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Some New Viewpoints Concerning Cirrhosis of the Liver

LEONARD G. ROWNTREE, M. D.

Mayo Clinic and Mayo Foundation, Rochester, Minnesota.

MORE work and thought are needed in the study of diseases of the liver. Some of these problems have interested me intensely for years, but, alas, without satisfactory solutions in many instances. It is true that we have made some progress in regard to liver functional studies and have succeeded in developing a better form of management of ascites. We have directed attention and effort to the need of control of the esophageal varices for the prevention of hemorrhage. Nevertheless more remains to be done, as will appear from that which follows.

The new form of treatment for the control of ascites in cirrhosis of the liver was introduced in 1925 in collaboration with Drs. Barrier and N. Keith. It consisted of the use of merbaphen, novasurol or salyrgan, a diet rich in carbohydrate, together with the use of ammonium salts (chloride and nitrate) advocated as diuretics by Keith. Under this form of management, the ascites was controlled rather readily in the vast majority of cases. It seems desirable at the present time to review our experiences of the last six years and take stock of our present situation. With Drs. Chapman and Snell, we have reviewed a group of 350 cases and from that have selected 112 cases which represent true cirrhosis with ascites. In pondering over these data, the astounding thing is the difference between the immediate and the end results of treatment. In most of these patients, the ascites cleared up with the disappearance of the collateral channels. The patients were markedly improved in strength and able to be up and about, and sometimes rehabilitated so that they could return to work. In many instances sudden hemorrhage caused exitus, or the ascites recurred and was less amenable to management, or liver insufficiency developed and the patient went into coma followed by death.

In considering the results of treatment it is found that the immediate results were good in 80 per cent. of the cases. And yet, 75 per cent. of the patients died within six years. This means that our treatment
was inadequate or that it was given at the wrong time. It matters little whether the treatment was medical or surgical. Seventy-five per cent. of the patients treated medically died within six years, and those who are living have lived an average of more than three years. Sixty-six per cent. of the patients operated on died within six years, and those who are living, have lived an average of two years. However, it should be said that many of the patients undergoing either omentopexy or paracentesis were patients who resisted medical management and consequently this group represents those who were suffering from a more severe form of the disease.

As I studied the results of this analysis one idea flashed into my mind which, I believe, sheds light on some of the darkest fields in this problem of cirrhosis. That is, in this group of cases, we are not dealing solely with cirrhosis of the liver, but with decompensated cirrhosis of the liver. This may be understood best, perhaps, by analogy. In considering statistics in heart disease, we invariably want to know whether they apply to compensation or decompensation. Experience has taught us that decompensated cardiac disease is serious. Although immediate results of treatment may be excellent, the end results, broadly speaking, are not satisfactory. Compensated heart disease may not cause serious injury, but once decompensation with edema appears, the outlook is infinitely worse. The same may be true of nephritis. Albuminuria may persist for a long time, but when edema appears, vascular decompensation occurs and the prognosis is grave. This may be true of hypertension in which vascular disease exists for a long time, but if this becomes associated with anasarca, the end usually is near. Banti's disease in itself causes little concern, but when ascites develops, in takes on a different aspect. It may be that there is an analogous situation in diseases of the joints, and that the large vessels seen around the joints with effusion are evidence of collateral circulation. Certainly this conception seems to apply to diseases of the liver, in which there is unquestionable evidence of portal hypertension expressed in the collateral circulation. This may persist for a long time, but the outlook becomes much more serious when ascites appears.

Based on this conception, the following is a new clinical classification of cirrhosis of the liver:

A. Compensated cirrhosis (with adequate portal circulation)
   1. Portal cirrhosis (large or small liver)
   2. Biliary cirrhosis
      (a) Without extrahepatic biliary obstruction
      (b) With extrahepatic biliary obstruction.

B. Decompensated cirrhosis with ascites (inadequate portal circulation)
   1. Portal cirrhosis (large or small liver)
   2. Biliary cirrhosis
      (a) Without extrahepatic biliary obstruction
      (b) With extrahepatic biliary obstruction.
CONCERNING CIRRHOSIS OF THE LIVER

From the standpoint of diagnosis, it becomes necessary to recognize and study these cases earlier. If we can learn to recognize the earlier forms of cirrhosis, we may be able to do something more for these patients. We may take as an example a bartender, who, at first examination, gives a long history of alcoholism, has an enlarged liver, and low grade retention of dye. Somewhat later portal hypertension and collateral circulation occur. This is probably the point at which treatment should be begun rather than when the condition has progressed to the point where ascites and decompensation are present. Then, as we have shown, treatment is ineffective. The outlook should be very different in dealing with compensated cirrhosis instead of the decompensated type.

In cirrhosis of the liver, treatment should be directed toward the prevention of decompensation. In this connection a diet rich in carbohydrates probably is important, with restriction of fluids, meats, extractives and condiments. Alcohol should be avoided.

Consideration of the vascular condition is imperative. Here several suggestions might be made. Griffith and Emorty have shown that the blood supply of the liver is controlled by the postganglionic fibers to the hepatoduodenal artery and the preganglionic fibers of the splanchnic nerves. With this knowledge, some new procedure might be devised to combat cirrhosis. Another consideration has to do with the volume of blood coming through the liver. This can be controlled by splenectomy, for this cuts off 35 per cent. of the supply to the portal vein. As we know, omentopexy aims to sidetrack the blood from the portal vein. This is often effective, but, in my opinion, should be done early in the course of the disease rather than after the development of ascites and decompensation.

Esophageal hemorrhage should be prevented, if possible, by some procedure such as the ligation of the left coronary vein, which was tried here by Walters and McIndoe. It seems that this ought to be done closer to the portal vein, and that other adjacent veins might be ligated also. In discussing this with W. J. Mayo, he suggested the possibility of thrombosis. With the technic as outlined by G. Grey Turner, it might be possible to pull the esophagus down into the abdomen and to produce thrombosis of the veins by injection.

Finally, Eck fistula should be considered. This was first done by Vidal in 1903. The patient succumbed four months later. The operation was performed three times by Rosenstein in 1913. About the same time Bogaraz transplanted the cut end of the superior mesenteric vein into the inferior vena cava, and reported beneficial results. Krestovsky, in 1926, duplicated the operation of Bogaraz with good results. He chose this type of operation instead of the true Eck fistula because he felt that by doing this he was leaving enough of the portal blood supply intact for the liver to maintain its deaminization and detoxifying functions. In my opinion this later operation should receive consideration.
Once decompensation has occurred, perhaps present methods of treatment are the best possible under the circumstances. However, as clinicians, I think, we should study the coma that occurs in hepatic insufficiency. Is it coma resulting from failure of the secretory function of the liver, analogous to uremia in disease of the kidney, or is it specific intoxication due to some intermediate product of metabolism similar to coma in diabetes?

In conclusion, then, there are three major problems which must be considered: (1) functional grouping of cases of cirrhosis into compensated and decompensated types; (2) earlier diagnosis, and (3) earlier treatment directed toward prevention and intelligent management and control of ascites and collateral circulation.

---

Hematuria From Turpentine

W. E. WEEKES, M. D.

Exeter, Ont.

The following case is reported because of the unusually rapid appearance of red blood cells in the urine following a comparatively brief exposure to drying turpentine.

L. H., male, aged 32, railway depot employee, complained of frequency of micturition by day and by night, and of a scalding sensation in the bladder region and in the urethra upon completion of the act. Upon examination, tenderness in both loins and over both kidneys was elicited with moderate pressure. The urine contained red blood cells averaging 36 to the high power field, and had a peculiar, sweetish odor not unlike cheap perfumery. The possibility of an inhalation of turpentine as a causative factor was not brought out until the depot was visited in the course of arranging for sick-leave for the man. Here painters were applying a decorative mixture which contained a large percentage of turpentine. This had been going on for three or four days, and the patient had been working in the turpentine atmosphere for that many eight-hour days. After six days' treatment, recovery was complete. Urine examinations were repeatedly made thereafter with no red blood cells to be found. Fourteen months later, there was a moderate recurrence of symptoms 24 hours after having spent one hour in an overheated auditorium that had very recently been redecorated with a turpentine preparation. In this instance the cell count was only nine to the high power field and recovery was complete after three days. The treatment consisted in rest in bed with a brisk mercurial purge; calcium lactate (ten grains every four hours) with limitation of fluids and a diet having a low nitrogen content.
Diagnostic Methods in Early Pulmonary Tuberculosis

SAUL APPEL, '31

As students, we are accustomed to associate a diagnosis of pulmonary tuberculosis with expert ability to elicit and interpret physical signs in the chest. Doubtless in some few cases it does task the finest sensibilities, accumulated experience and diagnostic acumen of the internist in order to arrive at a conclusion, but even in these cases, confirmatory evidence is necessary to convert an innuendo, a probability into a definite pathologic entity. Indeed, someone has said that if you think you hear rales, but are not sure that you do, in 95 per cent of cases they are not present.

