persons of two Chinamen in British Columbia.

Dr. Famulo Kakiuchi, a member of the medical teaching staff of the University of Tokyo, Japan, who is making a tour of the universities of the United States and Canadt, was recently in Toronto to visit the University of Toronto.

Clarence House, at one time the residence of King William IV., has been opened as a convalescent hospital for Canadian soldiers.

The people of Ontario will soon be enabled to visualize something of the work done in the Orpington Hospital. A film 1,800 feet in length has been made, portraying the arrival and admission of a convoy of wounded, the sorting out, clinical treatment and the entire course in the hospital up to the discharge of the patient. The money raised by the exhibition will be devoted to the Canadian Red Cross.

Capt. Walter Woods McKeown, son of Lieut.-Col. (Dr.) McKeown, has been awarded the Military Cross. He was nursed through an attack of typhoid fever by Edith Cavell.

The pressing need for hospitals in Serbia has decided the Scottish Women's Hospitals to send out a second unit under the able directorship of Dr. Elsie Inglis. This unit will be supplied, like all other units, with modern and up-to-date surgical appliances, and will have attached to it a number of ambulances.

Dr. Edward Ryan, of Kingston, who went to England with the Ontario Government Hospital in April last, is home on furlough.

Professors A. Primrose, R. D. Rudolf, B. P. Watson and J. J. McKenzie will resume their teaching in the medical faculty of the University of Toronto this session.

The infant mortality in Toronto was low during the very hot period of July and August. The deaths in two years for July were 109, as compared with 113 in July, 1915.

Thirty nurses from Toronto, London, Saskatoon, Victoria and Regina left a short time ago for overseas. They were joined by thirty more further east.

France has benefitted so much by the prohibition of absinthe that the ban on this form of beverage is likely to be made permanent.

There were 8,000 cases of infantile paralysis in New York in the course of the epidemic; and the significant fact is noted that there was not a case among the 2,500 babies known to have been fed on pasteurized milk through a single charity.

Dr. Thomas Henderson died in Detroit 4th July. He was born in Exeter, Ontario, in 1855.

Col. H. A. Bruce, who was president of the Toronto Academy of Medicine, owning to his prolonged absence in Europe, has resigned the presidency. Dr. John Ferguson, vice-president, was elected president, and Dr. D. J. Gibb Wishart, vice-president.

It is reported that the new Asylum at Whitby will be used as a hospital for returned soldiers. It will have accommodation for 1,200 beds. The institution will make an ideal convalescent home.

The members of Admiral Chapter, I.O.D.E., of Collingwood, presented a week ago to the Medical Service at Borden Camp a Willys-Overland ambulance. Mrs. Knight made the presentation, and Lieut.-Col. C. A. Warren, D.A., D.M.S., accepted the gift and suitably thanked the ladies. Major-General W. A. Logie also paid a tribute to the work of the ladies.

Captains S. M. Polson, Garfield Platt and W. H. Ballantyne, serving with the Queen's Hospital in France, have been promoted to the rank of major.

OBITUARY

LIEUT.-COL. R. P. CAMPBELL, M.D.

A well-known Montreal man, whose name has appeared in the casualty list as killed, is Lieut.-Col. R. P. Campbell, who had charge of No. 6 Field Ambulance. The tribute from one of the correspondents at the front reads as follows:

"Col. Campbell's achievements in the advanced dressing station

form a lasting monument to his memory. He was killed while attending to the last of some thousands of cases, a shell hitting the station in which he was engaged."

Dr. Roland Playfair Campbell was born in Montreal in 1876, son of the late Rev. Prof, John Campbell. He was a grandson of Mr. James Campbell, of Campbell & Sons, publishers, Toronto, and Mr. J. S. Playfair, of Bryce, McMurrich & Co., Toronto. He was also a nephew of Mr. James Playfair, of Midland, Ont.

Dr. Campbell attended Montreal high school, and graduated in arts at McGill with honors. Four years later he received his degree of M.D.C.M. with honors in aggregate in all subjects. He was interne for two years in the Montreal Hospital, and in 1903 went to Germand, where he studied under Mickulicz. On his return to Montreal he was appointed medical superintendent of the Montreal Hospital in 1904. In 1906 he was made a surgeon to the out-patient department of the Montreal General Hospital, and started to practise in Montreal. He was made surgeon-in-charge of the genito-urinary service when created in the hospital.

