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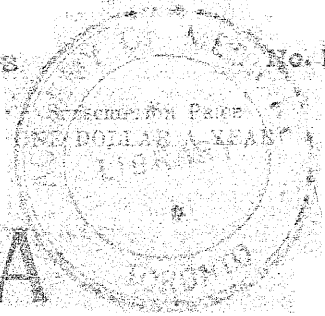
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CANADA

Medical Record

MONTREAL

A Monthly Journal of Medicine and Surgery

EDITOR

F. WAYLAND CAMPBELL, M.A., M.D., D.C.L., L.R.C.P., LOND.

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CANADA

MEDICAL RECORD

NOVEMBER, 1903.

Original Communications.

APPENDICAL COLIC.

BY A. LAPHORN SMITH, M.D.

Surgeon-in-Chief of the Samaritan Hospital for Women, Montreal.

There is considerable resemblance in many cases between colic in the appendix, and colic in other tubes of the body, where pain is due to spasmodic efforts of the tube to pass something along which meets with an obstruction. In the case of the appendix there is a muscular tube closed at one end which is normally open at the other, and through this opening there is usually free drainage into the caecum. As a rule we do not feel this drainage going on because the tube gets larger towards its open end, so that the secretions from its mucous membrane experience no more difficulty in passing than do the contents of any other portion of the bowel. But when the appendix becomes diseased, its larger end then becomes the smaller one, even in some cases becoming closed altogether, and the liquid contents are either expelled with great difficulty or cannot be expelled at all.

This is much more the case when its contents are abnormal, such for instance as a faecal concretion or a foreign body of some other kind. A very small piece of hard faeces or a grape seed being unable to escape, sets up irritation, and soon a great quantity of altered mucous secretion is poured out; there is in fact a diarrhoea of the appendix. Then the

intruder becomes the nucleus of a concretion which becomes covered with successive layers of lime or other salts until it is not only hopelessly imprisoned, but even becomes so large as to strangle the circulation, thus causing gangrene and fatal perforation.

The formation of the concretion can be imitated by placing a glass bead or other foreign body in an oyster, when after a certain time it will be found covered with concentric layers of carbonate of lime and thus becomes the precious pearl. No one can say that the stone in the appendix is a precious one, although it cannot be denied that it is sometimes a costly one by the time that it is removed.

The vermiform appendix has a very near neighbour in the female organism, namely, the right appendage of the generative or utero-vaginal tube, but it is called the appendage of the uterus, to distinguish it from the vermiform appendix of the intestine, which it exactly resembles in structure. It is composed of circular and longitudinal fibres, covered with peritoneum and lined with mucous membrane; it also becomes infected either by the colon bacillus or by the gonococcus so that the mucous membrane is destroyed at its proximal end, that is, the end nearest to the organ of which it is the appendage, and is replaced by scar tissue, which here as elsewhere, as in the male urethra for instance, has the power to contract until a stricture results, and the contents of the tube experience more and more difficulty in escaping. This causes tubal colic of the Fallopian tubes, and the woman suffers these intermittent pains until the muscular walls exhaust themselves, when she gets a longer or shorter respite. Being unable to escape in the normal direction, the peristaltic contractions reverse themselves and try to force the contents of the tube in the opposite direction, through the distal end of the tube. Here, as is sometimes the case with the perforated vermiform appendix, a local peritonitis

is set up which saves the general peritoneal cavity from infection. In both cases a walled-off abscess is the result, which may rupture later into the general peritoneal cavity, into the bowel or bladder, or into the vagina ; unless the patient has the good fortune to consult a doctor who advises immediate removal of the dangerous and now useless organ.

We find the same colicky pains in two other tubes having a mucous membrane and muscular walls, namely the ureter, which carries urine from the kidney to the bladder, and the common bile duct, which carries bile from the gall bladder and liver to the intestine. These pains may be due to the obstruction caused by catarrhal swelling of the mucous membrane, or to a stone, which is the result of allowing the secretions to become so thick as to precipitate their saturated solutions of salt.

The colicky pain in all three cases is due to the same thing, namely, the frantic efforts of these respective tubes to push along an obstacle which is larger than the tube.

Then there is the colic of the colon, from which all colics derive their name, due to a kink in the ascending, transverse or descending colon, although in this case the obstruction is itself due to a spasm and not to a stricture and the contents, instead of being a concretion, are generally liquids or gases, and which are soon forced onward. In all of these cases the pain is severe, and in the case of the vermiform appendix and the fallopian tube should be cured by operation without delay ; while in the case of renal stones and gall stones, although an operation is not so urgent, yet delay in operating greatly increases the difficulty and danger.

I have mentioned these other forms of colic while speaking of appendical colic, because it becomes important to recognize the possibility of their existence and also their resemblance when diagnosing a case of appendicitis, for it is sometimes almost impossible to tell which of these organs is the cause of the pain. Such for instance was the following case

sent to me at the Samaritan Hospital, by Dr. Sharpe, one of our staff.

Mrs. H., 56 years of age, a mother of four children, and twomiscarriages; last pregnancy fourteen years ago. Menopause at fifty. Had good health and did all her own work until a few days before admission, when one day, while working at the wash-tub, she was suddenly taken with a severe pain in the right side and was barely able to crawl into bed. She began vomiting, and when Dr. Sharp saw her a few hours later she had a temperature of 103 and a pulse of 120. On examination there was a tense swelling larger than an orange, the centre of which was exactly situated at McBurney's point. The right side of the abdomen was tender and tense; it was dull on percussion and fluctuating, and all those who examined it had little hesitation in saying that it was a case of appendicitis which had reached the abscess stage and was walled off by adhesions, and all agreed that it should be opened and drained without delay. This was done, the incision being made exactly over McBurney's point and in going through the layers the tense pus sac was reached and a large trochar was driven into it, when at least a pint of thin pus escaped. The trochar was removed, the opening enlarged with the finger and the cavity thoroughly cleaned out, some debris of cellular tissue being removed by the fingers. My rule in these cases is not to break down the wall of defence, and as the appendix could not be readily found, the search of it was abandoned before any harm was done. At the bottom of the abscess a round dark solid body could be seen and felt, which was evidently the right kidney apparently prolapsed, and I remarked to Dr. Sharpe that prolapse of the right kidney was recognized as a factor in causing appendicitis. Two pieces of drainage tube were inserted and gauze was packed around them to keep away the intestines, for a healthy coil of the latter had come into the incision towards the end of the operation. The good results

of the intervention were immediately apparent; the pain ceased; the pulse and temperature fell to normal and the patient was making rapid recovery during three weeks, when she was to have been allowed up, had there not been a sudden return of all the symptoms. This time however the swelling was four inches higher up and double the size of the first one.

The abdomen was again opened by extending the original incision upwards and backwards, when without opening the peritoneal cavity the abscess was reached and emptied with a trochar, more than a quart of pus escaping this time. The trochar was removed, the opening enlarged with the fingers and the cavity explored with the hand in it, when it was found to be the right kidney distended to such a size that one that could feel almost every part of the abdomen through its thin sac-like wall. The question then arose whether to leave it and drain, or remove it.

Before deciding on the latter course, the other kidney was easily felt, apparently normal in size, through the wall of the diseased one. The sac was easily separated from its adhesions and the pedicle tied in several fragments. After tying the artery and vein and when pulling up the ureter to ligature it, a calculus the size of an almond was felt and could be seen through the wall of the tube, which seemed to be ulcerated almost through, for no sooner was the slightest pressure applied to see if it could be pushed back into the kidney than it came through the ureter, leaving a hole the size of a ten cent piece. The ureter was tried a little lower down and dropped when the kidney came out as easily as an ovarian cyst. The patient made a good recovery and returned home three or four weeks later. The probable course of events in this case was that a stone had formed in the kidney, got blocked in the ureter, which latter it ulcerated through by pressure, in the same way that a stone in the appendix ulcerates through, and the dammed back pus and

urine which had distended the kidney and ureter above the obstruction, poured out through the opening in the ureter into the cellular tissue, causing the rapid rise in pulse and temperature and the swelling at McBurney's point, which it was so easily to mistake for appendicitis. The kidney, which was seen at the bottom of the incision at the first operation, was not there because it was prolapsed, but because it was still enormously distended. The second swelling occurred because the opening in the ureter was blocked by the packing and manipulations of the first operation, causing the kidney to refill. There was no pus in the urine because that kidney was shut off from the bladder by the calculus.

248 Bishop street, Montreal

Selected Articles.

EMPYROFORM A NEW TAR PREPARATION.*

BY DR. ALFRED KRAUS.

Second Assistant at Professor F. J. Pick's Imperial and Royal Clinic for Skin and Genito-Urinary Diseases, Prague.

Tar is a remedy that dermatologists use daily, and whose services are in many cases indispensable. Yet the objections to its employment are manifold and too well known to need recapitulation; and they appertain to all the derivatives that have heretofore been proposed.

Lately, however, we have had occasion to test the efficacy of a new tar preparation called empyroform, manufactured and kindly placed at our disposal for experimental purposes by the Schering Chemical Factory, of Berlin. Empyroform is a condensation product of birch tar and formalin, and occurs as a very fine, dark greyish-brown, floury powder. In its pure state it is nearly odorless, and there is no trace of tar smell about it. It is non-hygroscopic, insoluble in water, alcohol and ether, but soluble in acetone, the caustic alkalis and chloroform. We used it in 1 per cent. paint with equal parts of chloroform and traumaticin, and as a 5 per cent. salve with equal parts of vaselin and lanolin. We also employed it as an addition to Pick's linimentum exsiccans:

℞ Linim. exsiccant, Pick, 100.0 (3½ ounces).

Empyroform. 5.0 to 15.0 (1¼ drams to ½ ounce).

In the solution there was absolutely no smell of tar, and that of the solvent disappeared rapidly after application. The 5 per cent. salve was as good as odorless, and even the 15 per cent. liniment smelled but slightly of the drug. In all the vehicles, if properly prepared, the empyroform was suspended in the form of the finest particles, and, applied in a thin layer, gave the skin only a very faint tint. These qualities alone suffice to show the advantages of the new drug; decision as to its value depends, however, upon its action in disease processes.