The following procedures are used routinely in the investigation of pulmonary tuberculosis: History, sputum examination, physical examination, X-ray of the chest, and intracutaneous tests.

HISTORY

A carefully taken history is invaluable in the diagnosis of pulmonary tuberculosis. All too often, one obtains the story that the patient was well until he had influenza in September, 1925 (or some other date), and has since then been tired, weak and unable to carry on with his former occupation, and even finds the ordinary duties rather rigorous. He has never completely recovered from his influenza, and all his symptoms, chest and otherwise, date back to the influenza attack.

Another time, we meet the same story in a little different way. The patient was well until she had pleurisy at which time she developed fluid, and has never fully recovered but has gone gradually down hill. In inquiring about pleurisy, in the history of past illnesses, it is necessary to make certain that the patient actually had pleurisy. It is advisable to ask the patient if she was told by a physician that she had pleurisy, or to ask if she developed fluid. In many cases the patients volunteer the information that the chest was aspirated and some fluid withdrawn. This is very helpful when one considers the incidence of pulmonary tuberculosis in patients that have had pleural effusions. In many cases, however, the patients tell us that they have had pleurisy because they had a little soreness in the chest for a day or two. This may not have been pleurisy at all but the patient has no other name for it.

Again, when inquiring about hemoptysis, the patient may tell us that he coughed up a cupful some three years ago, but that his physician had assured him that he had just torn a little blood vessel in his throat, and there was no cause to worry. The patient may have had repeated hemorrhages in the meantime and continued with his work until the
disease has advanced to such a degree that the individual is unable to carry on, and in addition is showing evidence of toxic absorption. Finally, the diagnosis is made.

Of course, there are other causes of hemoptysis, but hemoptysis should mean pulmonary tuberculosis until proved otherwise. I am inclined to think that there are many physicians who possess such an inordinate phobia for tuberculosis that they are reluctant to make a diagnosis. This is unfortunate, especially in these cases that onset with hemoptysis, for it is in these so-called “lucky hemorrhage cases” that early and well regulated treatment achieves the happiest results.

PHYSICAL EXAMINATION

A complete physical examination should be carried out in all cases. In moderately advanced or far advanced cases of pulmonary tuberculosis, there are usually sufficient physical signs to make the diagnosis rather easy. In early or minimal cases, however, there is often a surprising lack of physical signs, and sometimes they are completely absent. One imagines that there is some diminution in the respiratory excursion of the chest on one side, or there is a lag, but one is not certain. On palpation, perhaps there is some slight atrophy of the trapezius or some slight spasm of the muscle. Vocal fremitus may be equal on both sides. On percussion there appears to be some slight impairment of resonance in one apex, again one is not certain. On auscultation, the breath sounds are normal and no adventitious sounds are heard. In using the stethoscope it is necessary to have the patient cough in order to pick up rales. Often they are easily heard in this way and are totally absent on quiet breathing. Also, the importance of using the patient’s whispered voice with the stethoscope applied to different regions of the chest is worthy of mention. Summing up, one ends with a few indefinite findings upon which one would certainly hesitate to commit a patient to sanatorium for treatment, and recourse must be had to other methods of investigation. It is manifest, therefore, that in early cases, physical examination is in itself insufficient to establish the diagnosis but must be supplemented by other methods such as sputum examination and X-ray. One is not surprised at the lack of physical signs in early cases of pulmonary tuberculosis when one considers the pathology of tuberculosis. Lesions must be present for some time before they give rise to physical signs and therefore the disease process is well under way before it is picked up by physical examination.

SPUTUM EXAMINATION

With regard to sputum examination it cannot be emphasized too strongly that every patient who has chest symptoms, every patient who is a tuberculosis suspect, should have his sputum examined not once but several times. If every physician would keep on his desk several small bottles to give to all his patients who have a cough, we would have many more early diagnoses of pulmonary tuberculosis. Many patients
will say that they have no cough but on closer observation we find that they are continually clearing the throat. Even if this is not the case, whenever pulmonary tuberculosis is suspected in a patient, the saliva may be and should be examined for tubercle bacilli. There are many cases that have never had what the patient would call a cough, but when the saliva is examined the report comes back GK 4 or 5, strongly positive. I recall the case of a man admitted to sanatorium for observation. He had never had a cough but was going down hill. He had been losing weight rapidly, had night sweats, was tired when he awoke in the morning, and was absolutely unable to carry on with his work. Examination of the saliva showed it to be strongly positive for tubercle bacilli. A few days later he had several large hemorrhages from the lungs that proved intractable to all methods of treatment until finally pneumo-thorax was tried.

**X-RAY EXAMINATION**

Radiologists say that the x-ray of the chest always shows a greater pathological condition than is revealed by physical examination. Medical experts in chest disease claim that if they had but one form of examination in order to make a diagnosis of pulmonary tuberculosis they would choose the x-ray. Radiographs are particularly valuable in early cases, and while the x-ray is not infallible it is a general rule that if there is no x-ray evidence of tuberculosis the patient is not suffering with the disease. X-ray is useful not only as a tremendous aid in diagnosis but also in estimating the progress or absorption of lesions in an individual case.

**INTRACUTANEOUS TESTS**

Intracutaneous tests prove only that the individual has been infected with tubercle bacilli. Since in the ordinary course of events most adults have become infected with tubercle bacilli but do not show clinical evidence of the disease, these tests are unreliable, because they cannot differentiate between active disease and tuberculous infection. In children they are in some measure useful. Here a negative test would mean that the child had never been infected with tubercle bacilli. In adults, on the other hand, a negative test might be without significance, because the individual might be suffering from such an overwhelming infection that he was unable to react to the injected tuberculin.

**SUMMARY**

To conclude, we find that of all the diagnostic methods in our medical armamentarium, history, sputum examination, and x-ray are the most valuable. Physical examination should always be done and the findings judiciously interpreted, but one might say without disparagement that it plays a minor role in the diagnosis of early cases of pulmonary tuberculosis.
Reveries of an Alumnus*

W. H. McGUFFIN, M.D.

Calgary, Alberta

I CAN think of no greater mark of esteem by my confreres than the honor of being chosen as your Chairman on this occasion. It is a pleasure to be seated at the festive board with you once again. It thrills me to feel your warm hand-clasp and to know there is still existing the same kindly friendship as of yore. I wish to take this opportunity of thanking you for your confidence in me during the recent election of officers when you saw fit to make me your First Vice-President.

Daniel Webster once said: "A great speech depends upon three essentials—first, a great man; second, a great theme; and third, a great occasion." Truly we have all three with us tonight—Dr. Jno. A. Macgregor, Emeritus Professor of Medicine, our famous Alumni Association, and lastly this reunion banquet.

It occurred to me during the year that you might be interested in the thoughts of an Alumnus upon some of Western's problems. Picture for yourself a study room, fireplace and all, the large easy chair and the man, me, myself, musing of days—college days—long since gone. It is needless to detail all the recollections. The one outstanding feature of my mental ramblings centred around those grand men, our preceptors, who were inspired with the wish to extend their usefulness. They gave of their time and energy, for little remuneration, to disseminate medical knowledge. These are the men to whom we owe our Western heritage. They had initiative; they had faith and the desire to serve. It would be unfair to single out any one for outstanding credit. Each filled his place and produced in proper ratio according to his talents. Their initiative was all the more wonderful from our viewpoint when we consider the limitation of funds, equipment, and clinical teaching material. Their faith must have been a beautiful thing in the face of all the adverse circumstances. Their desire to serve was on a par with all our present-day ideas and ideals. I repeat, yes! reiterate with fervor, that we have these men—many who have passed to the Great Beyond—

*Delivered at the Winnipeg Alumni Banquet, August 28, 1930.
to thank for the wonderful background which our University enjoys today. What of today? It is needless for me to comment in detail on the wonderful new edifices, the splendid equipment and the excellent teachers. It does help to have an imposing array of buildings in a beautiful scenic setting. It is a comforting feeling for the graduates to know that our Alma Mater is in Class “A” among the sister institutions of America. The student of today has many advantages as compared with the boy of my time, now nearly a quarter of a century ago. During my last visit to London I was thrilled as I rambled over the expansive athletic campus, meandered in and out the college halls. We are proud of our Foster Mother. We are glad to claim allegiance to the University of Western Ontario. This means more than mere words can adequately express, particularly to the Alumnus away out in the far away places where competition is keen and the representatives from the larger colleges outnumber ours by great odds.