Dr. Campbell was connected with the military since 1904, and since the outbreak of the war commanded No. 5 C.F.A. at Valcartier, and in England was attached to No. 1 Canadian General Hospital. Returning to Canada later, he taak command of No. 6 Field Ambulance, which left Montreal in May, 1915. He went to France in July, 1915. He has a brother, Dr. J. Campbell, on duty in Saloniki.

CAPT. DOUGALD B. MACLEAN, M.D.

Capt. (Dr.) MacLean belonged ti the Royal Army Medical Corps. He was recently killed in action, according to word received by his relatives in Winnipeg. He was a graduate of University of Toronto, 1914, and was 25 years of age.

ELIZABETH C. SECORD, M.D.

Dr. Elizabeth Secord died at her home in Farmeston, N.B., 4th of July, in her 73rd year of age. While young she was left a widow and took up the study of medicine and graduated from the University of Dublin. She located in New Brunswick in 1883, and was the first woman to practise medicine in that province.

STUART AIRD ROSS, M.D.

Dr. Ross died in Vancouver, B.C., 9th July. He was the son of the late Dr. W. D. Ross. He graduated from McGill University in 1900. For some years he had been in practice in Lytton, B.C. At the time of his death he was in his 40th year.

BOOK REVIEWS

OCCUPATION DISEASES AND VOCATIONAL HYGIENE.

Diseases of Occupation and Vocational Hygiene. Edited by George M. Kober, M.D., LL.D., Washington, D.C., and William C. Hanson, M.D., Belmont, Mass. Twenty-nine contributors. Illustrations and tables. Philadelphia: P. Blakiston's Son and Company, 1012 Walnut Street. Price in cloth, $8.00 net.

The twenty-nine contributors to this volume are all specialists in the subject upon which they write. This gives the volume a unique value. The editors have also had an extensive connection with public health problems and preventive medicine. An examination of the contents show what a wide field the authors have covered, and an examinations of the contents show how thoroughly each subject has been treated. For all medical men who have to do with industrial diseases this is an invaluable work. It will prove of the utmost utility to all who may be called upon to give advice to insurance companies, and to medical officers of health. The work contains over 900 printed pages, dealing with every phase of diseases arising out of the many callings of industrial life, and also fully treating of the preventive measures to be employed. It is only by the perusal of such a volume as this that one begins to realize how vast a problem this group of diseases is, and what successful preventive measures would mean to the state. In 1910 it was estimated that there were 13,000,000 cases of sickness in the United States, with a loss in money of $750,000,000. A large amount of this could have been prevented. We recommend the book.

KENDALL'S BACTERIOLOGY.

Bacteriology, General, Pathological and Intestinal. By Arthur I. Kendall, B.S., Ph.D., Dr. P.H., Professor of Bacteriology in the Northwestern University Medical School, Chicago, Ill. Octavo, 651 pages, with 98 engravings and 9 colored plates. Cloth, $4.50 net. Philadelphia and New York: Lea and Febiger, Publishers, 1916.

This work covers fully the advances of bacteriology along the lines of morphology, staining and diagnosis, and the preparation and use

of cultural media. It gives attention, moreover, to the problems of immunology as related to the chemistry of bacterial activity, which subject is presented in concrete and concise form, indicating the relation of the *chemistry of bacterial activity* to the *biology of the bacteria.*

The relation of the chemistry of bacterial nutrition to the study of intestinal bacteriology in health and diseast is clearly set forth in the author's chapter on intestinal bacteria. Thoroughout the work emphasis is laid on what the bacteria do rather than on what they are, since interest naturally is centered in the host rather than in the parasite.

Concise statement, clear expression and the elimination of theoretical considerations in favor of essentials are characteristics of this work, and its usefulness will impress itself more and more on the practitioner or student as he avails himself of its guidance. Every step in every process is made clear. The details of laboratory equipment, the minutiae of laboratory technic, and the use and value of apparatus receive careful attention.

Historical notes stimulate interest in the study, and aid in the comprehension of the subject by showing the steps in the development of modern bacteriology. The author's emphasis on the applications of bacteriology in etiology and preventive medicine is a point of value. The sections dealing with the physiological functions of bacteria are most enlightening, and the latest knowledge of complement fixation, hemolysis an dthe reactions of immunity is adequately presented.

This work is a thoroughly scientific and completely modern presentation of the proven and useful in its field.

