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INDEX TO CONTENTS

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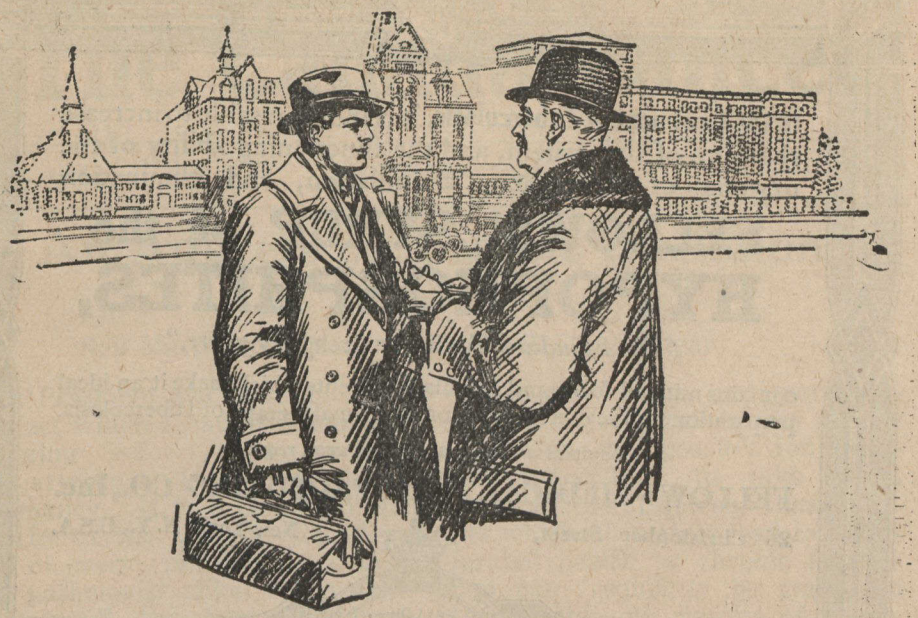

DR. SENIOR: "It is really quite a trick to apply the Antiphlogistine jacket in pneumonia, Doctor."

DR. JUNIOR: 'Yes I was stumped, at first; that is before the nurse came down and I ordered the jacket put on, as you suggested yesterday, when I saw you."

DR. SENIOR: "I was glad to find one of my old nurses in charge of the case. She has had a lot of experience—the first time she worked with me in pneumonia—some twenty years ago, when many doctors and nurses did not know about Antiphlogistine, I had to do the job myself."

DR. JUNIOR: "Well, I was wondering this morning, after I had decided to try Antiphlogistine in pneumonia, how the —! — that is I —"

DR. SENIOR: "Now you know, I guess! That is—you know how the jacket is put on and, how comforting it is to the patient."

DR. JUNIOR: "Yes, and more than that, Doctor, the temperature has gone down nearly three degrees since morning. Now—before you go: How long shall we leave it on?"

DR. SENIOR: "Miss Hope knows. But, you send to The Denver Chemical Mfg. Co., 20 Grand Street, New York, and ask for their booklet on how to use Antiphlogistine—now!—don't feel that you are asking a favor. The Antiphlogistine people will also send you a copy of their valuable brochure "The Pneumonic Lung."

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An Address on Ectopic Gestation

by

Neil Macphatter, M. D. C. M., F. R. C. S., Calgary.

Mr. President and Gentlemen, the subject which I have the honor of bringing before your attention this afternoon is that of ectopic pregnancy. It is a condition well worthy of the serious consideration of every physician, surgeon and pathologist alike. When viewed from all the transcendent sequelae following in its wake, this subject at once assumes the importance of one of the tragedies that may befall any woman.

The uterus, gentlemen, may be considered an accumulation of slumbering cells which nothing can awake but the knock of a fertilized ovum. Such an ovum, however, is not without its troubles and dangers. It will be my duty to bring before you for consideration some of the morbid processes that may be detrimental and fatal to its development.

Fortunately for mankind, more particularly for those who are obliged to bear the burdens, cares and dangers of parturition, Nature in her own inimitable ways and by ordinances which far surpass in beauty and in perfection of design the imagination of man, is usually quite willing and competent to fulfill these functions in a normal and satisfactory manner. Occasionally, however, the ordinances of Nature become disarranged and disregarded. Morbid influences in the uterus, and more particularly in the tubes, may render it absolutely impossible for a normal pregnancy to take place. Many of the disastrous consequences which ultimately lead to deteriorated health or chronic invalidism can frequently be traced to the mischievous results of an ectopic pregnancy.

When the intricate anatomical superstructure of which the uterus and the tubes are composed is in a healthy, normal condition and the vitalizing product of the male and female possess sufficient inherent power to carry on gestation normal pregnancy then progresses in an uninterrupted manner.

When such an ovum reaches the uterus, the decidua hastens to envelop it in its mantling fold of welcome. The latent cells and fibres of the uterus receive with glad acclaim the advent of a new life, and with characteristic and marvellous harmony advance in size and function to meet the necessity for the progressive and incessant changes which are constantly to take place. How far different are the conditions that prevail in extra uterine gestation. The dangers and vicissitudes of such an extra uterine condition become at once singularly interesting to contemplate.

It is somewhat remarkable that

such a serious condition as this should be for so long a time, neglected and its victims allowed to perish without receiving any assistance whatsoever. In nearly all the emergencies that arise in our profession, striking results were frequently obtained. For example, a bleeding vessel through which life's blood was fast ebbing away and blanching the features into paleness, could be ligated and the restoration of the tissues would be resumed; a gangrenous limb that was rapidly decaying could be removed with success; the wild tangled and luxuriant frenzy of the madman could frequently be restored to health and reason. In the more active and fulminating varieties of nervous conditions, where the mind would reel, rock and splutter from its centres of delirium, rest, quietness, seclusion and sedatives in many instances re-established them to normal conditions. It was not so with the subject of ectopic pregnancy. Until a comparatively short time ago these cases received little or no assistance, and were allowed to perish without any effort being put forth to save them.

How grudgingly merit is tendered to its rightful possessor. The narrow-minded bickerings of narrow minded men in withholding fame or applause to ability was never more fully exemplified than on this identical subject, but now that the ashes of the great man have been gathered to his fathers, let us hope that other minds shall sit in judgment, and that the memory and reputation of this same man shall stand pre-eminent and proud for rescuing from the thraldom and teachings of the ancients and placing it upon a firm, scientific and surgical basis the whole subject of ectopic pregnancy.

The reputation of Robert Lawson Tait is not my individual inheritance. Its defence is not confined to my special care and keeping. It is the common property of the medical profession. They should prize it highly and guard it well.

Before entering more fully into the etiology of ectopic pregnancy, it would be well for us for a few moments to consider some of the conflicting, confusion and more or less inconsistent teachings that have prevailed in regard to normal pregnancy and more especially in regard to menstruation. Now, I ask you, gentlemen, what are some of these teachings that have been inculcated into our young and tender minds during our college days? On this subject I refer you to your physiologies, your embryologies, and your numerous books on obstetrics. There you will find that the following teachings have been handed down from one textbook to another with unerring fidelity. They still haunt our textbooks and our college halls. There are three points that I wish to direct to your attention this afternoon in regard to these teachings; First, it is announced that ovulation occurs once a month and is the cause of menstruation; second, that menstruation consists of the shedding of the mucous membrane of the uterus, accompanied by four to six ounces of hemorrhage; third, that normal pregnancy takes place in the Fallopian tubes. Let us review these subjects for a few moments. Time will not permit me to enter upon the subject so fully as I would desire upon this occasion. Taking now the first proposition, namely, in regard to

the claim or teaching rather, that ovulation occurs once a month and is the cause of menstruation, let me state, and let me state it rather emphatically, that ovulation is a constant function of the ovaries from early childhood until the function of the ovaries cease. The ovaries of young female children are occupied by Graafian vesicles in early life. These vesicles are highly vascularized as early as six years. At the age of ten to twelve they vary in size from that of a pea and larger. The establishment of menstruation has no essential bearing on these vesicles either as the cause or as an effect. The establishment of menstruation does not give rise to any modification or change in the time or in the manner in which these vesicles are discharged. The ovaries of the human female therefore do not require the establishment nor the presence of menstruation for their development or for their rupture. As a further proof of what I state, let me say that when both ovaries are so thoroughly diseased as to proclude the possibility of an ovum being made, menstruation continues. When both ovaries are removed and the tubes left, menstruation continues in a large percentage of cases. When both ovaries and tubes are removed, menstruation continues in about 5 per cent. of cases. When both ovaries, both tubes and part of the uterus are removed, menstruation sometimes continues. In cirrhotic conditions of the ovaries, where there is not a vestige of Graafian tissues left, menstruation continues. In double salpingitis and in double pyosalpynz menstruation not only continues, but is generally more excessive. In chronic inflammation of the ovaies and in suppuration of the ovaries, menstruation not only continues, but is more abundant. In double ovarian cysts of large size, menstruation continues.