Have you ever hesitated long enough in your daily busy routine to picture for yourself the country doctor, not the country doctor in the thickly populated districts of Ontario, where paved roads and the motor car have brought your brother physician of twenty miles distance to be your neighbor, but the doctor who is pioneering in the undeveloped lands, ministering to the physical ills of our New-Canadians? These are the men who are entitled to medals of honor. Gentlemen, hats off to these “Guardians of the Health” who are doing their bit in the building of a better and greater Canada. All our graduates cannot be college professors, neither can they all be endowed over-abundantly with material possessions, but money and position are not everything. Greater than all these—and I am not discrediting their desirability—is that feeling of a task accomplished or well-worth-while work attempted.

You have seen our University in swaddling clothes. You see it now in a stage of exhilaration as it finds itself reacting to the first flush of success. Will this successful development continue? It should, and it must. My musings continue. Why should Western develop, and how?

I will tell you,—because there is need for this splendid institution of learning; because there is much yet to be accomplished in the search of hidden health secrets; and because there is genius yet undiscovered which may “come to life” through the influence of “Western,” and because our graduates need the support of a Mother of favorable recognition. Nothing cheers the heart like the knowledge that we can point with pride to the institution of which we are a product. We want to be able to face the world and brag that good old Western is in the forefront.

How can our Alumni help to consummate this ideal of progressive Western? The contribution our University makes to humanity is of an indirect nature. It is mainly through its graduates that it makes itself felt and fulfills itself. If you fail, the University therefore fails. Its traditions and catholicity, inherited and treasured, are lost to men if you omit to “carry on.” Its scientific contribution lies dead if you fail to interpret its message to men. Upon the Alumnus rests the burden of
giving to the world of men the practical application of the teaching he has received. It is a store-house from which you have drawn, but you are not a store-house, but the medium through which such knowledge may be made known to the world. The contribution of the University to the world rests upon you.

To wrongly interpret or to limit, for purely commercial ends, the teaching we received defeats the aims of education. "Our profession is an art, not a trade." "Trafficking in suffering is a humiliation." Whether education be just a means for realizing the individual to the highest degree, for human happiness as a race, or for the pursuit of abstract truth, is a much-mooted question. If it be for the most complete expression of the individual, we must ask ourselves just how we are to fulfill that purpose; we certainly owe to it a much higher standard of individual life. If it be for the race, sacrificing the individual, then all we have must be directed to that goal; but if it be for abstract truth, we must be prepared to lay ourselves on the altar, and in a spirit of complete abnegation, sacrifice all in the search after ultimate things.

If education means to you the realizing of yourself to the highest degree we may ask ourselves just how far we have carried out this ideal or compromised with reality. In this case, loyalty to yourself means the highest loyalty to your Alma Mater. In the degree that his education has fitted the individual to forget, if necessary, his training,—to even repudiate it, if the search after truth demands it, it has justified itself, and the individual has fulfilled the end intended by the University, which is "to make him a complete individual."

To tread the lonely path demands courage. We must be consistent in our thinking and living only so far as it responds to the light as we see it. From then on we must be prepared to follow the gleam even if we do walk alone. The most pitiable sight is an Alumnus whose mind has become so closed that he sits back, and, as from some lofty pinnacle, criticizes the rest of the world. Life may demand that we subdue all our powers to some ultimate goal. What that goal may be is for you to decide. Live with an open mind. If you wish to think you must be prepared to work out your own salvation in fear and trembling. We die every minute, therefore we should be prepared to live adventurously and dangerously. Education has prepared us for this so that we may not be shipwrecked in the process.

We, by our daily ministrations to the sick and our conduct towards our fellow-citizens, can exemplify the teachings propounded to us within the doors of our University.

Those alumni who have been more fortunate in securing of this world's goods, more than they absolutely need, can help to endow chairs, arrange scholarships, make loans to needy students, or even finance a boy through his course. We can see that the recent graduates are appointed in internships in reputable hospitals. We can even take them in as assistants for a year or two on a salary. We can use our influence in soliciting new students for the college.
The last thought which I wish you to carry away is the value of union—"United we stand, divided we fall." Let each Alumnus do something to further the interests of Western, work together, help each other, speak well of one another and by all means speak well of our Alma Mater.

Oxford and Harvard were not made in one decade, nor one generation, nor one century. Neither can we hope to see our University do the impossible; but, if each graduate is enthusiastic,—and he should be,—for the welfare of our Alma Mater, she will prosper and reflect advantageously upon each one of us.

I am proud to be a graduate of Western. I am glad of the opportunity of being here this evening and offering my testimonial to our University and, gentlemen, I wish you, one and all, good health, success, and happiness.

A photo of the original set of intubation tubes, some gold-plated, others of hard rubber, devised by Dr. Joseph O'Dwyer (1841-1898). When he first described his invention he was ridiculed and told he was either a knave or a fool. This set occupies a prominent position in our historical collection at Western.
Fundamentals in the Diagnosis and Treatment of Diabetes Mellitus

E. M. Watson, M.D.

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Diabetes is the disease which, more than any other, forms a link between all phases of medicine and surgery and serves to bind these together in common interest. Its many and varied manifestations provide several points of view from which to contemplate the subject. To-day, I shall attempt to review some of the problems of diabetes, not from the standpoint of the laboratory worker, but rather as these would seem to concern the practitioner. When venturing into unaccustomed territory, one may be versed in ideals but still ignorant of many of the practical details peculiar to the new existence. If the following remarks appear to be too idealistic, the explanation may be failure to appreciate fully certain of the difficulties encountered by the physician engaged in general practice. As regards diabetes, there is no person of greater importance than the general practitioner. He is responsible for the early diagnosis of the disease and for the continued well-being of his diabetic patients.

Diagnosis

Glycosuria—The finding of sugar in the urine is usually the first sign which leads to the diagnosis of diabetes. Glycosuria is ordinarily discovered by the Doctor under three circumstances. The patient may present himself with the classical symptoms of diabetes: polyuria, nocturia, thirst, voracious hunger and loss of weight. More often, the sugar is encountered accidentally during the course of a routine examination for some other complaint which may or may not be diabetic in origin. A considerable number of cases of glycosuria come to light through medical examinations for life insurance or in connection with the recent innovation, the periodic health examination.

Diabetes may have a sudden onset. Acute cases not infrequently follow some infectious disease such as tonsillitis, influenza, cholecystitis, etc., and are commonly accompanied by the classical diabetic symptoms. Usually, however, diabetes develops gradually over a period of months or even years, this slow process giving the body a chance for physiological readjustment. In this type of the disease, practically none of the typical diabetic symptoms are present and the glycosuria may be intermittent. These facts naturally bring to mind several important points for consideration. First of all, the symptoms generally regarded as being typically diabetic are often of secondary importance. Consequently, the physician should consider it as part of his duty towards his patients to see that the urine is examined for sugar in every case. Too

(A paper read at the meeting of the Middlesex Medical Association on December 4th, 1930)
much reliance should never be placed upon a single negative test for sugar. As intimated above, a patient with early or mild diabetes may show sugar in the urine at one time and not at another. Thus glycosuria may be readily missed. As regards the actual test for sugar, Benedict's test is preferable to Fehling's test for several reasons. In testing for sugar qualitatively one must be certain to use only Benedict's qualitative solution. Grave errors in interpretation have resulted from the use of Benedict's quantitative solution instead of the qualitative solution. These two solutions are identical in appearance but are of different composition and react differently to sugar. The most likely time to find sugar is in a specimen of urine passed two to three hours after a meal containing starches and sugar, particularly after breakfast. The urine should be examined fresh unless some preservative is added to prevent the sugar from undergoing decomposition. A small amount of sugar may easily escape detection unless these precautions are observed. The urine of every child should be examined for sugar once a week for at least three or four weeks following an infection in order to safeguard the subsequent health of the young patient.