This volume is one of the most interesting works on bacteriology we have had the opportunity of reviewing in a long time. It can be recommended with great confidence.

DIAGNOSIS AND TREATMENT OF SURGICAL DISEASES OF THE SPINAL CORD AND ITS MEMBRANES.

Diagnosis and Treatment of Surgical Diseases of the Spinal Cord and Its Membranes. By Charles A. Elsberg, M.D., F.A.C.S., Professor of Clinical Surgery at the New York University and Bellevue Hospital Medical College. Octavo of 330 pages, with 158 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, $5.00 net. Sole Canadian agents, J. F. Hartz Company, Toronto.

This work merits high praise. It gives the diagnosis and surgical treatment of diseases of the spinal cord and its membranes in an able and lucid manner. The introduction of the X-ray method of diagnosis has led to advances in all forms of bone surgery, and especially so in the case of sections that must be made on the vertebræ. The ilustra-

tions are mostly original and from dissections. They are very fine and artistic, and are designed to be of special value as aids to diagnosis. The scientific aspects of this work are excellent, and give a very clear exposition of symptimatology and diagnosis of surgical diseases of the cord and membranes. The methods of operating are also very clearly set forth. The paper and binding go to make this one of the most attractive volumes one could hope to see. The information contained in it is so useful that we regard it almost indespensible to the surgeon.

PROGRESSIVE MEDICINE.

Progressive Medicine, a Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.L., and L. F. Appleman, M.D. Vol. III., September, 1916. Philadelphia and New York: Lea and Febiger. Prisc, paper, $6.00 per year.

This volume is taken up with the discussion of diseases of the thorax and its viscera, dermatology and syphilis, obstetrics, and diseases of the nervous system. The contributors are Dr. William Ewart, Dr. W. S. Gottheil, Edward P. Davis, and William G. Spiller. As usual, this volume of Progressive Medicine measures up to the high standard set by former volumes of the series. There is not a weak article in this number. Each article is a complete review of the recent advances in each of the departments of medicine discussed in the volume. The editors, contributors and publishers are entitled to their full mede of praise for the excellencies, not only of this volume, but of the whole series.

NEW JERSEY DEPARTMENT OF HEALTH.

Thirty-ninth Annual Report of the State of New Jersey Department of Health, 1915. Paterson, N.J.: News Printing Company, State Printers, 1916.

The officers of the Department of Health of the State of New Jersey are to be congratulated on the amount of useful information in this report. All who are in any way interested in public health questions will find this volume a valuable addition to their library.

THE MURPHY CLINICS.

The Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. Edited by P. G. Killern, Jr., M.D., of Philadelphia. August, 1916, Vol. V., No. 4. Published by W. B. Saunders Company. Canadian agents, J. F. Hartz Company, Toronto. Price per year, $8.00.

This number contains the work of the late Dr. John B. Murphy.

The editor has arranged the cases of Dr. Murphy, with his notes and methods of operation, in a very attractive manner. This volume is an excellent one.

THE MEDICAL CLINICS OF CHICAGO.

This number is the first one of the second volume of the Chicago Clinics. These numbers contain much valuable information. They are on medical subjects, and make fit companions to the Surgical Clinics. Messrs. W. B. Saunders & Company are to be congratulated on the high standard of the various issues of the Chicago Clinics. The annual price is $8.00.

MISCELLANEOUS

FOURTH YEAR UNIVERSITY OF TORONTO MEDICAL RESULTS.

The following students have passed the examinations of the fourth year: W. B. Barne, Y. Blayney, J. S. Crawford, N. W. Furey, J. H. Howell, H. J. Irvine, F. W. Leech, B. S. Loney, C. V. Mills, A. E. Mackenzie, J. W. Mackenzie, C. R. MacTavish, P. Peacock, C. A. Rae, H. A. Rawlings, J. W. Reddick, C. V. Scott, W. J. Scott (pathology, pathological chemistry and hygiene), P. R. Shannon, F. R. Smith, C. F. Sykes C. A, Wells. R. E. Dalton is granted aegrotat standing in the subjects of the fourth year.

CONTAGIOUS DISEASES IN TORONTO.