I believe, gentlemen, therefore we may conclude with a strong degree of certainty that ovulation is a constant function of the ovaries; menstruation is a periodic function of the uterus. The one has no relation to the other so far as cause or effect is concerned.

Turning now to the second proposition, namely, that menstruation consists of the shedding of the mucous menbrane of the uterus, accompanied by hemorrhage, I may say that it was Dr. John Williams of London, England, who is supposed to have been responsible for this theory. Dr. Williams, as we all very well know, was a distinguished physician, a prolific writer, and he had an extensive following in the medical profession, and when he announced his doctrine that the mucous membrane of the uterus was shed monthly during menstruation, his teaching was readily accepted. It looked very plausible too, but Dr. John Williams made one mistake in bringing his theory before the medical profession. It was after he had performed twelve post-mortem examinations on twelve women who died while menstruating. The mistake he made in his conclusion was that in all his cases in the post-mortem series they each and every one died of what may be termed high temperature diseases, typhoid fever, pleurisy, tetnaus, peritonitis, etc. We all know the effect of high temperature diseases on mucous membranes, and when Dr. Williams found at his post-mortem examinations that the mucous membrane

of the uterus were shed, he made the mistake of mistaking a pathological condition for physiological process. It was not until June 23, 1886, at a meeting of the British Gynaecological Society in London that this theory was attacked. A very peculiar incident occurred on that memorable occasion. Dr. Bland Sutton, now Sir John Bland Sutton, and Dr. Arthur Johnstone the one man not knowing the other, nor the one man knowing what paper the other was to read at that meeting, both read a paper on the same identical subject, and that paper was on the conditions that prevail in normal menstruation, and by a very peculiar coincidence they both came to the same conclusion, namely, that the mucous membrane of the uterus is not shed during menstruation; What is shed, however, is the epithelial covering of the body of the uterus. The epithelial covering of the cervix and the tubes are not shed during menstruation. It has further been proved that during the time that the epithelial covering is on the body of the uterus, that the uterus is practically sealed over for a certain number of days in each month. This epithelium has no blood supply, and it has no nerve supply, and it is reasonable to suppose that in normal conditions there are a certain number of days during each month wherein pregnation cannot take place.

This leads us, Gentlemen, to one of the most important points that we have to consider in regard to the causes of ectopic gestation. The function of the cilliated epithelium is to propel the ovum down to the uterus, where pregnation normally takes place. At the same time it prevents the male element from ascending the tube. When this cilliated epithelium of the Fallopian tube becomes destroyed, the ovum then has nothing to propel it down into the uterus. It will remain in the tube and impregnation take place there. The old belief that impregnation takes place in the Fallopian tube, we have found to be an erroneous deduction by investigations upon the lower animals. As a matter of fact, the Fallopian tubes do not exist as such, except in those animals that assume the upright position. Granting this hypothesis, and I cannot imagine a belief that can gainsay the truthfulness of it, the etiology of normal fecundation becomes much more intelligent. Sufficient knowledge of the functions, therefore, of the cilliated epithelium of the Fallopian tube establishes the fact that impregnation normally takes place in the uterine cavity. The cilia, by their peculiar formation and action, propel the ovum down the tubes to the uterus, at the same time preventing the spermatazoid from ascending. I repeat, therefore, when the ciliated epithelium becomes dstroyed, the ovum will remain in the tube, and there being nothing to prevent the spermatazoid from ascending, it meets the ovum in the tube. There fertilization takes place, and there is nothing much more pathetic to think about than that little helpless ovum being caught in that way in the tube. It cannot retrace its steps, it cannot get through into the uterine cavity, and what is the poor little thing going to do. This delicate membrane, therefore, becomes of enormous importance in the regulation of the normal function of reproduction, and its destruction plac-

es the life of any married woman in constant jeopardy. This theory not only explains sufficiently well the cause of extra uterine pregnancy, but places our opinion of normal gestation where they ought to belong. We may conclude, therefore, that all ectopic pregnancies are originally tubal pregnancies, and that it will depend upon several conditions what the future history of any such pregnancy will be. Should impregnation take place in that part of the tube that passes through the uterus, we get what is called the interstitial variety. This form is one of the most difficult to diagnose from normal pregnancy. Such pregnancies invariably rupture into the peritoneal cavity, and are universally fatal. A feature quite noticeable in the histories given in such cases is that the woman has shown a previous inaptitude for conception, or if she has given birth to a child there has been a long interval of sterility an ectopic pregnancy in any part of the tube necessitates rupture sooner or later. This may take place any time before the third month. It is generally between the eighth and the twelfth week. According to the direction in which the rupture takes place, you will have a disastrous catastrophe or one of compartive safety; that is, a rupture upward into the peritoneal cavity or downward between the folds of the broad ligament. The former variety is known as the intra peritoneal and the latter as the extra peritoneal.

Much discussion has taken place as to the early diagnosis of this anomaly. A feature quite noticeable, and one that is suggestive in these discussions, is that the men who have had experience in the matter sufficient to enable them to speak from a practical standpoint are unanimous almost in their declaration that accuracy in the early stages of such diagnosis is far from being satisfactory; whereas, the parties who confine themselves to literary work and the those who have had little experience, are quite agreed in their assertion that the diagnosis should be accurately made. Many of those cases who consult the physician are either wanting entirely in symptoms or give such an erratic and irregular history of the case as to render it absolutely untrustworthy. It is accepted that the rapidly growing foetus so dilates the tube as to cause rupture at some period. The symptoms of ectopic pregnancy are sometimes very irregular. Occasionally the patient presents all the symptoms of normal pregnancy, but generally many of the usual signs are entirely lacking. Frequently menstruation ceases, and subsequently returns irregularly. One symptom that is generally accepted as being pathognomonic is the expulsion of a decidual membrane. This, however, does not always take place, or if it does it is not recognized. When rupture takes place, there should be no difficulty in coming to the proper conclusion as to what the condition is. When this takes place into the peritoneal cavity, there are alarming and characteristic symptoms of pain and collapse. There will be colic, distention, vomiting, thin, rapid pulse, coldness of the hands and feet, and the patient will faint away. By the aid of rest and sedatives she may recover, only to be taken with a similar attack later. So that we may state that a woman having an extra uterine preg-

nancy is entirely at the mercy of accidents and it can be further truthfully said that she is only safe when upon the operating table. She can have no warning signals of the many pitfalls that lie in her path. Throughout all its existence, dangers surround and encompass her. In the early period there is the danger of hemorrhage. When this is sub-peritoneal, the patient generally survives to a later period. Peritonitis and suppuration of the sac may continue for an indefinite period. Injury to the bladder and other viscera is frequent. Inflammatory exudiations are thrown out, pressing on the bladder, causing incontinence of urine, intestinal colic, diarrhoea or constipation. A condition that is generally present in this variety is annular constriction of the rectum. Abscesses may form and break into the rectum, vagina or bladder. Many such cases are mistaken for a pyosalpynx, which are but broken-down tubal pregnancies. These terminations are unfortunate, as they tend to remain suppurating centres, rendering their victims chronic invalids. Sometimes the sac becomes calcified, and remains as a foreign body imbedded. It is then called a lithopaedion.

" Some Problems of Immunity."

Dr. Frank N. Walker

IT is a well admitted fact that one disease will predispose to another, but when one tries to lay the finger on the concrete mechanism by which this is brought about proof that presents any degree of the undeniable argument is by no means reached at first attempt.

The facts and probabilities I shall mention are in support of an hypothesis, namely,

"THAT all body epithelium—be it glandular or dermal—has a proteolytic productive power and it is here that all specific antibodies are formed, whether permanent or temporary.

"THAT the production of a life long immunity taxes the epithelium many fold more than the production of a temporary immunity;

"THAT epithelia vary in the numbers of specific immunities that they can simultaneously produce."