* Abstracted from the *Prager Medicinische Wochenschrift*, August 13th, 1903

As chronicle eczema is the most common indication for tar, we used empyroform in many cases of the most varied kind and extent. We soon found, however, that the chloroform and traumaticin-chloroform solutions dried too quickly and occasioned itching and scratching. We therefore limited ourselves to the employment of the same and the liniment, and with these we had surprisingly good results. The remedy in these forms was excellently borne, and in not a single case did we note any ill effect or recrudescence of the disease process. And this in spite of the fact that, as the indications for its employment became clearer, we extended its uses to cases of subacute eczematous disease in which the process had by no means reached the torpid stage. As a general thing we found that the redness and infiltration retrogressed in the shortest possible time, the feeling of tension disappeared, and recovery was rapid even in cases that had shown themselves entirely refractory to other remedies, more especially to tar.

Most markedly evident, however, and deserving especial notice here was the wonderful disappearance of even the most violent itching under the influence of the remedy, even when this was so intense as to completely obscure all the other symptoms, and when it had been so great and persistent as to profoundly react upon the patient's general health, there was usually a sudden change for the better under the use of the empyroform. The patients could find no words enthusiastic enough in praise of the new remedy.

Experience finally taught us to employ empyroform in the most varied stages of eczema. In contradistinction to tar, it was well borne even when the symptoms of active inflammation were still present; cases in which redness, epithelial lesions and secretion were yet in evidence. In these more acute forms the employment of the ointment as a spread-plaster was found most appropriate; later on, the plain ointment and finally the liniment, to which $2\frac{1}{2}$ per cent. of lanolin could be added, also gave splendid results.

This history, which is typical of numerous others, speaks eloquently for itself.

In the markedly chronic forms of the eczematous disease, in which there is pachydermatous thickening, the shortness of the time required by the empyroform treatment is as noteworthy as its good effect upon the disease. The most in-

veterate cases reacted with incomparable quickness to the application of the remedy.

But whilst the action of the drug was of notable excellence on eczema in general, it was especially brilliant in those that had appeared on the site of a previous seborrhœa. We had occasion to treat eczemas of the most varied intensity and extent belonging to this variety of the affection, without failing in a single case to obtain remarkable results.

When the affection was confined to the hairy scalp, it was as a rule sufficient even in very marked cases to use the 5 per cent. salve for a few days. A similar medication was all that was required for the affection in its advanced stages on the face, trunk, at the flexures of the joints, or on the external genitals; and there were equally good results in cases in which the process affected almost the entire surface of the body.

We are probably correct in attributing the good results from empyroform in this special variety of the disease to the happy combination of tar and formalin, which unites the reducing power of the former with the powerful antiseptic and disinfectant properties of the latter.

It is quite evident, also, that the localization of the eczema is not of much importance under the empyroform treatment. Its effects are equally good in universal and in circumscribed cases. I need only add that in those chronic forms of the disease associated with enormous thickening of the integument usually seen upon the lower extremities, and in which it is desirable to obtain a kerolytic as well as a reducing action, the best results were occasionally obtained by using the drug in the form of a plaster. We found the Pick salicylic-soap plaster with the addition of 5 to 10 per cent. of empyroform the best formula to employ.

* * * * *

We must not neglect to mention that empyroform in the shape of the 5 per cent. salve and the liniment rendered us most excellent service in two cases of acute psoriasis. These and other psoriasis cases taught us anew the pre-eminent value of the remedy as an antipruritic agent.

We have also had favourable experiences with the drug in a number of cases of lichen urticatus, prurigo, pityriasis rosea and pityriasis versicolor.

Extensive as has been our employment of empyroform, we have never noted any unpleasant by-effects from its use. The disease process itself was never unfavourably influenced by it, and there never was any anxious action on the deeper organs. In isolated cases the urine became very slightly darkened and contained traces of phenols; but there was never any albumin in it.

It is noteworthy also that we never saw a real tar acne develop from its use. At the most there were a few isolated follicular infiltrations, which retrogressed in the very shortest time without suppuration; and this in spite of the continued use of the remedy.

Though our investigations of the new drug are not concluded, we feel justified in saying that empyroform is to be most warmly recommended for the treatment of dermatoses, and more especially for those of the eczematous variety. Our results are in accord with those of Sklarek, whose investigations at the Breslau University Dermatological Clinic (published in the *Therapie der Gegenwart*, July, 1903) were made almost simultaneously.

Progress of Medical Science.

MEDICINE AND NEUROLOGY.

IN CHARGE OF

J. BRADFORD McCONNELL, M.D.

Associate Professor of Medicine and Neurology, and Professor of Clinical Medicine
University of Bishop's College; Physician Western Hospital.

CLINICAL EXPERIENCES WITH ACETOZONE.

By WILLIAM PARSONS, M. D.

Surgeon to the Chicago Junction Railway Co.; Vice-President Stockyards District
Medical Society, Chicago, Ill.

My experience with acetozone (the benzoylacetyl-peroxide of Novy and Freer) has been varied and of a kind likely to occur in general practice. Two cases of minor surgery treated with acetozone have shown results that are unique and certainly worthy of publication for the guidance of others.

Case 1.—Mrs. A. ———, an aged widow, storekeeper, presented herself suffering from a very large varicose ulcer on the outer aspect of her left leg, measuring about six inches in length by two inches in width. Above the ulcer the veins were very much enlarged, tortuous, and the seat of persistent and distressing pain. She stated that this large ulcer, as well as several smaller ones near it, had existed for over a year and has resisted all treatment which had been instituted for her relief by several physicians. A solution of 30 grains of acetozone to the half gallon of warm boiled water was used as a wet dressing, and used copiously, the gauze being kept quite wet with the solution. In six weeks time the ulcerous surfaces had healed over, and up to the present time have remained so.

I am now treating a case similar to the above which shows the same gratifying action of acetozone. While the cure is not yet complete, the case is progressing nicely, and will, without doubt, ultimately result as case 1.

Case 2.—B. C. ———, an aged bartender, consulted me regarding his left forefinger, which was the seat of a very severe moist gangrene resulting from an infected wound, and which several physicians had stated positively must be amputated to prevent graver conditions. I found the finger swollen to four or five times its natural size, full of dirty-greenish pus, of a foul odour, and dark purple in colour. At first I was about to advise amputation, but a line of demarcation at the metacarpophalangeal articulation induced me to try to save the finger. After free incisions had been made in all directions and the wound freely irrigated, a large wet dressing of gauze and acetozone solution (15 grains to the quart of hot water) was applied and kept wet. The dressings were renewed as required by circumstances, and recovery was progressive and uneventful; complete healing of the finger was obtained in five weeks' time. The finger is rather stiff, but is a useful member, and an amputation was avoided, much to the patient's relief and my gratification.

During the summer just past, Chicago witnessed one of the worst epidemics of typhoid fever which has ever occurred in this vicinity. I have treated eight cases of typhoid with the aqueous solution of acetozone with marked benefit to the patient, of which the following is a typical example:

Case 3.—A. B. ———, a young woman, aged 21 years,

had been sick four days. She complained of backache, headache; presented coated tongue, diarrhoea with pea-soup stools; fever 104° F.; rose-spots present; epistaxis frequent; enlarged spleen. Blood test by City Laboratory of Board of Health showed positive Widal reaction, confirming the diagnosis of typhoid fever. Aqueous solution of acetozone (20 grains to quart of water) given in four ounce doses every four hours. On account of the peppery taste of the solution, to which the patient objected, each dose was flavoured with lemon or orange juice, which rendered it much more palatable. The course of disease was apparently ameliorated; no tympanites, no delirium, no stupour. Temperature normal, and convalescence established on the sixteenth day.

With the exception of one case in which death took place on the nineteenth day from perforation, the eight cases of typhoid in my practice treated with acetozone ran an unusually mild course, free from distressing complications, and convalescing in a much shorter time than ordinary.—
Medicine.

PSORIASIS AND ITS TREATMENT.

By CHARLES J. S. DIGGES, M. D., M. R. C. S., England
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The treatment of psoriasis lepra (that bugbear of dermatology) has been so unsatisfactory that anything better than the "thousand and one" old remedies should, when discovered, have world-wide publicity. At last a treatment has been discovered that will cure the disease, and in such a short time that the thing is really marvellous. I read the other day in the *British Medical Journal* a notice of a new (the latest) work on dermatology, published in Germany, and all the old remedies for psoriasis were set forth as usual. We have zinc ointment, white precipitate, pyrogallic acid and chrysarobin, the greatest abomination of them all—with arsenic, etc., etc., internally, *ad nauseam*.

Having been troubled myself with psoriasis since I had an attack of rheumatic fever, over thirty years ago, I have gone through the entire list of remedies, and the only one of promise was chrysophanic acid. Any one who has used this much vaunted, but almost useless remedy, will under-

stand what I mean. In the shape of pigment with ether, collodion, etc., the annoyance of destruction of clothing is prevented, but the quantity of acid in the thing is so small that the contact with the patch does very little good, then we have the difficulty of removing the application every three or four days, that even Job would not have patience with it, and after ten or twelve months of constant application the patch is apparently cured, but only temporarily. That chrysophanic acid applied in the form of ointment is better than the pigment there is no doubt, but even a weak ointment will produce a severe dermatitis and the treatment must be stopped with consequent vexatious delay and a reappearance of the disease in a short time.

For about two years I was annoyed with a patch over the left frontal, and another, much larger, over the left mastoid, spreading to the ear. I tried all the abominations before mentioned, and consulted my friend, Dr. Hardaway, about the advisability of trying something new. He very kindly placed his X-ray machine at my disposal, and after seven or eight short applications the patches were completely healed leaving the skin perfectly healthy and without any stain, and what is better, after six months there is no sign of a recurrence. About the same time a patch I had on my left elbow was treated with chrysophanic acid, but with most unsatisfactory results.