Disease	Cases Reported.		Cases Registered.	
	July, '16.	July, '15.	July, '16.	July, '15.
Thphoid fever	12	3	2	0
Scarlet fever	22	37	4	1
Diphtheria	69	46	10	4
Smallpox	1	5	0	0
Measles	39	274	0	8
Whooping cough	66	19	1	8
Chickenpox	47	25	0	0
Mumps	5	9	0	0
Cerebro-spinal meningitis	5	5	2	3
Infantile paralysis	0	1	0	0

SASKATCHEWAN PHYSICIANS WHO ARE REPORTED TO HAVE GONE TO THE WAR.

C. W. Bishop, L. Bragdon, V. Bourgeault, V. Bouju, F. H. Bowen, E. J. Bromley, H. C. Burroughs, T. L. Butters, J. L. Campbell, J. G. Clerk, N. G. Cooper, A. Croll, J. A. Cullum, W. A. Dakin, A. G. Denmark, F. J. Ellis, J. J. Field, J. A. L. Fontaine, G. N. Giles, G. N. Gregoire, W. Hale, J. J. Hamelin, D. C. Hart, F. W. Hart, W. M. Hart, J. Henderson, C. D. Hewitt, J. T. Hill, A. C. Johnston, Arnold Keay, M. A. Kendrick, J. R. Matheson, F. C. Middleton, C. Molheur, H. Morell, H. E. Munroe, E. E. Meek, J. D. McEachern, R. H. McDonald, A. McInnes, R. T. McLaren, R. D. Nasmyth, M. A. Nickle, L. A. C. Planton, T. H. Porter, A. C. Phillips, J. W. Pilcher, D. Rigg, E. Rommel, A. C. Scott, E. E. Sheapley, W. A. Simmers, R. H. Smith, H. A. Stewart, N. W. Strong, C. M. Stafford, C. G. Sutherland, T. W. Sutherland, A. W. Tanner, P. D. Tyerman, E. M. Vesey, J. H. White, B. L. Wickware, J. Wark.

ONTARIO VITAL STATISTICS.

The August returns in Ontario give a death-rate of only o little over 11 per cent. The detailed returns for the months are:

	1916		1915	
Diseases.	Cases.	Deaths.	Cases.	Deaths.
Smallpox	5	0	39	0
Scarlet fever	37	0	54	2
Diphtheria	183	11	124	5
Measles	243	0	162	2
Whooping cough	190	7	104	5
Thphoid	190	18	54	6
Tuberculosis	103	69	90	59
Infantile paralysis	44	5	0	0
Cerebro-spinal meningitis	20	15	7	7
	1,015	125	634	86

COL. H. A. BRUCE'S REPORT.

The report of Colonel Herbert Bruce on his inspection of Canadian hospitals in England has been issued. It contains some sharp criticism of the methods of Surgeon-General Jones, director of the Canadian Medical Service. It is understood that the salient feature is an allegation that there is no proper tabulation of casualties in the Canadian medical services, and it is impossible to locate men.

In rejoinder, the officers of the Medical Services reply that the Canadian system of tabulation has elicited the highest compliments from the British army medical services, who regard it as extremely efficient.

Another objection taken by Col. Bruce is that Canadian wounded do not go to Canadian hospitals, but all over England to other hospitals. The Medical Services declare that the reason for this is that badly wounded men, regardless of nativity, must go to the nearest hospital, thus many British are in Canadian hospitals and vice versa.

Several changes in the Canadian headquarters staff are spoken of. It is understood Colonel Neill will succeed Colonel Murphy as quartermaster-general.

THE MEDICINE MAN.

Old Uncle Pete, with perfect ease, acquired each new found disease;
  It seemed to be his chief delight, the only one he had.
Of Uncle Peter it was said he was unhappy out of bed;
  To be a chronic invalid was his absorbing fad.
There was no dope he would not take, the honest cure, also the fake,
  He swallowed most impartially and smacked his lips for more.
The village druggist made his pile and lived in almost regal style,
  For Uncle Peter has surely been the makin' of his store.

It brought old Pete a lot of fame, because he always got his name
  And picture in the papers as a well-known public man
He used to do some protean stunts and have nine ailments all at once,
Who had been cured of this or that, and Uncle Peter would come to bat
  Each day with some new illness, as an expert sick man can.
  Until one day the village heard that poor old Pete was dead.
He did not die of grim disease. We cannot all go as we please,
  The big sign at the drug store fell and hit him on the head.

QUEEN'S MEDICAL DEGREES.