An observation that one seems bound to make is the clinical grouping diseases resolve themselves into according to their causative bacteria; for instance, the group of micrococci (pneumo, gono, and meningococci) which is pathogenic in man seems to reach its maximum virulence when growing on endothelial tissues, such as the serous sacs and endocardium, inflammation of which constitutes the complications to the specific diseases of these organisms. Again the organisms pathogenic to the alimentary tract are almost entirely of the bacillus type. The exanthemata are very likely all caused by ultra-microscopic viri. It is this

last group that contributes most in support of the stated hypothesis.

Among the most informing figures I have gathered on the subject are the experiences at the Riverdale Hospital for Infectious Diseases, Toronto. The results are these: That if a case of measles during incubation be admitted with scarlet fever, an outbreak of measles results on development among the susceptible patients of the ward. An exactly similar condition results when chickenpox is admitted during incubation with scarlet fever. These findings, however, are to be expected, and are in themselves of little interest. The point of real significance, in my opinion, is a second report from the same source, that if a case of measles be admitted in incubation to the diphtheria ward with that disease, a so-called outbreak does not occur. An exactly similar finding is true with regard to chickenpox in diphtheria wards.

During the first four months of 1919 an epidemic of chickenpox existed in the city and although about 575 cases of diphtheria were treated in the hospital during this period not a single secondary case of chickenpox developed. On the other hand three hundred cases of scarlet fever were admitted during this same period, and among these were 131 non-specific inflammatory complications or 43.3 per cent. (It may be noted that only one was nephritis). Of the specific sequealae chickenpox was in the lead with over 10 per cent. During the same period 465 cases of diphtheria were admitted, among which were 64 non-specific inflammatory complications or 13.77 per cent. From these figures it is quite plain that there is a distinct difference in the degree to which diphtheria and scarlet fever predispose to sequelae, and also that the predisposition seems to be the same for specific as for non-specific diseases.

What is the difference in the action of these two diseases which cause such diverse change in the body's immunity? Taking first the etiology, diphtheria is caused by a well known bacillus, while scarlet fever is caused by an organism which evidence is in favour of naming a filterable virus. The first leaves little or no immunity while the second leaves an immunity which is life long. The first lives outside the body on the mucous membranes pouring into the body only a toxin which though destructive, needs no lytic action to render it soluble in water. In the second disease the organism is in the blood stream and its foreign substance must be prepared for elimination. Having begun to discuss the predisposition to one disease on account of a recent attack from another, I think I am justified in taking scarlet fever as a disease which shows this markedly according to the mentioned statistics. In the same category as scarlet fever I have reason for placing some six diseases, namely smallpox, measles, influenza, chickenpox, scarlet fever, and to a lesser degree mumps. The first three have complications which affect chiefly the respiratory tract, while the last three are inclined to affect the kidney. They all, in varying degrees and frequency, cause inflammatory complications of the accessory sin-

uses of the nose and throat, such as frontal sinusitis, ethmoiditis, otitis media and and mastoiditis.

It may be mentioned here that evidence points strongly toward this group of diseases being caused in each case by a specific filterable virus. A third similarity is the recognized life long immunity in the case of flu.

One is bound to ask himself the question as to whether the production of this life long immunity has taken away the power of the body to break down the substance of invading organisms which subsequently find an entrance.

The literature does not give much evidence of conclusive work along this line. Kolmer however has proved that during the first week of scarlet fever the opsonic index for streptococci is lowered.

Woody of Philadelphia makes the following statement: "The simultaneous appearance of the exanthemata of measles and scarlet fever is one of the puzzles of fever hospital management", indicating that the Toronto findings are by no means a local condition.

In order to get evidence a little more tangible, I did intracutaneous tuberculin reactions on 40 cases of scarlet fever, 20 boys and 20 girls, none being under the age of five years. I chose the tuberculin reaction because it is specific and a large per cent. of individuals over five years old give this reaction normally. In this readition two features are looked for, first the amount of induration of the skin around the point of injection, with special attention to the appearance of any suggestion of a vesicle. Second, the amount of redness. Of these 40 cases I found 7 without any reaction. Of the 33 remaining 31 were without any induration, and in 30 the redness was below 5 mm. which in chest clinics is counted negligible. The only cases in which the reaction deserves comment are the 3, 2 of which had a slight induration, and the other had a redness over 5 mm. This last case I may say was the latest case in the series, being a 62-day case. Of the other cases which gave a slight induration one was the earliest case of the series, being a 3-day case, and the other the second latest, being a 57-day case. In brief, the summing up of the findings in 39 cases of scarlet fever for the tuber culin reactions 36 cases (between the 3rd and 57th day) had a negligible reaction where under ordinary circumstances 26 at least should have had a typical reaction.

In order to get a more comprehensive comparison I did a similar tuberculin reaction on a series of similar diphtheria patients, 38 in all. Of these there were only two cases which were entirely devoid of reaction. Of the remaining 36, 32 had induration, 8 of which had vesicular result. 10 showed redness beyond 10 m.m. and none showed an induration less than 4 mm. Of the 4 without induration 2 were children of the same family, which checks up to a certain extent the specificity of the test. I may also mention that 3 out of the 4 had had less than 40,000 units of antitoxin, a point which must not lead to any false conclusions for the percentage of cases showing induration was slightly higher than is usually found in chest clinics. Some cases where small doses of antitoxin had

been given showed marked induration but on the whole I am led to believe that the foreign serum given therapeutically as antitoxin was a factor in the intensity of the induration. Evidence of this I gathered while working in a slightly different direction. Having noticed a striking similarity in the faces and actions of a patient suffering anaphylactic reaction following intravenous serum to those of patients suffering from an acute tuberculous outbreak, I set out to find whether or not the number of small lymphocytes was increased during these attacks. I made blood smears before, during, and at hour intervals after the injection for 4 tests. The results were convincing that the small round and endothelial cells increase during the serum reaction, as they also do during serum rash. This work agreed with that of Shouldice and Clark in the same hospital.

On recalling the pathology of the intracutaneous test it will be remembered that it consists of an infiltration of small round cells. The fact that these are called out in larger numbers in foreign protein treated patients gives the most plausible explanation of this induration beyond normal proportions.

The point still waiting for explanation is the non-reaction in the case of scarlet fever and measles. Taking into account the fact that opsonins are activated by complement, the question arises as to whether or not the lack of resistance in this group results from a type of complement fixation during the production of the life long immunity. Since the poor resistance of this group is general the only common weapon of serology must be thought of, namely, the substance called complement by Ehrlich. For a moment it would seem to explain the lack of complications in my control disease diphtheria since large quantities of horse serum are now nearly always given. But complement cannot be a factor as it is destroyed at 56 degrees C. and I have the word of the laboratory from which the antitoxin was obtained that all their product is heated to a temperature of 60 degrees for a period of one hour. Besides, a disease like pneumonia is as likely to exhaust the supply of complement as is scarlet fever, yet after it the mentioned complications are uncommon or do not exist. "Specific antibodies to these diseases are undoubtedly formed whether it is an antibody, antigen, complement reaction or not is hard to say, but lack of complement does not seem to be evident."

There must be some other factor independent of the blood stream, for some 400 cc. of blood can be drawn from the vein of a scarlet fever patient for therapeutic use, the donor showing not the slightest inconvenience.

It will be noticed that the complications mentioned are all of the epithelial tissues. Jenkins in his recent work on measles names the complications in this order: skin, eye, nose, air passages, gastro-intestinal tract kidneys. To my knowledge there are only 3 other diseases that leave the epithelium in such a susceptible state, namely, pertussis, plague, and typhoid fever with its allied group. Again it will be observed that these pro-

duce comparatively life long immunity.

I cannot draw any other conclusion at the present time but that the production of life long immunity and the exhaustion of the patient's epithelium run hand in hand. Detweiler writing on infection with regard to epidemic flu says in part "it would, therefore, appear that these organisms (present in the mouth as saprophytes) begin to invade the lungs after the soil has been prepared, as it were, by the Pfeiffer bacillus or some unknown micro-organism, as a filterable virus, not because their virulence has been raised but because of the lowered resistance of the tissues involved, as a result of the damage done by the primary infecting agent."

With the knowledge that all digestive ferments are of epithelial origin is it not safe to draw the conclusion that the specific immune antibodies are also entirely produced by the epithelial tissues of the lungs, kidneys, intestines, and skin. The rash which exists in the exanthemata is to me a body mechanism to allow the antigen to remain in contact with the epithelium for an incubation period. The desquamation of a scarlet fever patient is simply a manifestation of that tissue being exhausted. The renal disturbance in the same disease in the way of albuminuria suggests a shedding of the exhausted epithelium of the renal tubule. The epithelium of the lungs is highly potent in its ability to bring about the chemical actions of respiration and it seems quite possible to me that it is called upon to form antibodies to certain of these diseases. The delicate epithelium lining the alveolus wth no underlying papillary layer by which the exhausted cells can be quickly replaced is excellent medium for secondary pyogenic organisms.