I have been much interested reading reports of X-ray work in general, but its use in psoriasis has not been mentioned so far as I have seen, and even in the last issue of the *Fortnightly*, quinine, magnesia, colchicum, etc., are recommended. I myself would not lose five minutes with any medicinal remedy ever suggested, when in ten or twelve days the disease can be cured by X-ray application. From my own experience with this remedy the treatment of that inveterate disease (psoriasis) will shortly be revolutionized and new editions of dermatological works will recommend one remedy, and one only, and all the abominable drugs heretofore used will be passed into obscurity. I think it only right that this experience of mine should be thoroughly known, and at the earliest possible moment; hence this communication.—*Med. Fortnightly*.

FEEDING OF OLDER INFANTS AND CHILDREN.

W. M. Hartshorn, New York, reports that the most satisfactory stronger food given to babies seven months or over in age at the Nursery and Child's Hospital has been bread and milk. Stale bread 24 to 48 hours old, was used; the pulp of this was soaked in boiling water until thoroughly softened. The water was then poured off and a cup of milk added. This was boiled for three or four minutes. After being sweetened and cooled sufficiently, it was fed to the baby. At first a teaspoonful once a day is given, but this is gradually increased in quantity and in frequency of feedings, until, at the end of ten days, the baby is receiving from one to two or three ounces daily. The time for giving this is arranged so that it comes between the regular bottle feedings. Never more than half-ounce is given at one time. If curds appear in the stools, or if the food disagrees with the baby, it is at once discontinued and castor oil or calomel given. The great advantage of this food is that it makes the transition to plain milk much easier. The older children, ranging in age from eighteen months to four years, are all fed upon plain bread and milk, with no extra preparation, at least once daily. Since this method of feeding has been instituted, there has been a marked change in the general appearance of the weight charts, so that the experience adds to the proof that in addition to the other cereals, bread and milk properly prepared is most valuable as a supplementary food.—*N. Y. Med. Rec.*

**THE SAFRANIN TEST FOR SUGAR IN THE URINE
OF CHILDREN.**

W. S. Christopher, Chicago, summarizes:—

Safranin is a reliable and convenient test agent for sugar in urine. It is sufficiently delicate to show the variations in the so-called "physiologic sugar" in urine.

Safranin is decolorized by sugar, but not by uric acid, creatin, creatinin, chloral, chloroform, hydrogen, peroxid, albumin (except slowly), morphia or rhubarb.

The safranin index is the number of c.c. of a 0.1 per cent. aqueous solution of safranin, decolorized by 1 c.c. of urine.

The normal safranin index is low during the first year of life, but gradually increases, reaching its maximum between 3 and 4 years of age, after which it slowly decreases for a

number of years, but never becomes so low as during the first year.

During the first ten years of life boys have a safranin index constantly higher than that of girls.

At 11 years of age the safranin index curves of the two sexes cross, the girls becoming superior. This is probably a pubescent phenomenon.

The curves of average urea percentages, by ages and sexes, closely resemble the corresponding safranin curves, being low during the first year, rising to their maxima at three years, descending slowly thereafter, with the boys superior to the girls; from birth to puberty, and then the girls superior.

The curves of the acidity indices resemble in a general way those of urea and safranin.

The ratios between the average urea percentages and safranin indices show the relative amount of physiologic sugar excreted to a given amount of urea. The excretion of physiologic sugar is relatively high during the first year of life, lower during the next four years, and still lower during the next 6 or 7 years. At puberty there is a relative increase in the excretion of physiologic sugar in girls. The data are lacking to determine whether this is true in boys.

The ratios between the average urea percentages and the acidity indices show considerable irregularity, which is probably fortuitous. On the average the ratio is about 1.2.

Urine with a safranin index of 5 will generally show sugar by the copper test.

The safranin and acidity indices vary greatly from day to day. In general the safranin and acidity accompany each other. Occasionally high acidity precedes high safranin by a day. In general high safranin does not last more than two or three days. High acidity not infrequently persists longer and may occur independently of a high reaction. High safranin rarely appears independently of high acidity.

The average safranin index of all children's urines examined (3,481 in all) was 1.81.

Ten is the minimum number of urinalyses necessary to determine the average safranin index of a child.

A child whose average safranin index (founded on not less than ten examinations) is two or more may be said to be of the saccharin diathesis.—*Four. A. M. A.*

**THE IMPORTANCE OF AN EARLY DIAGNOSIS OF
CANCER OF THE STOMACH WITH A VIEW
TO RADICAL TREATMENT, WITH RE-
MARKS ON OPERATIVE RESULTS,
IMMEDIATE AND REMOTE.**

A. W. M. Robson (*British Medical Journal*, April 25) advances evidence to prove :—

1. How desirable it is to make an early diagnosis of cancer of the stomach in order that a radical operation may be performed at the earliest possible moment.

2. That it may be needful to perform an exploratory operation, in order to complete or confirm the diagnosis.

3. That such an exploration may be done with little or no risk in the early stages of the disease.

4. That even where the disease is more advanced and a tumour perceptible, an exploratory operation is, as a rule, still advisable in order to carry out radical or palliative treatment.

5. That where the disease is too extensive for any radical operation, the palliative operation of gastro-enterostomy, which can be done with very small risk, may considerably prolong life and make the remainder of it much more comfortable and happy.

6. That some cases, thought at the time to be cancer too extensive for removal, may after gastro-enterostomy clear up completely and get quite well.

7. That in cases of disease of the cardiac end of the stomach too extensive for removal, the operation of gastro-enterostomy may considerably prolong life and prove of great comfort to the patient by preventing death from starvation.

8. That even where the disease is too extensive either for removal or for gastro-enterostomy with a fair chance of success, the operation of jejunostomy may occasionally prove of service to the patient.

9. That where a radical operation can be performed, the thorough removal of the disease may bring about as much relief to the patient as does the operation for cancer in the breast, uterus and other organs of the body, and that in some cases a complete cure may follow.—*N. Y. Med. Journal.*

DIMNESS OF VISION IN DISEASES OF THE KIDNEY CHARACTERIZED BY ALBUMINURIA.

The clinical association of defective sight with disease of the kidneys did not escape the observation of the older physicians. Bright, in his "Record of Medical Cases," in some of which ocular symptoms were among the earliest as well as the most striking features, makes special mention of it, and after the invention of the ophthalmoscope, knowledge of the subject became more and more exact. In 1859, Liebreich published a detailed description of the ocular changes in Bright's disease. Albuminuric retinitis, he said, presented on ophthalmoscopic examination features so characteristic, that whenever they were recognized, Bright's disease could be diagnosed with absolute certainty. Liebreich's statement had, however, to stand the test of further observation, and experience has shown that although what he said was in the main true, yet there are many exceptions, as the similar form of neuro-retinitis, which is occasionally found in anæmia and in tumor of the brain. The graphic picture of albuminuric retinitis, first published by Liebreich, is still, however, looked on as a piece of classic clinical description, but there are many variations from the typical picture. There may be associated with Bright's disease very strongly marked visual defects unattended by any gross lesions in the fundus oculi, and cases of dimness of sight connected with diseases of the kidney characterized by albuminuria may, therefore, be divided into two classes: (1) uræmic amaurosis where the ophthalmoscope reveals no gross lesions in the retina; (2) retinitis albuminurica where marked retinal changes are present. Uræmic amaurosis occurs most frequently in those cases of Bright's disease in which cerebral symptoms predominate. It may exist alone, but is more frequently accompanied by headache and vomiting, and an attack is often preceded by a convulsive seizure. Cases of albuminuric retinitis divide themselves into two groups according as the lesions in the fundus oculi are inflammatory or degenerative. The inflammatory form is characterized by the occurrence of œdema, hemorrhage and inflammation, and is usually found associated with dropsy, and with the presence of albumen in considerable quantity in the urine. It is rare to find albuminuric retinitis present at all during a first attack

of acute parenchymatous nephritis. The eye changes occur most commonly when the acute attack supervenes on previously existing chronic nephritis. The neuro-retinitis comes on suddenly and runs a violent course. The degenerative form has its origin in pathological changes in the retinal arteries. The arteries are irregularly contracted, and even the very smallest exhibit a brightness of the central light streak which is very characteristic. There are always present minute white dots, whose stellar arrangements around the macula, and bright shining appearance, are perhaps the most characteristic feature of the ophthalmoscopic picture. To diagnose a case of albuminuric retinitis by the ophthalmoscope is much easier than to appraise its true significance. The main point to remember is that it is a late manifestation in the course of renal disease, that, as a rule, it is associated with the phenomena that are attendant upon high arterial tension and that its onset may be determined by general toxæmia, vascular degeneration, or by these conditions combined. The prognosis will obviously be more favourable in the inflammatory group than in the degenerative, because in the former the toxic elements may be removed from the blood. Many cases of recovery from albuminuric retinitis are on record, but their interest depends, not so much upon the disappearance of the eye changes, as upon the removal of cause of the albuminuria. Sight is not usually lost through albuminuric retinitis alone, and the degree of amblyopia present depends upon the amount of destruction due to degeneration, and to the position of the retinal hemorrhages.—Ramsey in *Glasgow Med. Jour.*

A foreign physician has laid it down that instead of a son of a tuberculous father being sure to have the disease, he may have in his constitution a more than ordinary amount of resistance to the germs. Instead of inheriting the disease, he may possibly inherit immunity from it. The development of the contagion theory has done much to prepare our minds for the reception of immunity ideas in regard to tuberculosis. So then, instead of sitting down moping because our fathers had consumption, let us stir about and assist a possible immunity conferred on us by that very fact.—*Med. Times.* -

STERILIZED MILK, PASTEURIZED MILK, OR CLEAN MILK.