An early diagnosis of diabetes, as with any disease, is of the utmost importance. In its earliest stages, diabetes is a functional disorder. The institution of early treatment may prevent extensive degeneration of the pancreatic islands and it is in this stage that recovery can be hoped for. A late diagnosis presupposes extensive damage to the insulin-forming tissues and consequently considerable hardship for the patient. As a general rule untreated diabetes tends to be progressive in character.

The finding of sugar in the urine does not establish the diagnosis. The reverse applies as well, namely, that the absence of sugar does not rule out diabetes. There do occur, of course, clear-cut cases with typical symptoms of a metabolic disturbance or one of its complications, with marked glycosuria in which the diagnosis offers little or no difficulty. Many more cases are of the obscure type. A moment's consideration of the mechanism by which glycosuria is produced may help to clarify the situation. There are two factors concerned in the production of glycosuria—(1) the concentration of sugar in the blood, and (2) the permeability of the kidney for sugar. Variations in these two influences allow for several combinations of effects. There is one now well-known condition in which glycosuria, either persistent or intermittent, occurs yet the blood sugar always remains within normal limits. The explanation for this phenomenon appears to be that in individuals so affected, the renal threshold for sugar is lower than usual. Consequently the term "renal glycosuria" has been adopted to describe the condition. It is apparently a harmless anomaly, producing no symptoms and calling for no active treatment. On the other hand, the renal threshold for sugar may be higher than normal, in which case, hyperglycaemia may be present but still no sugar escapes into the urine. It is important to bear in mind that elevation of the renal threshold frequently occurs in
true diabetes, especially in the chronic type of the disease, in elderly persons and when chronic nephritis exists.

While urine analysis is the chief laboratory aid directly available to the medical practitioner, its limitations must be realized. Glycosuria, of itself, is but a sign which calls for further investigation. Not even a trace of sugar should be disregarded. Glycosuria may be diabetic or non-diabetic in origin; it may be harmless or harmful; it may be accompanied by symptoms or it may be symptomless. The only safe rule to follow is to consider every patient in which glycosuria is present as a case of diabetes until proven otherwise and for the sake of the patient, the final verdict should be arrived at as early as possible.

**Blood Sugar**—The deciding evidence in any case is the state of the blood sugar and whenever possible advantage should be taken of the added information afforded by this method of investigation. It is a mistake to think that the mere estimation of the blood sugar regardless of circumstances, will tell whether or not a patient is a diabetic. There are many factors which enter into the interpretation of the result. The usual times for taking blood for blood sugar estimations are in the fasting state, that is before breakfast or at least six hours after food or within a comparatively short time after a meal. If the fasting blood sugar is high the problem is solved. If it is normal it tells us nothing. From the standpoint of the primary diagnosis of diabetes, it is much better to have a blood sugar determination made on a sample of blood withdrawn two and one-half hours after a heavy carbohydrate meal, preferably breakfast. It is advisable to give the patient specific instructions regarding what to eat for this test-meal. He should have one-half orange or grapefruit with sugar on it; cereal with two heaping teaspoonfuls of sugar; two slices of bread or toast with marmalade or preserves and one cup of tea or coffee with sugar in it. Blood is taken two and one-half hours after the beginning of this meal. Even though the blood sugar of a patient be within the normal limits before breakfast, if he has even a slight defect of carbohydrate tolerance, his blood sugar two and one-half hours after such a meal will be at a high level; whereas if his tolerance be normal, his blood sugar will still be within normal limits. This is a simple means for determining the presence or absence of diabetes in a patient. If the blood sugar is normal two and one-half hours after a carbohydrate-rich meal, even though the patient has had sugar in the urine, one can be reasonably certain that the individual is not a diabetic. This type of tolerance test is superior to the usual sugar tolerance test in which the patient is given 50 or 100 grams of dextrose on a fasting stomach, because it more nearly approaches natural conditions.

A word of caution is in order to those not within easy reach of a clinical laboratory. Plans should be prearranged for the dispatch of the blood sample to the laboratory with the least possible delay. A drop of several mg. per cent. of blood sugar in a specimen can occur within a few hours unless some preservative is added to inhibit glycolysis. Even
the presence of a preservative in a specimen is not sure protection against decomposition of the sugar over a period of time.

**TREATMENT**

Compared with the diagnosis, the efficient treatment of diabetes offers a more difficult problem. In the treatment of any disease, there are always certain ideal end-results which are hoped for. Unfortunately, these oftentimes fall short of achievement. There frequently remain, as a residuum of a pathological process, scarring or degenerative changes which lead to more or less permanent and uncontrollable loss of function of the part involved. The objects to be acquired in the treatment of diabetes are not difficult to enumerate. They consist of the following: (1) The maintenance of the desired body weight; (2) Blood sugar constantly within the normal limits; (3) Absence of glycosuria; (4) Absence of symptoms; (5) Prevention of complications such as ketosis, coma, arteriosclerosis, gangrene and neuritis; (6) and probably most important of all, to make the patient a happy and useful citizen.

Rarely is it possible to accomplish all these requirements except in mild cases. Miracles are hardly to be expected. It is a matter of common knowledge that some diabetics are readily controlled by dietary restrictions alone while others, despite the most careful attention to diet and the use of insulin, can not be kept sugar-free all the time. Except in unusual cases, it may be said that every patient is benefited by treatment. In the great majority the results are very encouraging. While it is agreed that the fasting blood sugar level should be maintained, if possible, within normal range, such is seldom achieved in severe cases, on an adequate diet. The physician who hopes to accomplish this ideal purpose in every case is doomed to disappointment.

The first rule to follow in the treatment of any disease is to remove, if possible, the cause—exciting or aggravating. Diabetes, unfortunately, has no constant or specific etiology but it is a fact that infections can, apparently, cause the disease and certainly do exert a deleterious influence upon an existing diabetic state. For these reasons, any obvious or suspicious foci of infection should be eradicated as early as is consistent with the patient's general clinical condition. Obesity is another causative factor which is at least partially controllable.

**Diet**—Diet is the foundation of all successful diabetic treatment. Everyone who undertakes the treatment and education of diabetics must master the fundamentals of diet calculations. This is not such a formidable procedure as it may appear. It is unfortunate that a simple and standardized formula can not be presented which would fit all cases alike. Each patient constitutes an individual problem which must be worked out according to his particular needs. It is true that there are certain general principles which are applied universally; but even these must be modified by individual considerations such as the age and activities of the patient, the severity of the diabetes and the presence or absence of complications.
Many of you may have been confused, as I have been, by reading of different methods of dietetic treatment, some apparently opposed to one another and the successful results reported for each method. The obvious conclusion to be deducted from such observations is that a certain amount of liberty is allowable and that any form of dietary regulation, providing certain fundamental principles are observed, will result in benefit to the patient. At the present time, there are in use three dietary systems—the high carbohydrate diet, the high fat diet and the intermediate or conservative diet, using moderate carbohydrate and fat values.

Scrutiny of these apparently different, yet effective, methods of treatment shows that they all make use of one fundamental principle, namely undernutrition. The best authorities agree that the total calories constitute the most significant factor in the dietary treatment of diabetes. Undernutrition is not synonymous with starvation. Even partial starvation is not consistent with happy existence. The caloric value of the diet governs body weight. For every individual there is a normal weight. The diet should be so adjusted as to maintain the patient’s weight at 10 per cent. below the normal figure. Depending upon such factors as the patient’s activities and state of nutrition, the total daily energy requirement usually ranges between 25 and 35 calories per kilogram of optimum body weight. When a diabetic becomes over weight, his carbohydrate tolerance tends to diminish and he requires, therefore, more insulin.

Having decided how much energy the patient needs, the next consideration is to decide how best this energy is to be supplied. The diabetic requires regulation of the three types of foodstuffs—protein, carbohydrate and fat. The protein part of the diet is the component about which there is the least dispute. A certain minimum quantity of protein is necessary in order to prevent wasting and to allow for growth in children. Two-thirds of a gram of protein per kilogram of body weight per day seems to serve this requirement in the adult and relatively more than this, one to one and one-half grams for a child. The form in which the protein is given is immaterial.