The gonococcus is a very inconsistent organism as to predilection of its conditions for attack in many respects. It grows in the acid urethra or the akaline cervix, in the frequently bathed urethra and the sluggish endometrium. Conditions similar to this can be had in other parts of the body, still the gonococcus does not grow. It is an agent beyond simple chemicle or physical laws which keeps back this invader so successfully. Still it does not appear as a specific antibody. It has one consistent condition of attack, however, and here only it attacks the normal epithelium, namely, that epithelium over which passes the spermatic elements. Does it not seem true that all epithelium has a common non-specific proteolytic power which is the means of having huge numbers of micro-organisms labelled nonpathogenic? It it not likely that this general proteolytic power is inhibited in that epithelia over which the sex cells pass.

The frequent occurrence of duodenal ulcer after extensive burns would seem to suggest that the work of the destroyed epithelium had been taken on by the other epithelia and that which feels the burden most breaks down. I have seen gastric ulcer follow closely after a series of inoculations with typhoid bacilli vaccine.

My conclusions are, that in ad-

dition to the obvious special duties of the body epithelium there is a high probability that it has a second duty in the way of secreting a general proteolytic ferment, and a third duty when organisms are such that they pass this general line of defence, and are such that the endothelial elements cannot combat by phagocytosis and infiltration, a specific antibody is formed with the results as a set down in the foregoing hypothesis.

OVARIAN HEMORRHAGE.

by Dr. W. Howard Miller, Victoria, B. C.

Ovarian Hemorrhage, apart from ovarian pregnancy and severe trauma, is sufficiently rare in the average practice to be entirely overlooked in abdominal diagnosis. In fact as far as the literature goes, in itself extremely scanty, it appears that this condition has been found when unexpected and when section has been done for other purposes.

Hemorrhages of the ovary are of several types, that of the ovarian cyst, the hematoma of the Graafian follicle, and of the corpus luteum.

It has been held that in the case of the Graafian follicle the hemorrhage was first into the perifollicular stroma, later breaking into the follicle itself. This has been contradicted on the ground that stromal hemorrhage is extremely rare.

As to the etiology of ovarian hemorrhage we are still in the dark, as it seems to be an impossibility to give satisfactory pathological reasons for but a small percentage of the cases, and we must find some physiological means of explaining it, or relegate to the limbo of unknown things pathological, where so many other questions have found themselves.

During ovulation, the Graafian follicle gradually matures and at the proper time it ruptures. Slight hemorrhage is quite natural, but fortunately rarely, becomes a deluge.

My reason for bringing out the foregoing facts, will be better understood with the presentation of the following case:

A girl of seventeen, apparently in good health, was seized with pain in the epigastrium on Saturday morning. The pain passed off with the administration of a cathartic. She was apparently well until the following Wednesday morning, when severe sharp pain recurred just after breakfast, when I saw the case for the first time. There was slight vomiting and breathing was short and painful. On examination I found tenderness on pressure above the umbilicus, getting gradually more severe towards the sternum, and a generalized tenderness over the whole abdomen with no rigidity. There was a rise of 3-5ths of a degree in

temperature and the pulse was eighty. The patient could only lie on the right side, and experienced intense pain from the slightest movement. Thursday morning she could lie on her back, breathing was easier, and on pressure there was pain over McBurney's point, nausea, but no vomiting. The bowels had moved, the pulse was still eighty, but the temperture was now one hundred. Rebound pain was most marked.

It was decided that the appendix was at fault and the patient was removed to the Hospital, where on opening it was found that there had been internal hemorrhage, the source of which was the right ovary, which was about twice its natural size and showed a large rupture, filled with blood clot. The clot was removed and it was found necessary to remove half the ovary.

The fact that there was a much inflamed and distended appendix which showed pus and fecal matter is of much interest, and the question arises as to whether the symptoms of one masked the symptoms of the other.

The difficulty arises in the differential diagnosis in the absence of symptoms pointing to the ovary.

In many cases there is not the familiar picture of shock one sees in a ruptured ectopic case, and the attention is directed to another organ, as was in this case.

In closing I may state that I have seen the patient several times. She made an uninterrupted recovery, and is now in good health.

"Hospitalitis" Is New Malady

"Hospitalitis" is a new disease that has developed as a result of the war, according to Mr. Wills MacLachlan of Toronto, who took part in the discussion on :'The Abilities of the Handicapped in Occupation" at the morning session of the Psychological Section of the American Association for the Advancement of Science.

The Surgical Treatment of Certain Types of Dyspepsia.

By Stuart McGuire, M. D., Rich mond, Va.

A generation ago the physician held undisputed sway in the treatment of digestive disturbances and the suggestion that dyspepsia could be cured by surgery, when medical, dietetic and hygienic measures had failed, would have been regarded as an absurdity. It is now accepted that indigestion when chronic or recurrent is almost invariably caused by organic changes in the stomach, duodenum, gall bladder or appendix, and that relief from symptoms in such cases can only be permanently secured by the surgical correction of the anatomical lesion.

Every one suffers at times from indigestion due to imprudence in eating, but no one has constant persistent dyspepsia lasting for months or years unless it be due to some organic disease. A case of indigestion ought not to be subjected to surgery until it has been carefully and properly treated by medical measures without success, but every case that fails to secure relief in a reasonable time should be examined to see if there is not some indication for operative intervention.

In investigating a patient it should be remembered that while the symptoms may be due to disease of the stomach itself, they may also be due to reflex irritation from disease of some other abdominal organ. It is a fact that in nine out of ten cases the lesion is not in the stomach but in some associated viscus such as the duodenum, gall bladder or appendix. In other words, while the symptoms are gastric and the treatment surgical, the operation required is not necessarily on the stomach.

Obstruction of the pylorus may be organic such as results from the cicatricial contraction of an ulcer, or spasmodic such as results from reflex nervous irritation due to appendicitis, cholecystitis or duodenal ulcer. The first is mechanical and should be relieved by making a new exit for the stomach contents, the second is functional and should be relieved by diagnosticating and correcting the cause which produced it.

At one time it was thought that the operation of gastroenterostomy was a panacea for all gastric disorders. It was found, however, that while in some cases it accomplished brilliant cures, in others it not only did not relieve but actually increased the patient's distress.

A gastroenterostomy will cure the symptoms due to an organic obstruction of the pylorus because it relieves the condition by affording a new exit for the stomach contents. It will not cure but will aggravate the symptoms due to spasmodic obstruction because it overcomes the protective effort on the part of nature to prevent the passage of irritating gastric contents into the intestinal tract.

The most common operations for the relief of dyspepsia due to organic diseases of the stomach are partial gastrectomy, pyloroplasty and gastroenterostomy.

Partial gastrectomy is the operation done for ulcer or carcinoma of the pyloric end of the stomach. It originated as a pylorectomy with anastomosis of the cut end of the duodenum into upper angle of the gastric incision, it was then changed by Billroth to complete closure of the stomach with a posterior gastrojejunostomy, and finally it has been perfected by Mayo, who recently introduced the method known as the moditied anterior Polya operation. This operation can be done with low mortality on suitable cases, and gives admirable results. Patients with ulcer of the pyloric end of the stomach are relieved of all symptoms and restored to complete health. Patients with cancer of the stomach have their life prolonged, and in the 306 cases reported by the Mayo clinic, over 37 per cent. of the patients have remained well at the end of a three year period. This is a most satisfactory showing for the surgical relief of an otherwise hopeless condition, and even better results may be expected when cases are diagnosed earlier and referred to the surgeon more promptly.

Pyloroplasty is the operation done on the pylorus for the excision of an ulcer or the relief of obstruction due to nonmalignant disease. The operation at first consisted of an incision through the wall of the pylorus in a line parallel with its long axis and the closure of the incision at right angle to the direction in which it was originally made, thus widening the pyloric opening and relieving the narrowing. This operation has been modified by Finney, Horseley and others so as to make it more effective and applicable to a larger number of cases. Pyloroplasty is an ideal operation both from an anatomical and physiological standpoint, but it is also ideal in the sense it can rarely be satisfactorily performed. In 72 per cent. of patients according to Deaver the ulcers are located so far from the pylorus that the method is not applicable, and in cases of long standing the walls of the pylorus are so thick and inelastic that the tissues cannot be approximated in the desired position without producing a deformity which interferes with the motility of the stomach, stitches often cut out when tension is made on them, and the suture line is insecure and there is danger of leakage.