C. W. M. Brown, M.D. (*Archives of Pediatrics*, April, 1903), reviews this practical subject and arrives at the following conclusions :

1. Sterilization at 212° F. is of great value, especially in cities and to the poor, who lack intelligence because it may be performed by any one with simple or no apparatus.
2. Pasteurization at a temperature of 140° to 158° F. in closed vessels for fifteen minutes is much to be preferred, as the milk is little changed in its taste or chemical properties from raw milk, and this temperature is sufficient to kill the pathogenic organisms and lactic acid producing bacteria. But we must agree with Holt, that all heating of milk sufficient to kill bacteria does impair to some extent its nutritive properties, and to a degree proportionate to the height of temperature employed and the time it is continued.
3. When obtainable, fresh, pure, clean milk used raw is much to be preferred.
4. It is now supplied to many of the large cities.
5. There is a strong and rising demand among the laity for such milk.
6. It can be provided to all cities and towns of even moderate size if the profession will put forth proper efforts.
7. Under a general law all milk dealers should be licensed by the city or town in which they sell milk. Such license should give the health officer power to enter upon and inspect the premises upon which the milk is produced, at any time. It should also carry with it a statement on the part of the dealer that all cows producing milk which he sells have been tested for, and found free from tuberculosis.—*Med. Review of Reviews.*

DIET vs. DRUGS IN DIABETES.

At a meeting held by the Society of Medicine of Zürich (*Therap. Gaz.*), Dr. Eichhorst expressed his views on the treatment of diabetes, and the relative importance of the use of drugs and dietetics in this disease. Professor Eichhorst has made it a point to compare the action of various drugs on different patients, some being given an ordinary

diet; others having a strict diet, and showing a small amount of sugar in the urine; others, again, who, notwithstanding this, still have a large amount of sugar. From these experiments Dr. Eichhorst has come to the conclusion that in all cases the use of drugs is absolutely without result. Even in cases of syphilitic infection iodide of potassium or mercury is totally ineffectual. Hence it is best not to give any drugs, as patients are apt to follow less strictly the diet prescribed because of their reliance on the action of the drugs. As for the use of mineral water, such as Neuenahr and Carlsbad, he considers that the results obtained are chiefly due to strict regimen. There is but one good treatment of diabetes, and that is the diet. Professor Eichhorst, however, does not believe in changing the latter abruptly, as the sudden suppression on all farinaceous food is apt to produce severe gastric trouble, rapid emaciation, and to bring about the appearance of diacetic acid and acetone in the urine. When the diet causes much loss of strength and emaciation, Professor Eichhorst allows a small amount of bread and sugar, as he prefers a diabetic with sugar in his urine and in good condition to one who is depressed though the sugar may have disappeared. Alcohol should not be used, but light coffee or tea is tolerated. The characteristic of this treatment is the gradual establishment of the diet, controlled in its effect by weighing the patient regularly.—*Med. Times.*

EXAMINATION OF THE EYES.

It has recently been asserted by a scientist that examinations of the eyes indoors is no test of their actual capacity, and that all examinations of the eyes of school children should be made in the open air, as otherwise there can be no true standards. He says that the superior visual acuity of Indians and other savages is due to the necessity of concentrating their attention on objects on which their food and safety depend, and proves his assertions by statistics—many new and personal—which demonstrate that the out-of-door eyesight of civilized peoples averages as high as that of the uncivilized. He concludes that anyone can make his eyesight equal to that of a savage by concentrating his attention sufficiently. He adds a plea for more out-of-door life for children, even at the expense of their studies.—*Med. Times.*

ASPIRIN IN DIABETES.

R. T. Williamson, according to an article in *Medical Age*, recommends the use of aspirin in the treatment of glycosuria and diabetes mellitus. This preparation seems to have the most influence in the less severe forms and is less serviceable in the acute forms in young individuals. In order to produce any reduction in the milder forms it should be given in doses of 15 grains each four or five times a day. The patient should be watched for the appearance of toxic symptoms. It is best to begin with a small dose, 10 grains two or three times a day, and gradually increase the dose.—*Journal of the American Medical Association.*

A NEW FIRE-PROOF MATERIAL.

A new fire-proof material is described by the *Scientific American*:

It originated in Russia, and takes its name from the Ural Mountains, where a large quantity of asbestos, which constitutes the fundamental composition of uralite, is obtained. It has proved a highly efficacious fire-resisting material, capable of withstanding a much greater degree of heat, without exhibiting any apparent effort, than any fire-proof material on the market. Coupled with this fact, it is extremely light, is of great strength, is durable, and is manufactured in sheets of varying sizes and thickness, thus rendering it a first-class material for building purposes.

Although asbestos enters largely into the composition of uralite, it is by no means the only important substances incorporated in its manufacture, since asbestos in its pure form, although it will resist high degrees of heat, is liable to disintegrate under the influence of excessive temperature, and this peculiarity to a great extent nullifies its utility.

The most noticeable feature of uralite is the facility with which it may be handled and adapted to other materials as a protection against fire. It can be glued and nailed without any fear of its splitting during the latter process. It is especially available for paneling or other similar purposes, and can be grained and otherwise treated precisely as if it were wood. It does not swell or shrink under fluctuating climatic conditions, is waterproof, and is a complete electric insulator. It is capable of withstanding a great strain—eighteen tons

per square inch in comparison with Portland cement, which is only capable of supporting nine tons—so that it is an ideal material for flooring and ceilings. Its cost is very low—seven cents per square foot.

A practical proof of faith in the fire-resisting capabilities of uralite is afforded by the fact that in London the fire insurance companies have decreased their rates where this material is employed from \$5.25 to \$1.90. It is being adopted on the overhead railroad of Liverpool; in the Soudan for roofing purposes.—*Med. Times.*

TREATMENT OF WHOOPING COUGH.

Monti gives a very good review of the treatment of whooping cough in the *Bulletin General de Therapeutique*, which he divides into general and local. Under the first heading, he advises that the patient be placed in a well lighted and well aired room, the temperature of which should not go below 64° and not above 68° F. If possible, the child should be taken to a temperature climate during winter. Temperature variations should be avoided in any event. Locally, inhalations of boric acid and sodium salicylate are recommended, although Monti personally prefers inhalations of carbolic acid and menthol with quinine internally. The following formula of Birch-Hirschfield's is used by Monti:

℞ Carbolic acid..... 2.00 gtt. xxx.
 Pure menthol..... 1.00 gr. xv.
 Distilled water..... 192.00 ℥vi.

24.00 (drams vi.) of this solution should be inhaled each day.

In the internal treatment belladonna is prescribed thus:

℞ Powdered belladonna..... 01 gr. i.ss.
 Sodium bicarbonate..... 1.50 gr. xxii.
 White sugar..... 1.50 gr. xxii.

To be taken 1 to 3 times each day in a capsule.

Monti has found quinine to give the best results in his experience, which is large. His formula follows:

℞ Quinin tannate... 1.00 gr xv.
 Sodium bicarbonate..... 1.00 gr. xv.
 White sugar..... 1.00 gr. xv.
 Divide into six (6) powders.

Dose: One every two hours.—*Buffalo Med. Jour.*

INHALATION TREATMENT OF WHOOPING COUGH.

Dr. Fournier (Ther. Gaz., XXVI, No. 1), of Bildah, in Algeria, has published a method of treating whooping cough which has given him excellent results in a recent epidemic. The method is that of inhalations and the preparation used is as follows:

Creosote	5 gm
Glycerine.....	10 gm
Oil Turpentine.....	4 gm.
Oil Eucalyptus.....	3 gm.
Oil Cloves.....	1 gm

A mask similar to that employed in narcosis is used and about 10 drops of the mixture is poured on the center, of the mask. Violent fits of coughing are noticed at first and the mask should be removed until the child has become accustomed to breathing the preparation. The various drugs differ in their action, some by deadening the sensitiveness of the nerve centers and others by their antiseptic action. Dr. Fournier has used this method, also the chief drug employed being creosote. Formaldehyde, he has found, causes severe headache.—*Pediatrics*.

A METHOD OF EXAMINING THE PULMONARY APEX.

Auld has devised a method of examining the pulmonary apex, which he thinks yields trustworthy results in the very earliest stage of phthisis. The apices of the lungs extend on an average from 1 inch to 1½ inches above the clavicles and in some cases 2 inches, the right apex being a shade higher than the left. The method consists in outlining the resonant area above the clavicles. The key to the detection of incipient diseases in the apex is familiarity with the physical signs yielded in health. With deep inspiration, the upper area of resonance is a quarter of an inch higher than during forcible expiration. If the pulmonary apices be examined in this comparative manner, any deviation from the normal standard, any evident disproportion, either in respect of the characters common to both sides, may be justly regarded as a ground for suspicion. The early indications of abnormalities are (1) failure of the upper line of resonance on one or the other side to ascend during a deep inspiration; (2) a

lowering of the upper line of resonance in whole or in part as compared with that of the opposite side; and (3) indistinct definition of the upper or outer line of resonance.—*London Lancet*.

HOW TO USE CALCIUM CHLORIDE IN METRITIC HEMORRHAGE.

Grose recommends a daily injection of 10 grammes (150 grains) of calcium chloride in 200 grammes (6½ ounces) of distilled water, preceded by an evacuant clyster; then a tablespoonful every two hours of the following mixture:—

℞ Calcium chloride, 4 grammes (60 grains).

Syrup of mint, 30 grammes (1 ounce).

Distilled water, 90 grammes (3 ounces).

M. If the kidneys act properly the use of the chloride may be continued for a considerable time.—*New York Medical Journal*.

PERTUSSIS.

Swoboda reports ten cases of pertussis in children treated with aristochinin, in daily doses of under 5 grains for infants under one year, and, in older children, never over 15 grains a day. As a rule, nine days suffice for the treatment, large doses being given for three days, half doses for the next six days. It is well borne, produces no secondary symptoms, and causes rapid improvement and recovery.—*Philadelphia Medical Journal*.

SURGERY.

IN CHARGE OF

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VALUE OF X-RAYS IN MALIGNANT GROWTHS.

Drs. Percy and Edward H. Shields, of Cincinnati, in a well-written article in the *Cincinnati Lancet-Clinic* of April 11, 1903, upon this subject, make some very important points. The description of X-rays and their phenomena, by the former, is excellent. He shows that Michael Faraday produced X-rays as far back as 1879, though without realizing their powers.

There are two kinds of X-rays generated in the vacuum tube ; kathode rays, being those which emanate from the kathode, and X-rays, which result from the impingement of the kathode rays against a solid object, thus causing phosphorescence. Kathode rays are less penetrating than the X-rays. On the other hand, the former can be deflected by a magnet or an electric force, and they carry with them a charge of electricity. X-rays have the opposite qualities, besides being without effect on either healthy or diseased tissues, while kathode rays are destructive.