The role of carbohydrate food in the diet of the diabetic is still unsettled. There is a growing tendency to allow higher carbohydrate values than was the custom formerly. The reasons for this more liberal carbohydrate allowance are that it makes for a more normal and more palatable diet and experience has taught that very low carbohydrate intake leads to diminished carbohydrate tolerance. This supplies ground for the belief that the diabetic needs carbohydrate food and that within certain limits this acts as a stimulus in promoting tolerance. Diets including less than 100 g. of carbohydrate are rare today which means that the diabetic can enjoy, if in restricted quantities, the foods used by normal persons.

The diabetic secures his carbohydrate chiefly from vegetables, fruits, cereals and bread. Vegetables are useful mainly for their bulk.
The results of recent analyses have shown that the available carbohydrate content of vegetables and fruits has been very much overestimated in the past. The usual classification into 5, 10, 15 and 20 per cent. groups must therefore be revised. Considering the very low carbohydrate values of many of these articles, they may be regarded, for practical purposes, as being carbohydrate-free. There is no real difference, as regards carbohydrate, between white bread and brown bread. An erroneous idea is that the toasting of bread renders it more adaptable for the diabetic. Many so-called diabetic breads on the market contain as much carbohydrate as ordinary bread or only slightly less. A few contain little or no assimilable carbohydrate. These preparations are sometimes serviceable as substitutes for bread, but they should be used with discretion and only when a reasonably reliable analysis of their composition is available and then calculated in the diet. Gluten bread is objectionable on account of its high protein content.

Formerly fat was depended upon to make up the bulk of the calories. After the protein and carbohydrate values had been determined, the remaining calories were supplied by adding fat. This usually, in a relatively high fat ration. Now that the prevailing tendency is to use higher carbohydrate levels, the fat quota is consequently lower. There seems to be a relationship between the total caloric value of the diet, its fat content and the tolerance for carbohydrate. By keeping the total calories within the minimum requirement and the fat relatively low, the ability to utilize carbohydrate seems to increase. Recognition of these facts has led to the changes exemplified in the modern dietary treatment of diabetes.

As regards the practical arrangement of the diabetic's diet, one is guided, within reason of course, by the likes and dislikes of the patient. There are very few articles of food which the diabetic can not have which the ordinary person has, providing that each article is taken into account when calculating the diet. At the beginning of treatment, it is well to begin with one-quarter or one-half the required diet and gradually work up to the full amount over the course of a few days. A patient will not and cannot continue for any length of time on a starvation diet. Such sacrifice is unnecessary. If a patient can not be kept sugar-free on a livable diet, the logical procedure is to allow him a livable diet and make up for his insufficient supply of endogenous insulin by means of injections of insulin.

**Insulin**—A deep-rooted conception among the laity is that the use of insulin, once started, must be continued always. Happily, patients can be truthfully told that many who have used insulin have been able to get along well without it after a longer or shorter time. The majority of insulin-users take two doses a day, morning and evening, the morning dose being the larger. Some need only one dose a day, in the morning, while others require three or more doses in the 24 hours to control the fluctuations in their blood sugar. There is no fundamental reason for giving insulin with meals, except, perhaps, for the sake of convenience.
Insulin should be administered when it is most needed and often the greatest need is apart from meal times. For example, in an attempt to control the troublesome morning hyperglycaemia, insulin is frequently given as early as one and one-half hours before breakfast. In order to shorten the night interval, insulin may be given after the evening meal instead of before it, or a dose may be taken at bedtime. Thus the 24-hour period can be covered by a judicious spacing of the insulin doses.

Any infection, even a slight cold, calls for temporarily increased insulin dosage. Patients who are able to manage without insulin under ordinary conditions, should have their tolerance protected during the course of an infection by the use of insulin. In the event of a gastrointestinal upset, insulin should not be omitted. If no solid food can be taken, orange juice or gruel should be given with one-half or one-quarter the usual doses of insulin. There is no quicker way to precipitate coma than by the complete omission of food and insulin.

Coma—Diabetic coma is a critical emergency. "It is to the internist what acute appendicitis is to the surgeon." It calls for haste in the matter of diagnosis and treatment if the patient's life is to be saved. The presence of some complication such as sepsis should always be suspected in the coma case. The widespread use of insulin has created an additional diagnostic problem. The symptoms of severe hypoglycaemia or insulin reaction are somewhat similar to those presented by the patient with coma and without the help of laboratory data, differentiation between the two conditions may be puzzling. The skin and tongue of the patient with hypoglycaemia are moist rather than dry as in coma; he tends to be restless instead of stuporous and toxic; the respirations are not deep and rapid and the breath has not an acetone odour. Urine analysis may be misleading because the urine may contain sugar which escaped from the blood some time before when hyperglycaemia was present. If, after the bladder has been completely emptied, a second specimen contains no sugar, it is reasonable to assume that a condition of hypoglycaemia exists. If still in doubt, the therapeutic test of giving carbohydrate may be tried. If the condition is one of hypoglycaemia improvement will follow; if diabetic coma, no great harm has been done, but insulin given to a patient with hypoglycaemia, which is mistaken for diabetic coma, may result in serious consequences.

The above remarks constitute a very sketchy review of a huge subject. In attempting to bring to your notice certain essential details, I have been guided by information gained during the daily routine of hospital laboratory work, by current medical reading and by frequent conversations with practicing physicians.
IN the treatment of fracture of the shaft of the femur, in order to insure a good functional result, all the deformities caused by the fracture must be considered, namely, shortening caused by overlapping, angulation, and rotation.

The deformity which exists can usually be related to the fracturing force. The effect of direct violence can easily be understood. Indirect violence, on the other hand, needs more consideration. The violence which acts indirectly on the shaft of the femur is often of a torsional character on account of the excellent leverage which is available from the foot being placed at right angles to the long axis of the leg. These fractures are often spiral in character and on account of external rotation being much commoner than internal rotation we find left-handed spirals in the right femur and right-handed spirals in the left femur. When the fracture has taken place, a certain degree of flexion force occurs and this may cause further damage, e.g., a comminution or a fissure running to a neighboring joint. Further factors influencing the deformity are the body weight and muscular spasm. Both these factors favor overlapping causing shortening and angulation. In some cases they force the pointed ends of the bones through fascial planes or deep into the neighboring muscles. Rotation may exist as a residue of the action of the fracturing force; the external rotation often seen is the result of the weight of the distal fragment, and also from muscular spasm.

The real interest in fractures, of course, centers about the methods of treatment. This will vary with the findings on examination. In fractures of the shaft of the femur, as in all other fractures, an examination is necessary as to the continuity of the peripheral nerves, in order that a proper prognosis may be given and for protection of the surgeon. The absence of bony crepitus and in its stead a soft slipping sensation such as slowly snapping fingers leads one to think that soft parts may be interposed.

X-ray films should be taken before attempting to correct the deformity. They are of value for permanent record and to ascertain the exact type and location of the fracture and the relative position of the fragments. The deformity is then reduced under general or spinal anaesthesia.

In the shaft of the femur, as elsewhere, it is advisable that those muscles involved in the displacement should be relaxed as much as possible; this means complete flexion of both knee and hip. Manipulation having been completed, the limb is placed in a Thomas splint with
traction or some other method of fixation, such as plaster of paris. X-ray films taken after a week's time will reveal the efficiency of the splintage and traction. If deformity is recurring and is not to be controlled by external splintage, operation is to be considered, provided favorable surgical circumstances are available.

In our experience in fracture work at Victoria Hospital, we have waited for union and depended on external splintage long past the first week, as a summary of the following cases will show. It was not due to being unable to correct and control the deformity as much as to the interposition of soft parts that union was delayed.

The following cases are briefly summarized. Cases 1, 2, 3 were chosen on account of the interposition of soft parts delaying union and making operative interference necessary; case No. 5 because it was a compound fracture with foreign material and potential infection in the wound, a happy issue was secured by the treatment.