The following degrees are announced by Queen's Medical College as the result of the supplemental examinations: M.D. and C.M., C. W. Burns, Toronto; George Hooper, M.B., Ottawa; G. J. Preston, M.B., Savlamar, Jamaica. M.B., D. P. Byers, Gananoque, Ont.; J. W. T. Case, Georgetown, B.G.; C. M. Elliott, Kingston; F. B. Holder, Georgetown, B.G.; H. E. Preston, Tweed, Ont.

IN DEFENCE OF DOCTORS.

The following letter appeared in *The Toronto Globe* of recent date. It is so good that we give it in full. It was signed "A Patriot":

"In reading a letter such as appeared in your paper to-day, July 17, signed, "A Globe Reader," one is reminded of a statement of Billy Sunday's, viz., 'That doctors received the poorest pay, and the most ingratitude of any class of people; that when a person did something that was likely to land them in the penitentiary for two years they were quite willing to give all they possessed and a lifetime of praise to the lawyer who could get them off. But when a person got into a fix that was likely to land them in hell for all eternity they begrudged a fee to the doctor who got them off." Had Billy been talking to 'A Globe Reader' he could not have summed up the case better. That letter is a masterpiece, for such thoughtlessness, as well as ignorance, displayed by it would be hard to beat. Had the writer no idea of the difference in the education of a doctor and a plumber, and the cost, both in time and money, of obtaining the eight or ten years that must be spent in study after one enters a high school before they can obtain a doctor's degree, and that this education, at the very least, costs between three and four thousand dollars; that a doctor's instruments are extremely costly, and that the services of two, and sometimes three, doctors are necessary to perform an operation such as 'A Globe Reader' mentions, one wonders how the charges could be so low.

"Doctors are probably the only ones who consider a person's ability to pay, and makes the charges accordingly, and for a young farmer (very probably a land-owner) to pay $135 for the saving of his life was a very reasonable charge. It was most considerate to charge only half of that to the foster parent. Who ever heard of a plumber, or any other tradesman, going to work for a person whom he knew could not, and would not, pay him, no matter how urgently they might be in need of his services, and yet that is what doctors aredo ing every day. There are no other people who do so much work for nothing as the doctors, and who get as much abuse from those who are either too ignorant or too mean to acknowledge how much we owe our doctors."

VARSITY BASE HOSPITAL HAS 85 NEW BUILDINGS.

New equipment, under surroundings more pleasant than for the last several months, was reported by one of the surgeons in No. 4 University of Toronto Canadian General Hospital in a letter to Dr. C. K. Clarke, Superintendent of Toronto General Hospital. The writer stated that there were eighty-five buildings being used by No. 4 Hospital, most of them 120 feet by 20 feet, and all of them absolutely new. The hospital officials were said to be able to appreciate the new surroundings after being compelled to carry on their work in Hubert tents on the muddy banks of the Monastir.

As many as one hundred patients are admitted in a single day, the writer said. Surgical work is demanded in a large percentage of the cases, and there is a considerable percentage of gunshot cases. The destruction of a Zeppelin at night was described as a spectacular sight, even though the dirigible was twelve miles distant from the camp.

MEDICAL PREPARATIONS

HALF A CENTURY'S PROGRESS.

October, 1916, points an epoch in the history of Parke, Davis & Co. The house was founded in 1866—just fifty years ago this month—largely upon the optimism of three or four determined men, backed by a capital that would seem insignificant to-day. There was nothing in its unpretentious origin to foretell the success of after-years. And by success we mean not merely material prosperity, but also that broader and more enduring success that is based upon good-will and confidence.

Manufacturing pharmacy was then a crude, imperfect art. Bacteriology, pharmacology and biological pharmacy were as yet unborn. There were no curative sera or vaccines in those days. Prophylaxis was in its infancy. Standardization was unknown.

Fifty years have wrought marvelous changes in means and methods for the treatment of human ills. The materia medica has been amplified beyond the dreams of the earlier investigators. Knowledge of pathology has immensely broadened. The empiricism of the past has given way to rational therapeutics, and medicine is taking its rightful place among the sciences.

In all these forward movements Parke, Davis & Co. have had some part—notably as discoverers of new vegetable drugs, as inventors of new chemical compounds, as pathfinders and producers in the field of biological manufacture, as investigators in original research, as pioneers in both chemical and physiological standardization.