It is claimed that the pain-relieving effects of X-raying are due to high voltage and the high frequency currents they cause with the kathode rays, and are not due to the X-rays.

He does not believe that deep-seated growths are at all modified by X rays ; that all good effects are due to the

kathode rays, which are less penetrating and only superficial in action. He adds:

"1. Deep growths are unaffected, although X-rays penetrate in abundance.

"2. X-rays 'filtered' through lead foil affect neither healthy or diseased tissues immediately beneath.

"The similarity of action between radium and ultra-violet light with the kathode rays of Crooks' tubes leads us to exclude X-rays as being therapeutically active."

He adds in conclusion:

"1. Relief of pain is due to the action of a high-tension current and connected in no way with 'X' or kathode rays.

"2. Kathode rays are therapeutically active agents in the treatment of disease.

"3. Affections beneath the surface, as deep-seated carcinoma, are in no wise affected by X-rays or kathode rays.

"4. The only phenomenon which can be ascribed to X-rays is their ability to penetrate thick opaque bodies.

"5. Bactericidal properties of 'X' and kathode rays are nil."

The latter author, speaking of X-ray therapy, affirms, among other things, that X-raying is the ideal treatment for inoperable epithelioma, especially involving the mouth. It has an added advantage of producing minimum deformity and a soft, smooth and pliable scar.

It destroys offensive odour and lessens secretion, while the resulting relief of pain attributable to high tension of current is a boon to the patient. Epitheliomata react quickly in proportion to their rapid growth.

The raying of secondary growths is less effective because of the presence of scar tissue, which offers considerable resistance to the effectiveness of the rays. He obtains the best results when the convex surface of the tube is three inches from the body to be treated. Other surrounding parts are protected by a mask of shellacked paper covered with four or five layers of tin foil.

He makes the application daily until there are signs of reaction, after which caution is necessary. Thereafter the rays must be applied for about five minutes every few days until the affected area is sloughed out.

The effect of the rays is to increase circulation in the adjacent structures and in granulations; and to smooth and soften the indurated and uneven base and edges of ulcers.

The authors also claimed that it was useless to attempt the cure or removal of malignant growths within the cavities of the body by means of X-rays, as all their attempts at this had proven unavailing. Regarding this matter, we are glad, however, to refer to an abstract of a paper by Dr. Margaret A. Cleaves in another column.

It is fair to state that it was contended in the discussion of this paper that a visible reaction had better not be looked for in X-ray treatment; that this was needlessly destructive and hazardous.

It is a fitting comment on the rapidity of medical progress that this important therapeutic agent was not heard of eight years ago.—*Medical Council.*

A FORM OF REMOVABLE DEEP SUTURE.

Notwithstanding the extraordinary proficiency in aseptic technic which has been attained by surgeons, buried sutures not infrequently occasion serious annoyance by giving rise to stitch abscesses. Often this untoward event occurs after the surface wound has healed, and may necessitate reopening the field of operation. The invention, therefore, of an easily removable deep suture by an English surgeon, F. R. S. Milton, deserves mention.

The deviser has evidently taken his inspiration from the familiar chain-stitch sewing machine. With this machine, if the tension be unequal, the loops will all appear on one side, and simply by pulling upon the taut thread the stitches can be readily taken out. Milton describes his suture in the *London Lancet* as follows:

The method of introducing the suture is of the simplest. All that is required is a mounted needle with an eye near the point; through this is threaded a long piece of silk. This forms the primary thread; the secondary thread is best formed by a stout piece of silkworm-gut which is sufficiently rigid to avoid kinking and being drawn into the sutured tissue. Supposing the peritoneum is to be sutured after a laparotomy, the procedure will be as follows: The two layers of the peritoneum which are to be sewn together are defined; the mounted needle, threaded, with the long end of the thread on the left hand or upper side of the needle when held as it will be when piercing the tissue, is passed from

the operator through both layers of the peritoneum, beginning at the lower angle of the wound. The needle is then withdrawn, leaving a loop of silk protruding through the layers of peritoneum on the side of the assistant; through this loop the assistant passes the end of the silkworm-gut, from below upwards, and the loop is withdrawn flush with the assistant's side of the united flaps. The needle, not having been unthreaded, is again thrust through the flaps for the second stitch and again withdrawn, leaving a loop as in the first instance; the silkworm-gut is threaded through this second loop and the process is repeated till the whole of the flaps are united; these being held together by a series of silk loops, the primary thread, held in position by the secondary thread of silkworm-gut passing through the loops on the assistant's side. The needle is next unthreaded, leaving a fairly long end to the silk. There will be on the face of the wound, on the side of the surgeon, the two ends of silk, one entering the peritoneal flaps at the lower end of the wound and the other leaving the peritoneum at the upper end, on the side of the assistant the silkworm-gut thread passing through the silk loops and also with long ends, one at the lower end of the wound and the other at the upper end. The silkworm-gut thread should now be put on the stretch and pulled gently backward and forward to see that it is nowhere kinked and that it can be withdrawn. This having been done, the four ends, two silk and two silkworm-gut, are each in turn threaded on an ordinary needle and made to pierce the skin on its own side of the wound and are left thus, whilst the wound in the abdominal wall is sutured in the ordinary way. This having been done the two lower ends of the peritoneal suture, being one of silk and the other of silkworm-gut, are then tied together and cut to a convenient length. The same is done with the two ends at the upper end of the wound and the process is complete.

When it is required to remove the deep stitch, which may be at any time after the wound is healed, all that is required is to cut the lower united stitches on the silk side of the knot and the upper stitch on the gut side of the knot, or *vice versa*, and to pull out first the silkworm-gut stitch, which will offer no resistance, and then the silk stitch which, having lost its support, can be pulled out with equal facility.—*St. Louis Med. Review.*

A RAPID AND EASY METHOD FOR THE STERILIZATION OF CATGUT LIGATURE AND SUTURE MATERIAL.

J. M. Garratt, Buffalo, gives his method as follows:—

Have ready one two-quart and one one-quart clean fruit jar for each size of the material used. It is well to have an extra one-quart jar for use in preparing a fresh batch when one on hand is nearly used. The jars must be thoroughly cleaned beforehand and sterilized by boiling or dry heat. The various sizes of catgut can be purchased from any reliable firm dealing in surgical supplies. The sizes found most convenient are 00, 0, 1, 2 and 3. The first three sizes are cut into lengths of about ten inches and used as ligatures and sutures; the last two 20 inches—used for pedicles, etc. For convenience, a piece of wood $10 \times 3 \times \frac{1}{4}$ inch is obtained, and both ends cut to a point and notched at intervals of one-quarter of an inch for catching the ends of the strands. After winding lengthwise, cut the smaller sizes at both ends of the board; the larger at one end only. Three strands of a similar size of the short lengths are placed in an envelope of unglazed paper, a convenient size being $3 \times 1\frac{3}{4}$ inches. Two strands of a similar size of long lengths are likewise placed in envelope. Seal and mark with an indelible pencil the size number on the outside of the envelope. The number should be made large enough to be plainly seen. It does away with the necessity of putting germ-catchers on the outside of the jar. Envelope and contents of similar size are kept in a two-quart jar until wanted.

Sterilization is accomplished by placing 40 or 50 envelopes and contents in a one-quart jar and completely filling it with the following germicidal solution:

Mercuric chlorid.....	1.	(15 gr.)
Tartaric acid.....	5.5	(75 gr.)
Columbian spirits		
Ether.....	of each	473. (1 pint)

Put on the cover and screw it down tightly. Allow size 00 to remain in the solution for four hours; size 0, six hours; size 1, eight hours; size 3, twelve hours. After the material has been immersed for the desired time, pour off the

solution and drain, then cover envelopes and contents with columbian spirits, screw on the cover and put away in a clean place until wanted. It is essential that columbian spirits be used.—*Am. Med.*

THE TREATMENT OF VASCULAR TUMOURS BY THE INJECTION OF WATER OF A HIGH TEMPERATURE.

J. A. Wyeth has employed this method successfully and without accident in a number of cases of capillary angioma, but, on account of their superficial character, they being within the substance of the integument, some cicatrization is apt to result unless very great care is taken. The weak tissues of the new growth do not offer the resistance of the normal skin which overlies the venous or arterial angiomata, and may break down under the hot water. In all cases the scarring has been very slight, and he thinks the method is well worthy of thorough trial in these cases. As they occur chiefly in children and are situated on the face, it is important to have the patient very firmly held while the injections are being made without narcosis. The legs, arms, body and head should be kept immovable, while the face should be covered by a mat in which an aperture is cut sufficient to expose the area to be injected. He takes the additional precaution to have an assistant hold a sponge saturated with cold water immediately over the needle in order to prevent scalding the cuticle should the apparatus leak. The small hypodermic needle is used, and this should be thrust through the sound skin, about one-eighth of an inch from the edge of the angioma, pushed beneath the neoplasm, care being taken not to let the point come through the surface. From five to fifteen minims of water may be injected in one spot, changing the needle here and there to suit the size of the mass. When the injections are made directly into the enlarged capillaries, necrosis almost always occurs, but if the water is forced well beneath the surface, the deeper parent vessels will be coagulated, causing the nevus to disappear by gradual denutrition (granular metamorphosis). It is a wise precaution to cover the parts that are injected at once with aseptic collodion to prevent infec-

tion. This operation may be repeated from time to time until a cure is effected.

Water at a high temperature will, without doubt, become more frequently employed in the treatment of various minor surgical diseases. It has been employed by Dr. Lucien Lofton, of Virginia, in the treatment of hemorrhoids, and while Wyeth does not approve of the treatment of hemorrhoidal tumours by injection, always having in mind the danger of hepatic or other embolism, if, in the judgment of the surgeon, this operation is deemed advisable, hot water is the safest agent.—*Four. A. M. A.*

CANCER OF THE RECTUM.