Case No. 1.—Mrs. L. D., aged 27; admitted August 23, 1930. Fracture of right femur in middle third as a result of an automobile accident. Reduction of fracture and application of a Thomas leg splint with 25 lbs. extension. This patient was moved from street to a street car and from there to a store before a physician was called and splintage instituted. The x-ray shows a comminuted fracture of femur with much splintering and longitudinal fissuring. Fragments in splendid alignment and position.

September 20: Clinical examination reveals good position and length.

October 24: Minimum callus formation; some angulation; good approximation of fragments.

October 25: Examination reveals movement at site of fracture; deformity apparent after manipulation; operation advised.

November 4: Operation; antero-lateral exposure of femur; interposed fascia and fibrous tissue and blood clot removed; ends of bones cleared and osteo-periosteal grafts from subcutaneous surface of right tibia placed between and around the fractured surfaces. Wound closed; plaster spica applied.

November 10: Sutures removed; wounds healed.

November 18: Wounds healed and firm; union progressing favorably.

Comments: No doubt the moving to which the patient was subject before splintage may have had some bearing on the interposition of the soft parts.

September 24: Good alignment; slight overriding three days after reduction.

October 8: Fractured surfaces are in apposition in good position.

November 9: There is marked angulation of the fragments, the upper fragment being drawn upward and outward. Clinical x-ray evidence points to non-union due to interposition of soft parts.

November 13: Operation—anterior-lateral approach to femur. Difficulty was experienced in bringing the upper end of the lower fragment into the wound. Considerable fascia was interposed between the fractured ends and attempts at fibrous unions were evident. The debris was cleared away by dissection and the ends of the fragments notched and apposed. The two ends fitted snugly together. The wound was closed and a cast was applied.

November 23: Sutures removed; wound healed and firm.

December 20: Cast bivalved; physio-therapy commenced.

December 26: X-ray shows union progressing in good position; no overlapping; slight external angulation.

December 31: Cast removed; union firm.

January 8: Thomas walking-caliper provided. Patient discharged to O. P. D. Union firm; no shortening.

Comment: The force of the car accident was great and may have had a bearing on the interposition of soft parts. Even with good alignment and reduction, a careful prognosis should be given in this type of case before union is assured.

Case No. 3—D. H., male, aged 21; admitted November 26, 1928. Fracture at junction of middle and lower third of right femur as a result of a motor accident. There was considerable carrying and moving the patient about before physician was procured and splintage applied. The fracture was reduced under ether anaesthesia and calipers applied to condyles of femur with 25 lbs. extension. The x-ray shows a fracture in good position except for posterior displacement of lower fragment.

January 25: Some overlapping; union not present, poor callus formation.

February 10: Movement at site of fracture—delayed union.

February 12: No definite callus formation; overlapping present; shortening of leg is becoming more marked.

February 18: X-ray shows overlapping and no callus.

March 28: Poor callus; overlapping continuing; shortening more apparent; no evidence of union.

April 17: Overlapping continuing; shortening marked; no union.

April 24: Operation. Antero-lateral approach. Great difficulty was experienced in bringing the upper end of the lower fragment into the wound on account of fascial bands and fibrous tissue which was interposed and had to be removed, also on account of the great over-
lapping present. The ends of the bones were notched and fitted together and a plaster of paris spica cast applied.

May 2: Sutures removed; wound healed and firm.

May 21: Spica bivalved.

June 29: Cast removed; union firm; physiotherapy commenced.

July 10: We are skeptical about the strength of union but there is definite union present.

July 20: Union tested and found firm; confirmed by x-ray. A walking Thomas caliper provided.

August 1: Patient walking; discharged.

Comment: We are of the opinion that operative interference should have occurred earlier.

Case No. 4—S. M., male, aged 44; admitted August 15, 1928. Fracture at junction of lower and middle third of left femur. Reduction under ether. Thomas splint and adhesive traction, 25 lbs. This man also suffered a fractured scapula and lacerations of the left thigh as a result of a motorcycle accident. X-rays shows the position of fragments unsatisfactory.

August 17: Post-moulded splint well vaselined and hip spica incorporating gas pipe for external traction applied. The x-ray shows overlapping present.

August 28: Calipers applied to condyles of left femur under local anaesthesia—25 lbs. extension. The x-ray shows overlapping reduced.

September 29: Calipers removed; plaster of paris spica cast applied.

October 18: Cast removed. Bivalved-union firm and in good functional and anatomical position. Right angle splint for foot to prevent foot drop. Physiotherapy commenced. Dressing to caliper incisions and lacerations of thigh clean and healing.

October 30: Up in chair and about ward.

November 3: Thomas walking splint provided. Patient discharged to O. P. D.

Comment: Patient suffered considerable shock and was of restless, nervous temperament. The calipers solved the question of extension in this case.

Case No. 5—L. D., aged 22, male, admitted May 1, 1929. Gunshot wound of right thigh, causing compound comminuted fracture of right femur.


May 9: Fragments in good position. Some parts of projectile still present. Dakin tubes functioning well.
May 29: General alignment good; calipers functioning well; wound improving.

May 30: Calipers removed; spica cast applied; wound improving.

June 5: Developing cough with bloody expectoration. Pain in right side following anesthesia on 30th. Pneumonia or pulmonary infarct considered. Signs cleared with ordinary care and a profuse discharge occurred from the wound.

June 24: Fracture appears to be firmly united; physiotherapy commenced.

June 28: Union has occurred in good position; wound healing satisfactorily.

July 8: Cast removed. A walking caliper provided. Patient up about the ward. Wound practically healed.

Sept. 1: Patient has been detained in hospital on account of being a prisoner. He was discharged today. Wound entirely healed and he walks well with his calipers.

Comment: A very much exsanguinated and poorly nourished subject. The immediate operation for removal of foreign material and debridement served well in this case. The caliper traction facilitated dressings. Patient gained about 30 lbs. before his discharge.

DISCUSSION

From a study of the cases presented certain questions arise. First, how soon should one be able to make a diagnosis of interposition of soft parts and when should one operate to relieve the condition? Second, how much bearing has the fracturing force and movement without splintage on the interposition of soft parts, and, thirdly, what is the ideal method to fix the ends of the fragments at operation?

In answer to the first query a careful observation of the case will form an opinion in the early weeks, later movement and persistence of deformity and change in shape of the limb and loss of rigidity, the absence of bony crepitus is a suspicious circumstance.

The most opportune time to operate is in the second week after the injury—for three reasons:

1. The torn tissues have had time to recover from damage to some extent.
2. The medullary cavity of the bones has become plugged with an organized blood clot, thus lessening the chance of a bone infection.
3. Ossification of the callus has not occurred and the operation is easier as regards freeing the fragments.

To the second query, the fracturing force is beyond our control, but we can take this opportunity to point out to the reader that one's first duty to a fracture case is to splint and immobilize the injured bones.
The third question opens a field for discussion in which the author is not prepared to be dogmatic. We have had good results with our notchings and osteo periosteal grafts. Others have done as well with Parham bands and encircling wires, not through the bones. Lane's great technical ability combined with permanent operating teams have met with success following the application of plates and screws. My advice would be to use the method which in the circumstances surrounding a given case promises best for the patient.

It is with pleasure that I take this opportunity to express the thanks of our service to the nursing, interne and x-ray staffs of Victoria Hospital for their care of these cases and to the record room staff for their courtesies.

By far the most important phase of prehistoric surgery was the operation known as trepanation—the removal of part of the skull vault. Trepanned skulls have been found in considerable numbers, and modern surgeons who have attempted to repeat the procedure with a flint knife or shark's tooth have not entirely succeeded. Some of these primitive skulls show scratches around the circular or oval hole, indicating an inexperienced operator, but many of the trephinations have been performed with consummate skill. Evidence of cicatrisation or healing is frequently apparent, and many of these skulls have been perforated several times, demonstrating not only that patients survived this ordeal—which must have lasted at least an hour—but submitted to it again.