The past half-century, as we have intimated, has been remarkable in its contributions to the newer materia medica. What will the next fifty years bring forward? Time alone can write the answer. Ours is a progressive age. The science of medicine has not reached its highest development. The physician's armamentarium will be further enlarged and fortified. New remedial agents will come into being. Many existing products will be improved. And with the fulfillment of these conditions, Parke, Davis & Co. (if we may judge the future by the past) are certain to be identified.

Caffein is a source of uric acid in the body — in this coffee-drinking country, perhaps the chief source; and, there is a growing belief in the connection between uricemia and cancer.

It is quite reasonable, in view of the foregoing, to eliminate coffee and tea, entirely, from the dietaries of all persons in whom the uric acid diathesis is indicated----especially those who show a tendency to cancerous conditions.

The most rational, safe and important step in this direction, is to guide people away from coffee drinking, and to the use of the cereal drink----

POSTUM

as their regular table beverage. All the warmth, and an appetizing flavor similar to that of mild Java coffee being present in Postum, without the uric acid producing caffein which is found in coffee and tea.

The change from the caffein-beverages to the nutritious wheat-beverage, becomes agreeable and makes for health and comfort of the patient.

Postum comes in two forms: **Postum Cereal**—the original form—must be well boiled. **Instant Postum**—the soluble form—is made in the cup with hot water—instantly. Both are equally delicious, and the cost per cup is about the same.

The *Clinical Record,* for Physician's bedside use, together with samples of **Instant Postum, Grape-Nuts** and **New Post Toasties** for personal and clinical examination, will be sent on request to any Physician who has not yet received them.

Canadian Postum Cereal Co., Ltd., Windsor, Ontario, Canada

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These two new Overlands are the first full size Touring Sedans ever offered to the public at moderate prices.

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Undoubtedly the car that is both an open touring car and a closed sedan, easily convertible on the instant, is the ideal family car for year-round, every-purpose use.

Such cars at $1675 for the four and $1855 for the six—both roomy, five-passenger cars—are heretofore unheard-of values.

Closed, these cars afford perfect protection against cold, wind, rain or snow.

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The change can be made either way easily and quickly and with no more effort than it takes to raise or lower the windows.

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But there are many other features to commend these cars, in addition to their perfect convertibility.

The four has the 35 horsepower motor which has made the Overland famous for years—in its latest improved en bloc type.

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These New Convertible Cars Fill a Want Long Felt by Motorists

The six has a 40 horsepower en bloc motor with wonderful flexibility and lightning pick-up.

Cantilever rear springs make both cars remarkable for their easy riding qualities.

And long wheelbase—the four 112 inches—the six 116 inches—and four and one-half inch tires add further to their riding comfort.

See these new cars at once.

You will be amazed that such beautifully finished, luxurious Touring Sedans can be built to sell at such low prices.

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Specifications

Motors—en bloc type—The Four, 35 horsepower—The Six, 35-40 horsepower
Wheelbase—The Four, 112 inches—The Six, 116 inches

33 x 4½ inch tires—non-skid rear
Gasoline tank and gauge at rear
Auto-Lite starting and lighting system
Cantilever rear springs
Richly carpeted floor
Electric control buttons on steering column
Vacuum tank fuel feed
Improved Seat Springs
Divided front seats with wide aisle between
Attractive cloth upholstery
Interior dome light

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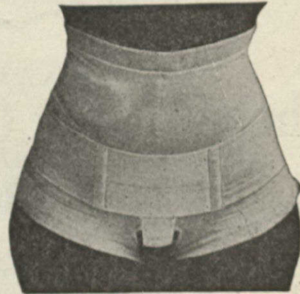

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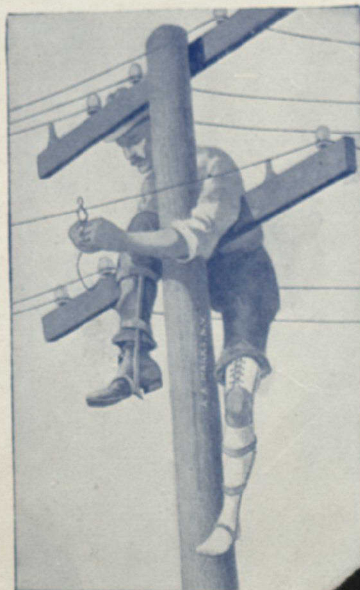

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