There are only two methods of treating cancer of the rectum in vogue: Inguinal colostomy and extirpation of the growth. When an artificial inguinal anus is made, death is, of course, inevitable. The question for the surgeon must be: Is it justifiable thus to cut off the patient from all hope? Records of 43 excisions show that the making of an artificial anus is scarcely justifiable, since so many patients not only are given relief by extirpation, but live for many years, and so many of them seem to be radically cured. This teaching is all the more important now that cancer is evidently on the increase, and since all the other methods of treatment—the x-rays, the Finsen light, and various forms of serum therapy—have all failed and are proven inapplicable to rectal carcinoma.

The disease is always unnecessarily fatal, unless radical operation can be done. The usual length of life is about nine months. This is true with or without colostomy, and it is doubtful if colostomy gives much relief. Patients on whom no operation is done seem to live quite as long, and, under opium, have not much more pain. In these cases the patient's condition always becomes so pitiable toward the end that death is welcomed as a relief. Even the saving of one patient would justify surgical interference, and, if such interference also brings hope of relief from pain and death without the needless agony of gradual invasions of all the perineal tissues, the surgeon is doubly justified. One thing is certain: no method except extirpation has ever cured a

rectal carcinoma. Life, after extirpation, is always from three to six months longer.

There are only two indications for colostomy. One is scirrhus carcinoma of the rectum, with complete closure of the caliber of the gut, because of contraction; the other is extensive hæmorrhage from soft malignant tumour. In this case the inguinal colostomy gives a chance for curettage in order to put a stop to the exsanguination of the patient. Even after colostomy, it must not be forgotten that the caliber of the gut very seldom becomes completely closed, and that more or less fæcal material is sure to pass through it.

The radical operation, when reasonably successful, restores the patient to strength and usefulness, and gives immediate relief from the preceding discomfort. Out of 41 cases operated upon by the writer, 12 were unsuccessful, mainly because patients in advanced stages of the disease were operated upon at the urgent solicitation of themselves and friends. Two cases, however, operated upon when apparently in a hopeless condition, and requiring very extensive operation, have survived many years after the operation. Of the 29 patients who were discharged after extirpation, 22 can be traced. Of these, 16 have lived for more than 2 years after the operation. One patient who was presented to the Association has lived for 11 years, another for 10, a third for 7; two have lived $6\frac{1}{2}$ years, and over 5 years since their operation. It is evident then that carcinoma of the rectum is not nearly as hopeless an affection as it has been considered.

The first reason for death after operation for cancer of the rectum is because of the diagnosis. In three cases the neoplastic process had gone so far that nodules of cancer already existed in the liver. In one of these cases extirpation was done because the patient had insisted that he did not want to go back home with that tumor in his rectum, and would prefer to go home dead. The writer was tempted to do the operation from the consideration that removal of the rectum and sigmoid would cut off the portal blood-supply, and so starve somewhat the growths in the liver. This patient is alive—3 years after the operation. The next most frequent cause of death is sepsis. Owing to the unclean nature of the parts operated upon, infection is bound to take place

occasionally, notwithstanding the surgeon's care. In one case gangrene took place, because the blood supply to the lower cut end of the bowel was cut off by clamping. The patient died on the third day. The writer always cuts off sufficient gut so as to get a free bleeding from the cut surface, otherwise there is danger of gangrene. He insists very much on the necessity for earlier diagnosis of cancer than is the rule at the present time, physicians evidently not making a proper examination.—J. P. Tuttle (*New York State Medical Association : Medical News*, October 24, 1903).

TUBERCULOUS ULCERATION OF THE RECTUM AND ANUS.

L. H. Adler, Philadelphia. The local treatment has for its main objects the destruction of the tubercle bacilli, and the establishment of a healthy reparative process. The paquelin cautery or the galvanocautery; chemical caustics, such as zinc chlorid, nitric acid, and acid nitrate of mercury; the currette and the x-ray have been employed for these purposes, and with varying results. Some patients have been benefited, some cured, but a large percentage have not been materially improved. Some satisfactory results have been procured by less drastic measures, such as the use of a 2 p. c. solution of creolin or hydrogen dioxid to cleanse the parts followed by the topical application of some one of the following remedies: ichthyol (pure or diluted), balsam of peru, bismuth subiodid, orthoform, orthoform and a 2 p. c. solution of methylene blue as recommended by Tuttle, compound or simple resin cerate combined with 1.3 grams (20 grains) of iodoform to the ounce, etc.

Following the indications obtained from the researches of Sormani, in which it seemed to be shown that gastric juice destroys the vitality of the tubercle bacillus, Adler recently has been experimenting with an application to the ulcers of an essence of pepsin acidulated with two drops to the ounce of the strong nitromuriatic acid applied either with the atomizer or if the ulceration be perianal, upon gauze which is left in contact with the parts.

The pepsin solution is applied every day for a week every other day for another week, and afterward as seems indicated by the character and condition of the ulceration. This treat-

ment is supplemented by the use of some one of the remedies previously mentioned. In two cases in which he has employed this plan, sufficient encouragement has been given to warrant this mention of the matter, but sufficient time has not elapsed to be able to speak authoritatively on the ultimate outcome of the treatment.—*American Medicine.*

SUNSHINE AND FRESH AIR vs. FINSEN ULTRA-VIOLET RAYS AND THE ROENTGEN RAYS IN TUBERCULOSIS OF THE JOINTS AND BONES.

De Forest Willard, Philadelphia, concludes :

Sunlight, fresh air and good food, together with fixation and protection of the affected joint, are the most important agents in the contest with tubercular infection.

Direct exposure to the rays of the sun is essential, and all hospitals should be provided with solaria or sun porches and roof gardens.

Patients lying in bed should have the diseased joints exposed to the direct rays of the sun, their head and eyes being protected by green glasses or shades. The joints may be covered with blue, so as to secure easiest passage of the ultra-violet actinic rays, and local medications rich in iodine may be also employed as desired.

Tent life on the hospital ground, or better, in the open pine forest, can be successfully employed through both summer and winter.

Sanatoria should be established for tuberculosis of the hard tissues, as well as of the soft.

The concentration of the sun's rays by lenses, as suggested by Butler, Finsen and others, is of positive benefit in bacterial influence. As final curative agents, however, the direct sun's rays can be used when sunlight is lacking.

The Roentgen rays in the laboratory have an inhibitory power on the tubercle bacilli, and may prove useful in restraining the growth of these micro-organisms in living tissues.

The actinic rays and the x-rays are both apparently helpful in the fight with tuberculosis, but several years will be required to determine accurately their effect. They should be employed not to supercede, but to antedate and to supplement operative procedures, to assist the mechanical protection of the point, and to increase the general therapeutic measures employed.—*Four. A. M. A.*

THE TOILET OF THE PERITONEUM IN APPENDICITIS.

G. R. Fowler, Brooklyn. To sum up the subject of the toilet of the peritoneum in appendicitis cases the following propositions may be advanced:

In cases in which the infection is confined to the appendix the surrounding peritoneum should be carefully guarded against infection from the opening left in the cecum by the excision of the organ.

In cases in which suppurative collections are present the cavity of the peritoneum should be carefully guarded by gauze pads, which may be advantageously met with 1-2,000 sublimate solution before breaking down limiting adhesions in approaching the appendix.

As soon as a pus cavity is opened the septic material should be rapidly sponged away and the neighbourhood cleansed with hydrogen dioxid. Following this the appendix should be removed, after which the parts are subjected to a second cleansing process.

Outlying infection of the peritoneum may, as a rule, be left to take care of itself after the removal of the appendix and local cleansing.

In peritonitis more or less generalized in the pelvic and enteronic areas the method of procedure will depend upon the presence or absence of markedly septic seropurulent material. When the latter is present it should be carefully sponged away. If only thin and slightly turbid this will usually suffice. If, however, this is more decidedly purulent and particularly if flakes of grayish, slate-coloured lymph are floating about in it, providing the patient's condition will permit of it, the infected area may be forcibly flushed with saline solution and drained from the direction of the pelvis, the force of gravity being utilized in the after treatment to encourage the flow of septic fluids from the enteronic to the plevic area.

In diffuse septic peritonitis the conditions are usually such as to prohibit prolonged interference, and the surgeon will, in the majority of cases, be justified in interference only to the extent of removing the appendix and cleansing locally. In selected cases flushing the peritoneal cavity has advantages. The elevated head and trunk position should be employed in the after treatment whenever possible.

Favourable results from eventration can only rarely be claimed legitimately. So-called "scouring" of the peritoneal surfaces for the removal of plastic lymph is a most unsurgical procedure.

Drainage, when instituted, should be by glass or smooth rubber tubes. Massive gauze packing or multiple and radiating gauze strips placed between the intestinal coils is probably never of real service and may be productive of harm.—*A. Med.*

SURGICAL TREATMENT OF NEPHRITIS.

A. H. Ferguson, Chicago, reports several cases of decapsulation with good results. His technique is as follows:—

Make the skin incision a finger's breadth below the twelfth rib and parallel to it. Cut down to muscular tissue; then dissect the skin and fat from the muscles downwards to the crest of the ilium.

Go through the rest of the structures as if to remove the kidney through the lumbar route, along the outer border of the quadratus lumborum. In cutting the lumbar fascia, keep well backward.

On exposing the fat, do not tear and traumatize it, as is often done, but carefully cut with the knife its thin fibrous covering. Do not insert the hand to pull at the fat, but seize hold of it with many pressure forceps and deliver it externally. It will now be found that the kidney is immediately beneath your fingers in the wound.

Do not use the hand to deliver the kidney. Firm pressure on the abdomen and traction made on eight or ten forceps applied to the fat, close to the kidney, will easily bring a movable kidney outside the wound. In some few instances the renal vessels are too short to allow the kidney to be delivered at all. Indeed, it is not necessary to have the kidney dragged out in order to decapsulate it, but if it comes, out easily, do it. When the kidney is situated rather high and the traction on the forceps does not promptly bring it down, a long narrow retractor, with a slight concavity outward, passed beyond the upper pile, greatly facilitates its delivery.

Incise the capsule longitudinally over the vertex of the kidney for about two-thirds its length, peel it from the cortex with the handle of the knife or finger until it is entirely separated, then slip one end of the kidney through the slit in the capsule, and then the other, and it will be seen that it forms a collar around the hilum of the kidney. If the kidney is movable, utilize the capsule to suture it in place, and the organ is left in contact with raw muscular tissue which is more vascular than the fatty capsule, and is, therefore, a more suitable structure to form vascular adhesions with the denuded organ.