Gastroenterostomy is the operation most frequently done for benign obstruction of the pylorus and for duodenal ulcers. It consists of an anastomosis between the stomach and a loop of the jejunum, thus establishing a new opening through which the contents of the stomach can reach the intestinal tract. The effect of the operation on the stomach is both mechanical and chemical. Mechanically it permits the gastric contents to pass readily into the intestines as the new opening between the stomach and jejunum relieves any obstruction that may have existed at the pylorus. Chemically it lowers the acidity of the gastric contents, as the stomach also permits the alkaline secretions of the liver and pancreas to pass into the stomach. Thus gastric dilatation and food stagnation are cured by drainage and hyperacidity of the stomach is relieved by neutralization of the acid with the patient's own alkali.

How a simple gastroenterostomy cures a duodenal ulcer is a theoretical question. It is a practical fact that it does cure. While gastric ulcers frequently lead to cancer, duodenal ulcers do not undergo malignant changes. There is therefore no reason to excise them unless they are causing hemorrhage.

If this be the case and the ulcer is accessible it may be wise to destroy it with a cautery. Balfour noted the fact that a peptic ulcer which perforated always healed if the patient lived. An analogous condition can be created by burning through the bowel over the center of an ulcer with a pointed cautery and then suturing the opening and protecting the wound with a tag of mesentery or omentum. The objections offered to the operation of gastroenterostomy are that sometimes food escapes too quickly from the stomach causing bowel disturbances, that occasionally bile and pancreatic secretion enter the stomach in large quantities causing nausea and vomiting or the so-called vicious circle, and finally that in a few cases an ulcer develops in the jejunum at or near the anastomosis due to the irritation of a mucous surface which has no natural immunity to the action of gastric juices. This complication can be made infrequent by placing the opening at the bottom of the stomach so there will be no retention, and by using catgut instead of silk or linen so there will be no unabsorbed sutures.

While the operation of gastroenterostomy requires explanation and apology, still in properly selected cases it gives good results and will continue to be frequently employed by the best surgeons the world over until some better method is devised. The operation has been much abused. By its friends who in their enthusiasm perform it on unsuitable cases and by its critics who offer no satisfactory substitute for it. Say what you please, it has given relief to many patients and will be the step ping stone to future progress.

The most frequent operations for the relief of dyspepsia not due to organic diseases of the stomach are those done for appendicitis, cholecystitis, duodenal ulcer, or other diseases which interfere with digestion by causing a spasm of the pylorus. Pylorospasm is not a disease but a symptom. To endeavor to circumvent it by a gastroenterostomy will do harm and not good. The source of the deflex irritation which causes the spasm must be found and relieved If it be cholecystitis the gall bladder should be removed. If it be pancreatitis the gall bladder should be drained either externally by a cholecystostomy or internally by a cholecystenterostomy. If it be appendicitis, then the appendix should be taken out, but the surgeon should be sure that no other diseased condition is left in.

The unsatisfactory results which sometimes follow operations for the cure of dyspepsia may be classed under four heads:

1—Failure of the diagnostician to recognize the true cause of the symptoms:

It is a generally accepted truth that successful treatment must be based on a correct diagnosis, and in no line of work does this apply more forcibly than in the surgical cure of dyspepsia. Every possible

means should be employed before operation to determine the pathological condition that causes the symptoms, but when the abdomen is opened a thorough and complete examination should be made of all the various organs. The obvious cause is not always the real cause of indigestion. A provisional diagnosis of gall bladder disease may apparently be confirmed by finding the presence of gall stones and yet the actual trouble may be really in the appendix. Here the removal of the gall stones will do little good unless the appendix is also taken out.

A more frequent cause of failure is to remove a chronically inflamed appendix and leave other diseased conditions uncorrected. This is especially liable to occur when an appendectomy is done through a small split muscle incision. Except in children and in acute cases of appendicitis in adults an appendectomy should be done through a midright rectus incision which gives sufficient room to completely explore the abdomen and which by extension up or down will permit the correction of any diseased condition found in the pelvis or upper abdominal region.

2—Failure of the operator to apply the proper technique to meet the indications:

The pathological changes found in the abdomen vary so greatly that great wisdom is often necessary to deal with them properly. A standard method to meet different indications has not been adopted and much is left to the theoretical views or the practical experience of the individual operator. Errors of judgment are frequently made by two classes of surgeons and many patients are made worse and not better by unnecessary or illogical abdominal operations. These surgeons are those who are untrained and those who although experienced are prejudiced for or against certain procedures. In former days untrained surgeons were barred from work by high mortality. The modern technique, which is easily acquired, has removed this obstacle and they now operate without loss of life but frequently with out relief of symptoms. Well known and experienced surgeons are sometimes so biased by their personal views that they do a pyloroplasty when a gastroenterostomy would be better, or drain a gall bladder which should be removed or remove a gall bladder which should be drained. All this will be corrected in time. Untrained surgeons will learn by experience or be restricted by law, and dogmatic surgeons prejudiced by the part they have taken in evolving certain operations, will die and be replaced by men with open minds, who will impartially weigh all the evidence and adopt the true and discard the false teachings of the past.

3—Failure of surgery up to the present time to develop a satisfactory operation to correct certain conditions.

Surgery of the stomach and associated viscera is comparatively new. Much has been done but much remains to be accomplished. Only a generation ago the causative relation of appendicitis and other diseases to dyspepsia was not recognized, Murphy's button was generally employed as the accepted method of forming an anastomosis and the X-ray had not

come into use as a diagnostic agent. So a generation hence many of the views and methods of today will doubtless be obsolete and will be replaced by theories and practices which will give better results. Many of the operations now employed by the best surgeons will be abandoned and new operations wlil be devised to correct defects which we already recognize but do not know how to overcome, or to accomplish results which we now desire but do not know how to secure.

4—Failure of the physician to properly direct and supervise the patient's post hospital treatment.

A surgical operation performed on a patient suffering from chronic or recurrent dyspepsia is but the first step in his cure. The operation simply removes the cause of his symptoms and the case must be carefully and judiciously treated for a long time before he can be said to be well. Frequently the difference between success and failure depends on the post operative and post hospital management.

After a partial gastrectomy the size of the stomach is reduced and the food has to be given in small quantities and at more frequent intervals than normally. If before operation there is complete achlohydria there is no hope that acid production will ever be re-established and its lack must be supplied artificially by medication.

After a gastroenterostomy the stomach empties more rapidly and frequently contains bile and pancreatic fluid which enter through the anastomotic opening. This the diet and occasionally the use of gastric lavage until the stomach acquires a tolerance.

After an operation on the duodenum, gall bladder or appendix to remove the cause of pylorospasm the patient must be systematically treated until the hypersensitiveness of the pyloric muscle is relieved and the spasm habit is overcome.

The post operative treatment of patients is carried out during their convalescence at the hospital under the supervision of the surgeon. The post hospital treatment is continued after their return home under the direction of their family physician.

While at the hospital the patient should be impressed with the fact that he is not well because his wound has healed and that it will be necessary for him to be prudent until sufficient time elases for his organs to accommodate themselves to new conditions and for his weight, strength and nervous equilibrium to be restored. On his return home he should be directed to place his case in the hands of his family doctor who should be fully informed as to the nature of the operation that had been done and given suggestions if any special indication existed for treatment.

Only by cordial co-operation between surgeon and physician can the best results be secured for these patients.

Preparing to Practice Medicine—Eight fair co-eds who are now in

L. A. Chase,

M. E. Bowyer

M. P. Russell,

L. D. McLatchie

the final year of medicine at the University of Toronto.

M. I. Templin,

Victoria Chung

E. Nesbitt

F. E. Speers.

Relation Between the Specialist and the Practitioner.

Doctor James B. Herrick

Prefacing his discussion by eliminating any consideration of specialists, practitioners or patients who are not "real", the writer of this paper, who read it before the Annual Conference on Medical Education, goes into the question of, "What is a specialist?"