There is much about trepanation which we do not yet know: whether the operation was performed by boring, sawing, scraping, cutting or chiseling, or by a combination of these methods; why the larger openings are frequently accompanied by smaller ones nearby; and why the female skulls are marked by intersecting depressions or grooves (the sincipital-T). The disks of bone removed by trepanation were valued as amulets (rondelles), and were often polished into various shapes and worn as a protection against disease—one of the earliest forms of prophylaxis. Charms from those who survived trepanation were especially in demand, and after the death of these individuals their skulls were chipped into rondelles; if the demand was greater than the supply, amulets were slyly forged from other skulls or from the antlers of stags—primitive man was not too primitive to show his human nature. The chief indications for trepanations were infantile convulsions, relief of cerebral tension, cranial injuries, headaches, epilepsy and blindness. The object of the perforation was to give the confined demon an opportunity to escape.—*Medical Life*, p. 622, Nov., 1930.
Evasions of Modern Diagnosis


To find refuge in equivocation is a practice as old as the human race; hence as a natural instinct it is beyond criticism if practiced within the bonds of normalcy. I fear, however, that in medicine its application has considerably exceeded rational limits. My aim here is to set down a few facts regarding the tendencies of modern diagnosis, the use and misuse of certain terms, which may serve as a warning to the undergraduate and also serve as a reminder to the practitioner that his methods are in many instances the model pattern for the recent graduate.

I wish more particularly to discuss the so-called "blanket-terms" which are so prevalent in diagnosis to-day. It would be impossible to analyze all the terms which are included in this group in so short a space, hence I shall confine myself to a few of the more common ones. It is indisputable that such terms as, dyspepsia, gastritis, indigestion, general debility, neurasthenia, adhesions, chronic appendix, and intestinal flu have a definite application in medicine, but it also cannot be gainsaid that this group of terms are, all too often, eagerly looked towards as a "haven of refuge" by the lethargic medical mind.

There are circumstances which do not allow the practitioner to methodically and diligently seek out the underlying causes of some manifest disorder; lack of laboratory facilities in a country practice would obviate the efficacy of an accurate diagnosis. In many cases lack of means on the part of the patient is incompatible with adequate investigation. Lack of co-operation from the patient in some instances may intervene in the course of diagnosis. Therefore it is seen that there are selected cases where failure at accurate diagnosis must go without undue criticism.

The group I believe that justly merits criticism is the group that habitually treats a symptom, disregards a cause and mollifies their own conscience by the use of an equivocal term which the layman cannot dispute, thus using subterfuge as a substitute for accurate scientific truth. The only plausible excuse is an inadequate medical knowledge or lack of initiative for work and these are at best poor excuses, but very definite proofs of failure.

Dyspepsia is a term in fairly constant use which in its broadest sense is a misnomer. It includes a variety of symptoms, varying all the way from heartburn, gas, hyperacidity, inflammation, to underlying causative factors in other organs, as for instance, heart, liver, kidney, etc. Its most constant use is as applied by those who advertise their wares in the newspaper for the relief of a variety of symptoms.

Gastritis is a term closely associated with dyspepsia. As a definite entity it should be reserved for use in conditions associated with ingestion of caustic poisons—lye, carbolic acid, etc. Chronic alcoholism
is also a causative factor. A further methodical investigation may lead the careful observer to find an obscured pathological heart, kidney, liver or some other organ.

Indigestion forms the third of this triad which are too constant a part of the practitioner's vocabulary. A recent writer made the statement that it would be a very disquieting fact were it made public the number of heart cases missed as a result of the diagnosis of the gastric symptoms only, in the term "acute indigestion." The stomach is only a link in the chain of important organs surrounding it and conditions in the stomach are in many instances only a reflex manifestation of a pathological condition in some other organ. In the treatment of carcinoma we recognize the necessity of an early diagnosis; we also know that the most insidious affection giving rise to disturbances designated indigestion is carcinoma of the stomach. It would be interesting to know how many of these cases received palliative treatment during the stage when active interference would have been indicated by a thorough investigation.

Neurasthenia is a term which, at best, is not very clear. Even the psychiatrist claims that often he is at a loss to class a patient as definitely neurotic. The difficulty seems to be that once an individual has passed through several hands his or her neurotic tendencies are taken for granted. In many of these cases it has been shown that, eventually they will come into the hands of a diligent observer who discovers the existence of some obscure disease. Nervous instability in a patient will invariably exaggerate the history and produce a disorganized unrelated group of symptoms, but that does not excuse us for treating the nervous condition and disregarding the other symptoms which so often mask a possible endocrine dysfunction. One author has stated that there are as many neurotics (so-called) turned out as a result of medical fallacy as there are actual primary neurotics.

Many authors have recently denied the existence of a primary chronic appendicitis. Whether or not there is such a condition I shall not commit myself. This, however, I know from looking over hospital and other records, that the number of operations for appendiceal disease preoperatively diagnosed, do not coincide with the post-operative reports of definite pathological states in the appendix. What then has become of the balance? We can only conclude that they were from a group of unknown conditions which our medical vocabulary has to accessibly provided for.

Records show a remarkable number of laparotomies performed each year for so-called "adhesions." Post-operative reports on these cases run through the gamut of abdominal conditions, with I grant some cases of adhesions relieved. This discrepancy, however, challenges our diagnostic acuity.

Headache is one of the most common of human complaints. However, its frequent occurrence should in no measure mitigate its signifi-
cance to the practitioner. Its manifestation is such a constant feature of so many conditions that I fear it is all too often treated palliatively and some underlying insidious condition thus lost sight of.

One could go on and bring before the readers numerous other terms such as these which are in constant use among the profession. That in some instances they are of illimitable value is not disputed. If permitted I would like to term them as a "necessary evil," for their existence and use is an ever present temptation to the undisciplined and negligent medical mind. The contingencies which arise in practice and sanction their use in no measure minimize their abuse. Palliative treatment is an essential of modern practice, but if used to circumvent the necessity of thorough investigation to ascertain an accurate diagnosis, I disclaim it as an injustice to the patient and an affront to medical science.

"Perhaps one of the great medical facts of the century is going to take place; you would regret not having seen it.
—Extract from a letter of Mme. Pasteur to her son-in-law.

The above was written early in July, 1865, at which time Joseph Meister, aged nine, received the first treatment for rabies.

Louis Pasteur was born at Dole, France, on December 22nd, 1822. Died near St. Cloud, September 28th, 1895, and is buried in a crypt built in the Pasteur Institute.

—George L. Milner.
Pharyngeal Diverticulum

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The presence of a diverticulum of the pharynx was noted by Sir Charles Bell in 1816. The condition was not, however, clearly understood or described until near the close of the nineteenth century, when several investigators described and treated the condition surgically. Kocher, in 1892, was one who was successful in the surgical treatment of this condition.

Perhaps the most important contribution to the subject in recent years was made by Wilkie and Hartley of Edinburgh in 1922. Their findings indicated the anatomical nature of the essential factor in these cases and it is from this standpoint that this discussion is contributed.

Diverticula of this nature are usually divided into two groups, pulsion diverticula and traction diverticula. The type with which we are concerned is an example of a pulsion diverticulum. One frequently hears these cases referred to as cases of esophageal diverticulum, and it is also our purpose to show why they should be called pharyngeal diverticula.

The condition is one which is characterized by a protusion of the mucous membrane between the muscle bundles in the pharyngeal wall. The diverticulum varies in size and extent according to the length of time it has been present. It usually extends downwards and parallels the esophagus, from which fact probably arises the confusion in name.

We once heard Mr. Hartley of Edinburgh give an excellent description of a case presenting a large diverticulum. The patient was a commercial traveller, and from the nature of his business was forced to live—and eat—in hotels a good part of the time. His procedure at meal times must have been puzzling to the casual witness.

His meals were eaten in his own room. In addition to his meal, his order invariably included a pail of soup, a portable bath, a large towel and a rubber sheet.

The point of the whole procedure was this, that the first food taken invariably entered the diverticulum. So, beginning with the pail of soup, he would proceed with the soup until the diverticulum was filled. When the sac was successfully filled he would then cautiously begin his meal. The greatest care was necessary in order to avoid coughing, sneezing, choking or any sudden movement which would cause the soup in the diverticulum to slop over. If any of these unfortunate complications occurred the patient was forced to duck his head quickly, empty the diverticulum of soup (hence the portable bath) and wait until the sneezing, coughing or whatever it might be had subsided. Then the whole process of filling the sac with soup had to be repeated.
The picture thus painted was surely an unenviable one and such a case undoubtedly welcomed the chance of a surgical cure.