In most of his cases Ferguson has freely punctured the cortex of the kidney in many places. This not only furnishes free drainage from inflammatory products, but also insures a thorough determination of blood to the parts, which hastens resolution and favours repair. It must also be remembered that the fibrous tissue formed for the purpose of repair in the absence of pyogenic organisms has a tendency later on to clear away rather than increase in bulk and subsequently contract and become cicatricial. Of this we see many instances in surgery.

Drainage should always be established for five to eight days after decorticating the kidney. Use plain gauze and a small rubber tube for this purpose. It is astonishing the quantity of blood serum and urine that saturates the dressing for a couple of days. When drainage ceases, remove the tube, and afterwards withdraw the gauze as it becomes loose.
—*four. A. M. A.*

CYANCHE MALIGNA.

Cyanche maligna is not a common disease, but when it does occur will prove so annoying to the doctor as to lead him to regret the popularity that brought him the patient. Surgical writers devote little space to its pathology or treatment, so that the practitioner is quite at sea. A limited experience had convinced me of the uncertainties of treatment by proposed methods when I became both patient and doctor. The root of the nail of my right forefinger from slight beginning gradually became a crippling affliction. Simple treatment proved to be of no value, the part was painfully inflamed, swollen, the root of the nail was detached

and freely yielding a nauseous purulent discharge. Persisting for some weeks, and growing slowly worse all the time, there appeared to me to be an approaching necessity for amputation.

In this emergency I decided on the following treatment: Having drawn back the puffy flesh at the root of the nail as much as possible, to permit the thorough washing away of the pus, a small amount of cocaine crystals was dropped in and dissolved by a drop of water. The skin drawn back, the fluid was diffused as well as possible. In a few minutes crystals of carbolic acid were placed in the groove of the ulceration, another drop of water applied, and the liquid diffused as much as possible.

Thus the application was painless, and as I recollect required no more than a single repetition—improvement was quickly manifest in every respect and recovery prompt. A morbid sensibility of the finger continued for a long time, which gradually disappeared, leaving only some deformity of the nail. I know the absurdity of relying on a single case, but as I was both patient and surgeon, I thought as a suggestion I might be excused for giving it to the fraternity.
—*Toledo Med. and Surg. Reporter.*

A NEW DRESSING.

Springer (*Centralblatt für Chirurgie*) applies a thin covering of paraffin over a wound to prevent the possibility of adhesion of the gauze dressings and has found it admirable for that purpose. It always retains its shape, neither melts nor becomes rancid, and is a good fit without adhering to the wound. A lump of paraffin is boiled in water for about ten minutes and then set in a pan of cold water to cool. When the gelatin has hardened and spread out in a thin layer on the surface of the water the pan containing the gelatin is set in a pan of warm water until the paraffin is flexible. The sheet of paraffin is then cut and trimmed to the exact size and shape desired, perforated with a hot needle, and transferred to the wound with forceps, the water surface down. The wound can be easily uncovered and cleaned and it is shielded from all kinds of irritants. The gauze covering remains unimpaired. The light can also penetrate the thin paraffin sheet to exercise a beneficent influence.—*Medical Standard.*

Jottings.

HOW PROPERLY TO MAKE TOAST.

In that very valuable work, "How to Cook for the Sick," are these directions for making toast, a bit of sick room cookery which is too often disregarded, and in the majority of cases improperly done. How many times has the physician found chunks of boggy and sodden, discoloured bread, which has been manipulated over a flame, or pieces of fresh bread, which had been burned in an effort to make it crisp? Here is how Sachse directs toast to be made, and it cannot be improved upon. It should be given to the patient's cook—especially if there is a gas stove in the house.

The object of making toast is to convert the starch into dextrin, giving the starch its first step toward digestion and the agreeable toast flavour. The bread must first be thoroughly dried, or it cannot be brought to 400° F., the dextrinising temperature. Toast is therefore crisp to the center and a golden brown. It can be easily broken, is quickly moistened by the saliva, and, what is an advantage with invalids and children, it requires mastication.—*Buffalo Med. Jour.*

INGROWING NAIL.

According to Dr. Blanc, of Paris, the most rapid treatment of lateral onyxia is that of applications of finely powdered nitrate of lead. Eight days are generally sufficient to effect a cure, and the treatment has not only the advantage of being painless, cheap and easily applied by any intelligent person, but also of allowing the patient to continue his occupation. Before the first application a prolonged foot-bath should be taken, then by the aid of a flat spatula a thin layer of cotton is slipped between the nail and the fungoid growth, to protect the healthy part of the nail. After powdering the parts, a wet compress is applied. The dressing should be renewed every day.—*Med. Press*

IMMEDIATE EVACUATION OF PUS.

It is a rule to which there are practically no exceptions, that if you feel fluctuation from pus anywhere there is no reason for waiting and poulticing before evacuation. It only makes the abscess larger, infects more tissue, and prolongs the disease. If the diagnosis be uncertain, have recourse to the aspirating needle.—*International Journal of Surgery.*

THE STARCH POULTICE.

Walker directs it to be made as follows: One teaspoonful of boric acid is added to four tablespoonfuls of cold water starch, and mixed with a little water. A pint of boiling water is then stirred in, and the jelly which results is spread on cloth in a layer about half an inch thick. When cool, a piece of muslin is laid over it, and it is applied to the part. This poultice is excellent for the removal of crusts, and as a soothing agent.—*Denver Med. Times.*

CANCER IN THE YOUNG.

It must be accepted as a fact that in cancer, the younger the patient, the more active and rapidly fatal the disease will be. Hence while the patient's youth may lead to disbelief in the presence of cancer, careful observation is necessary in suspicious cases, for unless prompt interference takes place early in the disease, results are very rapidly disastrous.—*Internat. Jour. Surgery.*

If cutting instruments are to be boiled, it is always best to continue the boiling not for over three or four minutes, as it blunts the instruments badly. A preferable way of disinfecting them is to wash them well with soap and water, place them in pure carbolic acid for ten or fifteen minutes, remove them with forceps and place them in alcohol.—*International Journal of Surgery.*

Sir Frederick Treves, in giving his evidence before the Royal Commission which examined into the conditions of the army at the opening of the Boer war, said, "that the medical supplies were certainly antiquated, and the instruments were all of the kind which he should have thought would only be found in museums."

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Editorial.

A year ago, at its semi-annual meeting of the College of Physicians and Surgeons of the Province of Quebec, held in the City of Quebec, a series of new by-laws were proposed and discussed. Alterations were suggested and some of these were temporarily accepted, but their final adoption was left over for a year, so as to give the governors time to consider them fully. Among the suggested alterations was one compelling every one, before presenting for the entrance, preliminary examination in Medicine, to give evidence of having taken a *cours complet*. By this it is understood that the candidate must have taken a course of eight years at one of the numerous Roman Catholic institutions in the province, or present a certificate practically covering the same ground. This was tantamount to saying that every presumptive English Protestant medical student must be the holder of a B. A. degree, that being the nearest approach to the course given at Roman Catholic Colleges. The English Governors of the Board felt, that although it was most desirable to encourage all English speaking medical students to have a B. A. degree, the time had not arrived

to make it compulsory. Under this proposed new by-law the entrance into the profession of Protestant English speaking young men was practically an impossibility. The English Governors clearly showed the effect such a by-law would have on their compatriots, and a motion that it would not apply to Protestant candidates was lost by a purely national vote—two English speaking governors of the Roman Catholic religion voting with their Protestant confreres. The year which elapsed between the meeting of September, 1892, and September, 1893, was an anxious one for those who represented the English members of the profession and English Universities. Various schemes were discussed as a possible means of meeting the proposed by-law, but owing to the character of General Protestant education in this province, not one seemed to meet the difficulty. At a meeting held in Quebec on the 30th of September last, the day the College of Physicians and Surgeons met in that city, Dr. Craik and Dr. Lafleur, representing the Medical Faculty of McGill, and Dr. F. W. Campbell, representing the Medical Faculty of Bishop's, met to discuss the situation. The position, as temporarily decided a year previously, was one of immense importance to their nationality. So far as they know, no alteration had taken place in the feelings of the French speaking members of the Board. No alternative seemed possible, than once more appealing to their generosity, when the by-law came up for final adoption. An amendment was proposed, which was to be moved by Dr. Craik and seconded by Dr. F. W. Campbell, which was practically asking that the new by-law should not apply to Protestant candidates. It was arranged then and afterwards agreed to by the other English speaking Governors, that Dr. Craik would alone speak on this resolution. This agreement was carried out, and when the proposed by-law came up for final adoption the amendment was put to the meeting. To the amazement, certainly of those most deeply

interested, the amendment was carried unanimously, and with considerable applause. When this had subsided Dr. F. W. Campbell arose, and in a few words thanked his French confrères on the Board for this exhibition of their generosity toward the English speaking profession—a generosity which he assured them was fully appreciated. Thus terminated most satisfactorily a condition which at one time seemed most likely to be followed by consequences of a far-reaching character.

GLYCO-HEROIN (SMITH) COMPARED WITH CODEINE AND MORPHINE.

Aside from the after-effects of morphine, such as nausea, general lassitude, vomiting and vertigo, it has the disadvantage that the patient becomes readily addicted to it and chronic morphinomania occurs, especially in neurotic persons.

Codeine in its physiologic action resembles narcotine, though the narcotic stage is not so much pronounced. When administered in small doses intestinal peristalsis is promoted, while in large doses it produces diarrhoea in consequence of complete relaxation of the intestinal muscles; owing to paralysis of the nerve centers governing the intestines.

• The sedative action of codeine is unreliable.

Expectoration is not promoted by morphine or codeine while glyco-heroin (Smith) acts as a stimulant to the respiratory center, and stagnation of the secretions is excluded.

Comparative doses of glyco-heroin (Smith) and codeine show the latter to produce nausea, vomiting and vertigo, while these symptoms are absent during the administration of glyco-heroin (Smith).