Is a physician transformed into a specialist by suddenly announcing that he will limit his practice to a certain disease? Aside from the equipment of exceptional know ledge or unusual skill, "The best specialist is one who develops from the general practitioner," assuming a previous high-grade college degree, a service as an intern and a studious, progressive mental attitude. He may begin to specialize from the day of graduation or even before graduation. Without years of general training he lacks the breadth of vision, and though he may strive for vision and search for causes, the picture he sees lacks perspective, and its figures are to him unrelated. On the other hand, there is need for caution in the advances we are striving to make in the training of specialists. The prediction is ventured that the time is not far when our medical undergraduates will to a certain extent be allowed to specialize before receiving their diplomas. "Why may not our medical schools lay down the fundamentals in courses which must be mastered by all, and at the end of a certain time, grant some choice of work? Another "partial answer" is suggested in the plan of paid fellows, residents and assistants, in effect in the Mayo Clinic.

Is the practitioner to be relegated to the position of emergency doctor? Partial answers to this question are found in the degree to which the practitioner and specialist cooperate for the best interest of the patient, as well as in the challenge to the practitioner to serve his patients in many ways which all save the developments requiring a specialist.

We are in a transitional stage, the practitioner losing ground, those calling themselves specialists increasing in number and rapidly uniting into groups. The enormous increase in bulk and complexity of medical work makes it necessary to concentrate on a single topic.

Various types of group practice group medicine and plans of cooperation are discussed, together with the dangers of machine-like routine, and the danger that practice may be commercialized.

In all our planning, caution must be exercised to avoid the tendencies referred to, and whatever scheme is evolved with regard to the relation of the specialist and the practitioner, it must not be forgotten that the interest which is paramount is that of the patient.

BOOK REVIEWS.

The Surgical Clinics of North America

(The New York Number)

The Surgical Clinics of North America (Issued serially one number every other month) Volume 1 Number 6 (The New York Number) 295 pages, including complete Index to Volume 1 and 122 illustrations. Per clinic year (February 1921 to December 1921.) Paper $12.00 net; Cloth $16.00 net Philadelphia and London: W. B. Saunders Company.

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Philadelphia London

Can. Agents, J. F. Hartz & Co., 24 N. Hayter St., Toronto.

Ringworm by

John P. Turner, M. D.

Introduction

It gives me pleasure to state that the treatment of ringworm of the scalp devised by Dr. John P. Turner has proven remarkably efficacious in his hands. In the year 1913 the Reynolds Public School, Philadelphia, with a population of six hundred children was badly infected with ringworm. About eighty cases were discovered, of which at least one-half were ringworm of the scalp. In view of the obstinate nature of the latter affection, the proper conduct of the school was a serious problem. Dr. Turner consented to undertake the treatment of these cases in connection with his work as school medical inspector and effected a complete cure—a remarkable achievement deserving of medical notice.

Walter S. Cornell, M. D.

Director Medical Inspection of Public Schools of Philadelphia. Penna.

The above book on Ringworm by John P. Turner, M. D., Medical Inspector of Public Schools—Philadelphia Pa., is illustrated by eight halftone engravings and published by F. A. Davis, Company, Philadelphia, Pa., Price $1.00 net.

Pulmonary Tuberculosis, its diagnosis and treatment. A very interesting booklet issued to the Members of the Medical Profession with the Compliments of the Manufacturers of **Fellows' Compound Syrup of Hypophosphites.**

"Submucous Resection of the Nasal Septum."

By W. Meddaugh Dunning, M. D. Consulting Otologist , Fordham Hospital, N. Y. C.; Consulting Otologist, Manhattam State Hospital, N. Y.; Consulting Laryngologist, Ossining City Hospital, Ossining, N. Y.; Consulting Laryngologist, The Alexander Linn Hospital, Sussex, N. J.; Assistant Surgeon, Manhattan Eye and Ear Hospital, New York; Surgeon, Bronx Eye and Ear Infirmary, New York.

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The minutest technique of the operation and text is clearly visualized by twenty-five especially prepared drawings. It is the only recent book upon this subject.

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Review of Happenings in the Medical World.

Noted Surgeon was Born in Galt

Cable despatches announce the death in England of Dr. Alexander Bryson Osborne, of Hamilton, a native of Galt. The deceased was the son of the late William and Mrs. Osborne, of Galt of the early days, his birth occurring in the house on Cedar street, long known as the home of Mrs. J. W. Sheldon. He was educated at Dr. Tassie's.

Dr. Osborne was graduated from McGill University in 1885, and served as a resident physician at the Hamilton City Hospital until February, 1887. He then went abroad, and pursued further study in Edinburgh and London. Returning to Canada, he commenced practicing in Hamilton as the first eye, ear, nose and throat specialist in that city. He was subsequently appointed to the staff of the City Hospital.

When the South African war broke out Dr. Osborne offered his services. He was attached to an English regiment of mounted rifles and served as a surgeon. He saw much active service in that war and was afflicted with typhoid fever, which was epidemic among British troops. Dr. Osborne returned to Hamilton when the war was over and resumed his practice. About 1912 he suffered a severe illness as a result of blood-poisoning.

In 1914, when the great war broke out, Dr. Osborne again volunteered his services. He went oversees early in the struggle and served with distinction at a large hospital at Taplow, England, and also at an eye hospital at Folkstone. After the armistice was signed he came back to Hamilton.

The deceased was all, it is claimed by eminent Canadians, that a surgeon should be. He was the cleverest eye surgeon in Canada. Many honors came to him through the Ontario Medical Association, the British Medical Society, and the Ophthalmological Society of England, to be identified with the latter being a distinguished honor for any surgeon.

It will be remembered that his wife was on the Lusitania when it was exploded by a sumbarine. She had a most miraculous escape, Mrs. Osborne having been drawn into one of the great funnels by the strong vortex, a subsequent explosion hurling her to the surface again, admitting of her rescue.

Monarch Park

The proposed eestablishment of a civic hospital in the East End and the erection of a ratepayers' community hall, were topics discussed at a meeting of the Monarch Park Ratepayers' and Business Men's Association, in Canada Bread Company's Building, Danforth Avenue, with the president, D. MacMillan, in the chair.

The following were elected a membership committee:—Messrs G. J. Vanstone J. Filch, N. J. Grose, W. Tursle, D. MacMillan, Robt. Dawson, J. E. Virtue and S. Love.

Publicity committee—John Walshe, chairman; E. F. Benson and D. Kissock.

"Flu Can Be Controlled If Proper Care is Taken.

For a fortnight or more past the cables have been bringing the information from London and Paris that influenza has assumed near epidemic proportions there. The disease is the same which was so prevalent in this country in 1918. New York city is now reporting 30 influenza cases a day, but there is nothing bordering on an epidemic. Dr. Royal S. Copeland, of the New York Health Department, sees no indications that there will be an epidemic if the public exercises care.

The United States Government is watchful at Quarantine that any epidemic abroad may be kept out. There is also the responsibility on the average citizen. If a person develops a cold and the physician says he should stay at home the order should be followed to the letter. The New York health department has issued a suggestion that should be followed in other sections. It asks all persons who have colds to take proper care of them and it urges that if they develop even a touch of fever they stay away from work and avoid mingling with other persons.

No Grip Epidemic Threatened

Some people seem to be trying to scare up a grip epidemic for this country during the present season

Reports of the prevalence of a form of grip in Europe are magnified into terrifying proportions and the display of warnings and precautionary measures has begun.

The best medical authorities, however, state that there is no case of the old time destructive grip in this country nor is there any indication in Europe of the existence of the form of grip which caused so much trouble a few years ago.

There is, therefore, no cause for alarm or excitement because the thing does not exist anywhere today so far as known. There is no grip wave, neither here nor there. The ordinary winter colds are prevalent and nothing more.

The ordinary precautions as an aid to the maintenance of good health should be observed now as always. There seems, however, to be no occasion for extraordinary measures.

O. T. A. Case Falls Flat

"I prefer to accept the evidence of the defendent and his housekeeper, that the doctor did examine the two 'special officers' when they applied to him for a liquor prescription and that his examination warranted him issuing liquor prescription and I shall dismiss the case," said Magistrate Brunton in deciding the charge made against Dr. W. S. Olton, of Newmarket, in the County Police Court this morning.

Edwin Blundell and Normal Livingstone, two special O. T. A. officers told of having visited the physician and without being examined as to whether they were ill or not, being given two liquor prescriptions for which they paid $1 each.

The charge against Dr. Olton was that he "being a legally qualified physician did unlawfully issue liquor prescriptions."

Blundell testified that on Jan. 5 he visited Dr. Olton and after telling him that he was from the north, asked for a liquor prescription which he received without being examined. He then went to the post office where he met Livingstone. He then took Livingstone back to the doctor and introduced him as his cousin. When asked for another prescription the doctor, he stated, said: 'I think I can fix him up.'" Livingstone corroborated this evidence.