Unlike morphine preparations, glyco-heroin (Smith) does not constipate.

Glyco-heroin (Smith), as a respiratory sedative, is decidedly superior to the preparations of opium, morphine, codeine and other narcotics, as it is devoid of the toxic or depressing effects which characterize the latter, when given in doses sufficient to reduce the reflex irritability of the bronchial, tracheal and laryngeal mucous membranes.

THE LACTO-GLOBULIN CO.

The Lacto-Globulin Co., Limited, 795 Craig street, Montreal, have taken over the business of the Albumen Food Company, who have been manufacturing globulin. This food will, in future, be called lacto-globulin, and will be put out in 14 ounce and 6 ounce packages, retailing at \$1.00 and 50c. Lacto-globulin is being extensively and solely advertised among the medical profession, and will no doubt have a very considerable sale, as it fills a long felt want as a dietetic in all cases of malnutrition and digestive complaints.

The preparation will be sold entirely through the drug trade. The management is in the hands of Mr. H. L. Peiler, who was formerly with the Abbey Effervescent Salt Company, and who was prominently identified with the strong efforts made by that company against price-cutting. The Lacto-Globulin Company is building an extensive laboratory at Point-Aux-Trembles, P. Q., which is a considerable milk centre. Their advertisement will be found in the *Canada Medical Record*.

Book Reviews.

Progressive Medicine. A quarterly digest of advances, discoveries and improvements in the Medical and Surgical Sciences. Edited by Hobart Armory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, assisted by H. R. M. Landers, M.D., Assistant Physician to the Out-Patient Medical Department, Jefferson Medical College Hospital. Vol. III. September, 1903. Diseases of the Thorax and its Viscera, including the Heart, Lungs and Blood Vessels ; Dermatology and Syphilis, Diseases of the Nervous System ; Obstetrics.

This well established and most important quarterly digest of Medicine and Surgery comes to us promptly on time. Every page of it is filled with material which every man who desires to keep *en courant* with medical progress should read. We have more than once stated that medical men cannot afford to be without this book. It should form part of his library, and, if it does, we know of no work to which he will have more recourse. The first paper is on Pulmonary Tuberculosis, by Dr. Ewart, F.R.C.P., which brings up to date a subject which is constantly increasing in importance. Dr. Ewart dwells with considerable stress upon the good results which follow the establishment of Tuberculosis Dispensaries. This, we know, is the opinion of those who are working under the auspices of Tuberculosis Leagues all over Canada. The old-fashioned treatment of pulmonary phthisis by cod liver oil by the mouth is productive of disorganization of the digestive powers of the stomach, an organ which it is important should be kept in the best possible condition. In such cases Dr. Ewart says : medicine medication is advised by Duncan Taylor in the *Lancet* of October 18, 1902, who recommends rubbing in a mixture of 4 drachms of creosote or guaiacol, 1 drachm of oil of cintronella and cod liver oil to make up 4 ounces:

The article on the Heart is replete with interest. There is scarcely a disease to which the organ is liable which is not alluded to, and the result of new remedies recorded. The department devoted to dermatology is up to date and will prove of especial value to those who devote themselves so this specialty. It is also well illustrated. Diseases of the nervous system, a somewhat complex subject, receives good attention, and there is much information to be gained by its perusal. The article on Pregnancy, Eclampsia and Malpresentations will give even experienced obstetricians many valuable hints.

The Internal Secretions and the Principles of Medicine. By Charles E. de M. Sajous, M.D., Fellow of the College of Physicians of Philadelphia; Member of the American Philosophical Society; The Academy of Natural Sciences of Philadelphia, etc.; Knight of the Legion of Honour and Officer of the Academy of France; Knight of the Order of Leopold of Belgium; formerly Professor of Laryngology and Dean of the Faculty of the Medico Chirurgical College, etc., etc. Volume first, with forty-two illustrations. F. A. Davis Company, publishers, Philadelphia, 1903.

This massive volume of some eight hundred pages, represents an immense amount of labour and thought on a somewhat obscure subject. Through observation and experiments by himself and others, Dr. Sajous has arrived at some remarkable conclusions and advanced theories, which, if confirmed by further observation, will shed new light on some of the most abstruse physiological phenomena of the human organism. We can only, in the brief review of this book, give an outline of a few of the ideas advanced by Dr. Sajous and if our readers are struck by their novelty and interested, advise them to carefully peruse the book. The basal theme is the action of the adrenal secretion on various parts of the body. The adrenals were the key to tissue respiration, and to the functions of all ductless glands; and the heart, lungs, liver, etc., are subsidiary structures under the mandates of the ductless glands. Among the ideas advanced are the following, from which important conclusions are drawn. Thus: the red-blood corpuscles are said to be secondary factors as carriers of oxygen and the oxidizing substance is an oxygen-laden adrenal secretion dissolved in the blood plasma. The contraction of the heart depended on the presence of the adrenal secretion, it was found in various tissues, as myosinogen in muscle, fibronogen in the blood, myelin in nerve cells.

The anterior pituitary body he claims to be the most important organ in the body, as the governing centre of the adrenals, being connected by the splanchnic and sympathetic nerves. A patient's vital resistance depended on the functional efficiency of this body which caused increased or diminished adrenal secretion and thus led to increased metabolism and activity or lowered vitality. Again, the pituitary body was sustained in functional activity by the secretion of the thyroid gland. If overdone ex-ophthalmic goitre resulted, if defective, myxoedema.

The thyroid gland, anterior pituitary and adrenals being functionally united constitute the adrenal system. He found that poisons, toxins, remedies, etc., acted the same way as thyoidine and produced their effects by leading to over-activity or insufficiency of the adrenal system. Lowered vitality was the effect or cause of

many diseases. In syphilis, mercury and iodine acted by stimulating the adrenal system, small quantities of toxins stimulated while excessive quantities inhibited the functions of this system. Fever in disease is the result of excessive functional activity of the adrenal system, excessive stimulation resulted in collapse. Hence remedies which stimulate the adrenal system are indicated rather than symptomatic treatment in such diseases as hydrophobia, tetanus, eclampsia, etc. The posterior pituitary body also looms up in this new phy-iology as an important body, being the chief functional centre of the nervous system and being the centre upon which all emotions and shock react and is aided by the anterior pituitary body in sustaining the cellular metabolism of all organs. The pancreas and spleen also assume an important role; their secretions uniting to form trypsin is supplied to the intestinal canal and also as an internal secretion entering the splenic and portal veins and becoming an important factor in immunizing processes, destroying toxic albuminoids. Phagocytosis was still the preponderating factor, but it was the trypsin in the digestive vacuoles of the phagocyte which destroyed the toxins and bacteria, but the fullest action in this direction required the simultaneous co-operation of the three agencies, trypsin only becoming sufficiently active as a proteolytic agent in the presence of given proportions of oxidizing substance and fibrinogen. Deficiency of fibrinogen characterized typhoid fever. Deficient trypsin, diphtheria. Important and hitherto unrecorded functions are also attributed to the leucocytes. In a word, the theories advanced attempt to explain on a rational basis most of the vital phenomena of the human organism and suggest new methods in the treatment of disease and toxæmia. Stimulating the functional activity of the adrenal system, may overcome the lethal tendency of these pathogenic elements and overcome inherited tendency to disease such as is seen in the tubercular diathesis. These points are considered in great detail in the various chapters, besides other cognate subjects, and the author promises a second volume shortly on applied therapeutics based on these new views. The work is illustrated with some beautifully coloured plates and represents a vast amount of study and labour; the startling theories put forth will have to receive much further demonstration and stand the criticism of our most authoritative investigators before the remarkable views promulgated can receive any general acceptance.

J. B. McC.

The Medical News Visiting List for 1904. Lea Brothers & Co., Publishers, Philadelphia and New York.

This is an excellent visiting list and embodies the result of long experience and study devoted to its development and perfection. It is issued in four styles, viz.; Weekly, dated for 30 patients.

Monthly, undated, for 120 patients for month. Perpetual, undated, for 30 patients, weekly per year. Undated, for 60 patients weekly per year. The text portion is thoroughly up to date. Each in one wallet-shaped book bound in flexible leather with flap and pocket pencil and rubber and calendar for two years, \$1.25. Thumb letter index 25 cents extra. Sent by mail post paid to any address.

F. W. C.

PUBLISHERS DEPARTMENT.

HOW THE POPULAR NOVEL DESTROYS FORESTS.

It has been estimated that nine novels had a total sale of 1,600,000 copies. This means 2,000,000 pounds of paper. We are assured by a manufacturer of paper that the average spruce tree yields a little less than half a cord of wood, which is equivalent to 500 pounds of paper. In other words, these nine novels swept away 4,000 trees. Is it any wonder that those interested in forestry look with anxiety upon the paper mill?—From the "Scientific American's" Special Number on "Modern Aids to Printing."

WHAT NATURE HAS DONE FOR THE AMERICAN IRONMONGER.

We must recognize the lavish hand with which Nature prepared the way for our industrial triumphs, by accumulating along the southern and western shores of Lake Superior those vast beds of iron ore, which are not only the most extensive in the world, but are so placed that the labour of excavating and loading for shipment is practically nothing. The ore, which is extremely rich, sixty per cent. of it being iron, lies practically at the surface of the ground; and it is so loose and friable that all that is necessary for its recovery is to run a train of cars, set a steam shovel at work, and load the material directly onto the cars. This work has actually been done at the rate of 5,800 tons in ten hours, and this with the labour of but eight men at a cost of five cents only per ton for labour. The supply is enormous, a single corporation having recently estimated its holdings at 500,000,000 tons, valued at as many million dollars. These vast and easily-recovered supplies, however, would have a limited value, were there not available a proportionate supply of coking coal; and this has been provided with an equally lavish hand in the famous Connellsville district, where a single coke company, on entering into one of the great industrial combinations of the past few years, stated that it owned 40,000 acres of coal lands in this region, and 11,000 coke ovens. Within easy reach of the coal district there are also large quarries of limestone, the third of the three constituents in the charge of a blast furnace.—The Iron and Steel Number of the *Scientific American*.