Miss Beatrice Stoddard, housekeeper testified that she saw Blundell being examined by the doctor, through a partly open door, while Livingstone was in the hall.

Dr. Olton in testifying stated: "I remember Blundell coming to me alone on Jan. 5. He told me he wanted to get some liquor because he was a returned man who had been gassed while overseas; that he had been having some hard trips, especially from Barrie that morning. He told me that he was afraid that he was going to have another attack of his gas trouble. I know from overseas experience that men gassed are liable to attacks. His voice was husky. I examined him and concluded that liquor would be beneficial to him."

"Livingstone came along and complained of a chill. I examined him and found a mild bronchial condition so I gave him a prescription."

Crown Attorney Murphy pressed for a conviction on the testimony of the two officers.

Magistrate Brunton—"They may have been too officious in the matter of getting evidence, or, the doctor may have concocted his defence. If the doctor's story is true then these two officers should be immediately dismissed. I cannot convict."

Dr. Clay Dead.

Officials of the medical department of Western University have been notified of the death in Roundup, Mont., of Dr. George Clay, a graduate of the medical college in the class of 1899. The notification was received from Dr. C. F. Pigot of Roundup, who is also a graduate of Western, and who is now President of the Montana Medical Association.

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The Old World gave us Salvarsan. The New World has given us Mercurosal. Salvarsan is placed directly into the vein; Mercurosal may be also. Never until now has the medical profession had a mercurial preparation that could be administered intravenously, by the mere introduction of the needle into the vein and the customary technique, without the practical certainty of obliterating the vein.

In Mercurosal, the new P. D. & Co., mercurial, the molecular form of the mercury compound is such that it has no irritating effect upon the delicate tissues of the venous walls; at the same time, characteristic mercurial effects upon the spirochetes are secured by the intravenous administration of this compound.

One physician reports having made twenty-seven consecutive injections into the vein in a space not more than half an inch extent, without any ill effect upon the blood-vessel.

The chemical synthesis of Mercurosal must be regarded as a triumph over difficulties as great as those which had to be overcome in the development of Salvarsan; and its accomplishment is what the profession has long been looking for, notwithstanding the acknowledged value of the arsenical compound. Both Salvarsan and Mercurosal are needed.

The manufacturers, Parke, Davis & Co., have a booklet on the subjest which they offer to physicians.

Dangers of Winter

The first three months of the year, says the Dominion Department of Health, are the most fatal. The greatest number of deaths is in February, the next in March, the third in January. This seems to upset the old theory of the healthfulness of the bracing cold of winter. One explanation is that many people breathe very little of the outside air, spending most of their time in heated houses, offices and cars; sudden changes from this atmosphere to something in the neighborhood of zero would be dangerous. Winter sports such as skating, hockey and tobogganning, are mostly for the young, and it may be that the high mortality is among older people of sedentary habits. The fault of most heating systems is lack of moisture, which may be supplied by water kept on the stove or in the furnace-pan.

Dr. Amyot, the Deputy Minister of Health, lays some of the blame on diet, which in the winter does not contain enough green stuffs. There is a certain improvement in this respect owing to the growing habit of using tomatoes, lettuce and other salads in the winter. These are sometimes classed as luxuries; and the taxation of imported vegetables and fruits is defended on that ground. But the free use of these foods is conducive to health.

The simple and homely advice given by Dr. Amyot is to go to bed when one has a cold. Trying to fight the cold by going out is plucky, but dangerous, and may mean death or a longer illness.

Interpretation of Blood-Pressure Variations.

Homer Wheelon, New York.

The range of blood-pressure variations compatible with normal economy is illustrated by readings made upon various groups; in individuals of the same group in various postures and after exercise. In men a change from horizontal to upright position caused a rise in systolic and diastolic pressures. Exercise caused sharp rise in maximal pressure and slight rise in minimal; in the aged exercise caused sharp rise in maximal and marked depression in minimal.

The influence of the heart on the pressure is seen in the rise of pressure at the increase of heart rate. A given stimulation may accelerate or depress the heart and the factors involved in the determination of the result are possibly the habit of reflex action, the irritability of the centers, and the selective action of the nervous system as a whole.

The influence of the vasomotor apparatus is associated with tonicity of musculature of the arterial system and the consequent increase or decrease in rate. In a general way the fall in pressure is accompanied by increased rate and the rise by decreased rate. Nictotin alters pressure by direct or indirect action on cardio-inhibitory or accelerator centers, vasomotor centers, cord and sympathetic ganglia and directly or indirectly on the adrenal bodies. Many striction or relaxation of arterial walls and alterations of rate and force. The influence of the endocrine is not completely established. In the case of the adrenal body it is stated that while removal causes death it in no wise causes alteration in the cardiovascular nervous apparatus. Hypertension is secondary to altered metabolism.

Blood-pressure variations are not disease conditions per se, but rather symptoms indicative of altered bodily economy. In many cases variations are indicative of compensatory phenomena and should not be interfered with. Hence it appears that the safest interpretation of blood-pressure variations will follow as the result of a careful evaluation of the process involved in the production maintainance and control of a balanced circulation.

Health of Toronto Reaches High Mark.

Alderman Chas. A. Risk was elected Chairman of the Local Board of Health at its initial meeting for the year.

In his annual report presented to the board, Dr. C. J. O. Hastings, Medical Officer of Health, said that Toronto had completed the healthiest year in its existence, the general mortality rate of 11.2 for 1921 being the lowest on record. In making his comparison, Dr. Hastings excluded the deaths from the influenza epidemic until last year. Prior to then it was considered apart in the statistics.

With regard to infant mortality a similar improvement was observed. The death rate was only 86.8 per thousand, as aganst 144.4 in 1911. There were 13,985 births last year, as against 9,914 in 1911. The highest previous year was 1914, when 13,949 births were recorded. During the war years the number declined and last year was taken as normal again.

Food To Meet Invalid's Requirements.

When prescribing a patient's diet in the treatment of disease, or for the convalescent period, the physician has to overcome the difficult problem of finding supernourishment which will not overburden organs already depleted of their strength. The need for a food, prepared to meet this need satisfactorily has long been realized; but it is only comparatively recently that the need has been met in Canada by a product familiar for years to the English medical profession. This product is Ovaltine, an ideal tonic food beverage.

Ovaltine is a concentration of the nutritive elements of malt, milk and eggs flavored with cocoa. It contains the requisite protein, fat, carbohydrate and mineral matter as well as the vitamines which are essential to life. Its high food value provides the supernourishment demanded, while the action of the diastasic malt on the milk makes it easy to digest and assimilate even by organs whose functioning is below normal.

The ease with which Ovaltine is prepared, and its economy in comparison with its nourishment, make it a food no physician need hesitate to prescribe. It comes in the form of a granular power and where this is dissolved in warm milk or water, a delightful and appetizing beverage is the result. Moreover, a cup of Ovaltine, prepared according to directions costs approximately three cents and has more actual energizing power than two eggs.

Research Establishes Value of Petrolatum to Overcome Stasis.

The researches of men like Sir William Arbuthnot Lane of Guy's Hospital, London, Godfrey Taunton, of Paisley Infirmary and Fever Hospital, Birmingham, J. H. Kellogg, of Battle Creek, and others, have shown increasingly the value of liquid petrolatum for the alimination of alimentary toxins.

These poisons which are big etiological factors in some of the gravest diseases, are best combated by such a liquid petrolatum as Nujol. Nujol, it is found, absorbs and carries these poisons in solution and so eliminates them from the body. It also exercises a lubricating and softening effect that hastens evacuation and increases the number of daily stools.

The company that manufactures Nujol possesses an organization and equipment designed for the manufacture of an unequalled product of this nature. Its laboratories are models of cleanliness, airiness and sanitation. Expert supervision guards every step of production. Girls are clad in spotless white. The home of Nujol has been aptly termed "the last word in sanitary science."

H. T. W. Ellis Gives $5,000 to Hospital In Honor of Son.

H. T. W. Ellis prominent retired Windsor barrister, and of Windsor, has donated the sum of $5,000 to Grace Hospital in memory of his son the late Dr. Stayner Ellis, who died last November. The money will be spent in building a further addition to the hosptal, whch will give an added capacity of two seven-room wards.

A Generous Bequest.

Dr. Meek was one of Canada's best physicians and surgeons. He was one of the professors at the Medical School for many years. Not only did he do a great deal of good going in and out among the citizens of London and Western Ontario, but he fitted others to go out and do the same. His work did not end in Western Ontario. He was known over all Canada as one whose special knowledge and skill had improved the practice of his profession and introduced new deas.

By his will it is clear that he desires the good work he began to continue after his death, that his work shall live on. All his estate after the death of Mrs. Meek, that is, whatever he accumulated by the practice of his profession or in any other way, goes to the Western University Medical School. Half of the proceeds of the sale of his residence is to be used in teaching obstetrics and the remainder of the estate goes to establish and maintain a pathological laboratory to be known, as the "Hamilton King Meek Memorial Laboratory".

Not only were Dr. Meek's great talents devoted during his whole life to doing good, but by the bequest mentioned that good is projected into the future, and will be accumulating all the future years. The students he taught will enlarge and continue his work while living. His active life benefitted the present generation. His generous bequest will benefit future generations.

It is evidence, too, that Londoners are beginning to realize the permanent good of the Western University. The late J. B. Smallman's large bequest, and now Dr. Meek's bequest of his whole considerable estate to the Western University will do great good, and put heart into those who have the work in hand. Other gifts and bequests in time will follow.

Doctors Form Advisory Board

An Advisory Board consisting of three doctors has been appointed by the Ontario Medical Association to confer with the Board of License Commissioners and to assist in handling all charges against members of the medical profession of breach of the Ontario Temperance Act. This board consists of the President of the association, Dr. F. J. Farley of Trenton, Dr. George Young and Dr. T. C. Routley of Toronto.

The new board appointed will act in the nature of an Advisory Board. They will probe all charges against doctors which may arise. "In a good many cases the physician is more or less ignorant of the act, and we feel that we may be able to handle matters so that the profession will be informed," said a member of the new body appointed.

In all cases the association will ask that they investigate first and report their finding to the License Board. At the next annual meeting of the association in June the doctors gathered will be given an idea of how things are working out.

The meeting last week, which was a semi-annual gathering, decided to increase the fees of the association from $5 a year to $10. There were no other changes of any importance discussed.

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Glands Now Blamed For Many Crimes.

One of the latest theories in the world of medical science is that the ductless glands have a tremendous influence upon bodily and mental health. It is only lately that science was able to attribute any functions whatever to these peculiar glands, the idea being that they were like the vermiform appendix, whose usefulness had departed, and that they in course of time would depart also. Now, however, they are considered of vital importance. It may be that their function is exaggerated, as is usually the case in new discoveries of all kinds. Some amazing claims are put forward by reputable medical men. One declares that as a result of some sort of operation on a pituitary gland a dense growth of hair sprouted on the patient. There have also been stories of men regaining their youth as the result of having youthful monkey glands grafted upon them. The gland in the belief of some, is the real Ponce de Leon fountain.

The Cause of Crime.

An authority on the subject is Dr. Max G. Schlapp, of New York He believes that glands and their secretions are largely responsible for many crimes. They are responsible for certain crimes of impulse, and are also for hardened criminals. He cites the case of a young man named Archie Daniels, who shot and killed his young sweetheart because her parents refused to consent to their marriage and desired to hand her over to a more eligible suitor. He fired only one shot and then seemed immediately to repent, for as soon as he had fired he dropped on his knees and began to scream and picked up the body in his arms. At his trial he made no defence, and asked to be electrocuted. Instead, he was imprisoned for life. On the face of it, the crime seemed a common one, the motive being jealousy. But Dr. Schlapp says that Daniels was obviously the victim of his glands.

How the Glands Work.

The theory is that certain of his glands had been affected by constant worry. This is the explanation:—

The point at which the unstable protoplasm in the motivating centres of the brain will explode is determned by the chemical content of the blood. If there is a disproportion of hormones, as the secretions of the ductless glands are called, there is a disturbance of the balance of the explosion thresholds in the groups of cells in the nervous system, the secretions acting selectively on such cells. In other words, if the explosion point is low this means that inhibitions will cease to control, and people will do things that will amaze themselves as well as their friends. In the case of Daniels it seems that as soon as the first shot was fired the tension was removed and he did not complete his program by killing himself. His action, say the scientists who hold to the gland theory was an involuntary as a knee-jerk.

Affected by Emotions.

It is important to know what causes variation in the secretions of hormones and it has been learned that the glands are affected by foreign toxins introduced into the system, and that they are also affected by one's mental condition

by such emotions as fear, anxiety, anger and pain. Under repeated or continuous nervous strain a vicious circle is created, for the patient's emotions increase the secretion of hormones, and these secretions, again unfavorably affect the emotions. This process may continue until the person's explosion point is far below normal, and he becomes the helpless victim of his impulses. It has been discovered, too, that the amount of hormones in the blood can be controlled by means of therapeutics, and some remarkable results are said to have been secured, especially in connection with the thyroid gland.

How Patients are Cured.

Writing in the Medical Record, Dr. Schlapp says concerning mental patients examined at the Post-Graduate Hospital, New York, that chemical disturbances were found in many, and in more than half these cases the cause was traced directly to certain of the internal secretory glands. This has been accomplished through only a few blood tests that have been evolved. New tests are being worked on constantly, and the hope is to narrow the field until the investigator can lay a finger on the cause of all emotional disturbances. The treatment varies with individual cases, but the basic principles are the prevention of disproportionate secretion in the affected glands by the use of various remedies and the neutralizing of the abnormal secretions already in the blood by the introduction of counter-balancing substances. By these methods the explosion point of the patient can be raised to normal.

Powerful X-Rays Produced by New Apparatus

The war against cancer has advanced another stage. New X-ray equipment, which is expected to open up new fields of treatment, has been installed at the Toronto General Hospital, and used for the first time in Canada. The feature of the new equipment is its extremely high voltage. With it physicians expect to treat successfully cases of cancer which were previously deemed hopeless.

X-ray of a lower voltage has been used for the past 25 years. The high voltage is a very recent development. The Germans were the pioneers in its use, and claim to have effected a number of wonderful cures with it. In the United States there are only a very few high voltage machines. In Canada the first was used for the first time, December 29.

Tremendous Voltage

The new equipment has a voltage range of from 50,000 to 280,000. The previous maximum voltage was 165,000. Four cases were treated Dec. 29th, with the new machine and voltage of from 200,000 to 225,000 used.

The lower voltage ray has been used with marked success in the treatment of a great number of diseases, including the less serious forms of cancer and cancers near the surface of the body. The high voltage ray will be used on internal cancers. The low voltage did not have sufficient penetrating power to carry its death-dealing energy in sufficient quantities to the deep buried growth. The high voltage will penetrate with undiminished strength to any portion of the body. Its rays

travel at a much greater speed pass through the tissue with less resistance and are much more effective in the war on malignant growths.

As the older method of treatment has reduced the death rate in less serious forms of cancer, the new method is expected to cure many of the cases previously thought to be beyond mortal aid.

More Radical Treatment.

Instead of the treatment being administered in small doses over a long period of time, a few large doses will be given, in the attempt to overwhelm and destroy the malignant growths at once. All the energy that can be brought to bear on the growths at one time is being brought. In one case while 225,000-volt rays were penetrating to a growth from without, several tubes of radium were centering their more local rays at the very heart of the cancer. It was a case for which physicians, under ordinary conditions, would hold out no hope for recovery. The result is being watched with interest.

The treatment of cancer by radiating energy has not yet reached that stage of development that hope of a positive cure is held out. Men who have worked with the rays claim that eventually a positive cure will be found for the dread disease. In the meantime, they are co-operating as closely as possible with the surgeons. When an operation is possible the growths are first removed by surgery, then the microscopic rem nants of the trouble are destroyed by the rays.

Death Rate Reduced.

This practice has already reduced the death rate to a surprising extent from surface cancers. It remains to be seen whether the deep-rooted growths can be wiped out as satisfactorily by the high-power ray.

Red Cross Journal Now Offered to Public.

The Canadian Red Cross, a national journal published monthly by the Canadian Red Cross Society has made its first appearance, having to its credit sixteen pages of instructive comment and information regarding the activities and program of the organization. The purpose of the little magazine is to present in readable form knowledge of how health may be preserved.

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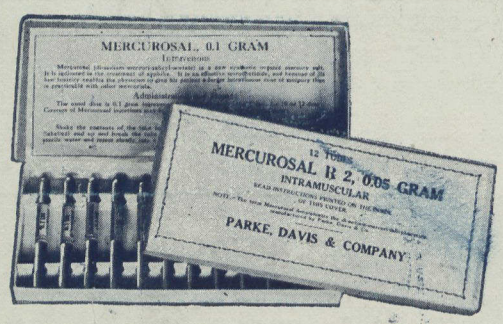

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