The anatomical basis for this condition is to be found in the arrangement of the fibres of the inferior constrictor of the pharynx. The inferiors constrictor consists of two definite portions. The upper part which arises from the thyroid cartilage is oblique, and its fibres pass upwards and backwards. The lower part of the muscle arises from the cricoid cartilage and these fibres are transverse and pass almost directly backward. The transverse fibres of the inferior constrictor are held by some observers to act as a sphincter muscle guarding the upper limit of the esophagus. These fibres are sometimes specifically named as the cricopharyngeus muscle.

The important point is that there is an area between the oblique and transverse portions of the inferior constrictor muscle where the pharyngeal wall is weakest. Excessive pressure from within or delay in relaxation of the transverse portion of the inferior constrictor so that strain is put on the part immediately above, are two factors which probably induce the beginning of a mucous membrane bulge. Once the condition arises all factors tend to increase the size of the diverticulum and make it difficult to have food pass normally into the esophagus.

The only treatment which is worth considering is surgical. The ideal operation appears to be a one-stage operation removing the sac and closing the wound. In some cases a two-stage operation is done, a cervical fistula being created in the first stage and closure being effected later. The approach to the diverticulum is usually by means of an incision along the anterior border of the sternomastoid muscle, the deeper dissection being carried down between the thyroid gland and the carotid sheath. In addition to removal of the sac the surgeon must satisfy himself regarding the possibility of stenosis of the pharynx or esophagus and be prepared to treat this aspect of the case.

The danger of the operation is the possibility of a cellulitis with a spread into the mediastinum.

The diagnosis of the condition is conclusively made by X-ray examination, although the condition may be indicated by the history and symptoms.

The treatise On the Prognostics will always be famous for the Hippocratic description of the signs of approaching death which we still call facies Hippocratica: nose sharp, eyes hollow, temples sunken, ears cold and contracted with their lobes turned outwards, skin tense and parched, face discolored, eyelids livid, mouth open, lips loose and blanched. There are valuable discussions of pain, fever, headache, pus and urine. The remarkable observation: “A swelling in the hypochondrium that is hard and painful is very bad, provided it occupies the whole hypochondrium; but if it be on either side, it is less dangerous when on the left”, is interesting as the first reference to appendicitis.

Eczema*

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Reported by W. W. Middleton, '31

"BABIES are not ground out of a meat machine; they have a definite background." In sixty per cent. of cases there is a positive family history of eczema, asthma, rheumatism or nervous disease.

Infants suffering from eczema belong to the exudative diathesis which manifests itself in the skin, mucous membranes, lymphatic organs and digestive system. These infants react abnormally to many physiological processes. They have a lowered food tolerance especially for fats and carbohydrates and in many cases are sensitive to proteins whose ingestion may produce eczema, asthma, urticaria or an anaphylactic reaction.

In breast-fed infants with eczema the amount of milk is reduced but the infant is not removed from the breast in the hope that the eczema will improve on artificial feeding. Skin tests are performed to determine if the infant is susceptible to any particular protein. When positive results are obtained the offending protein is removed from the diet. In the artificially fed infant the fat content is reduced by feeding two per cent. skim milk or, better still, by dilutions of evaporated milk. All food is cooked four hours in an attempt to desensitize the proteins present. Strained canned tomato juice and cod liver oil are given for the prevention of scurvy and rickets. Strained canned tomato juice is given in preference to orange juice which often irritates the eczema. Carbohydrate is added in the form of polysaccharides as, barley flour, rice flour, imperial granum, groat's flour, farina and cream of wheat, according to the indications. Sugar should never be added to the diet of a severe case of eczema.

Locally the parts must be carefully protected from external irritation and any ointment applied must be in intimate contact with the affected part. A tight-fitting restraint jacket buttoning up the back is made of factory cotton, the sleeves reaching to the wrists are double, the inner layer extends one inch below the outer. The layers are stitched together longitudinally to form six compartments extending from shoulder to wrist. Into these compartments are inserted light strips of wood an inch wide and one-eighth of an inch thick extending from shoulder to wrist. The inner layer is folded over and buttoned to form a cuff. This jacket prevents the infant from scratching.

A face mask is essential for the successful treatment of certain types of eczema. A square of butter cloth of sufficient size to envelop the face and head is necessary. On the portion of the butter cloth which covers the face is sewn a square of old cotton or linen. The

*Presented at meeting of O. M. A., District No. 1, at London, Nov. 5th, 1930.
position of the eyes, nose and mouth is marked on the cloth. These areas are cut out and the edges stitched. The mask is held tightly in place by bringing the ends of butter cloth around the sides of the face and over the top of the head, stitching them at the back.

Burnt linen, on account of its sterility, softness and absence of fluff, is used for applying medication to the affected parts. It is prepared by placing the linen on the lid of a stove until its surface is burned.

Wet or weeping eczema is characterized by red, moist areas occurring most frequently on the face and head. The hair is matted together and the face is usually excoriated by scratching. The crusts must first be removed by the application of starch poultices, continued for 24 hours, by which time the crusts have usually disappeared, leaving a moist, red surface. On the scalp the hair and softened crusts are removed by combing. An almost specific treatment for the face at this stage is the application of crude coal tar, a by-product of the ordinary gas works, which is painted on the face with a tongue depressor daily for three to four days and no covering applied. At the end of this period the tar should be allowed to wear off and no attempt is made to wash the face. It is not advisable to paint a large portion of the body with this undiluted tar on account of the danger of absorption of phenols. The stain produced on clothing by the coal tar is removed by taresol.

Dry, acutely inflamed eczema, the most frequently encountered type, may appear on any part of the body and occurs in large sharply defined or irregular patches or in the form of red papules. The surface is dry and quite red. The most effective treatment is the application of tar paste, crude coal tar—drams two, zinc oxide and starch, of each drams two, and petrolatum to ounces two. If the eczema is indurated ten grains of salicylic acid to one ounce of tar paste is added. This should be spread on burnt linen and applied to the affected areas twice daily.

Dry eczema, not acutely inflamed, is treated by the application of bismuth paste of lanolin and usually sufficient to clear up this condition—(bismuth subcarbonate drams two, lime water q.s., anhydrous lanolin to ounces two).

Seborrheic eczema occurs most frequently on the head. The treatment consists in the application at night of a pad of absorbent cotton thoroughly soaked with olive oil. This may be covered with a cloth to protect the bed clothes and is held in place with a bonnet. The next morning the scales are removed by the vigorous use of a fine-tooth comb. A petrolatum ointment containing four per cent. of resorcin should be rubbed in thoroughly once a day. As the scales have a tendency to recur, the ointment should be applied for some time.

Intertrigenous eczema is a moist, red eczema which occurs when the skin surfaces are in contact, e.g. groin, axillae, folds of neck and about the genitals. The treatment consists in the separation of the
surfaces in apposition by a whitewash (zinc oxide ounces two, lime water to ounces six) or the above-mentioned tar or bismuth paste.

Infected eczema occurs frequently on the scalp. If pustules form they should be opened. Ammoniated mercury ointment is used. As the condition improves, one per cent. calomel in starch may be applied liberally to affected parts.

New Books in Library

SURGERY:
- Brockman—Congenital Club-Foot 1930.
- Groves—Synopsis of Surgery 1930.
- Wilson—Fractures and their Complications 1930.

PEDIATRICS:
- Paterson—Sick Children Diagnosis and Treatment 1930.

OBSTETRICS:
- De Lee—Principles and Practice of Obstetrics 1930.

BIOCHEMISTRY:
- Haldane—Enzymes 1930.
- Kossel—Protamines and Histories, 1928.
- Stephenson—Bacterial Metabolism, 1930.
- Warburg—Metabolism of Tumours 1930.

HISTOLOGY:
- Hartridge and Haynes—Histology for Medical Students 1930.

PHYSIOLOGY:
- Camis—Physiology of the Vestibular Apparatus 1930.
- Starling—Principles of Human Physiology 1930.
- Wright—Applied Physiology 1929.

PHARMACOLOGY AND THERAPEUTICS:
- Campbell—Handbook of Therapeutics 1930.
- Fantus—General Therapeutics 1930.
- Hanzlik—Actions and Uses of the Salicylates and Cinchophen in Medicine 1927.
- Wood—Dispensatory of U. S. of America 1926.

BACTERIOLOGY:
- Snyder—Blood Grouping in Relation to Clinical and Legal Medicine 1929.

GENERAL:
- American Association of Obstetricians and Abdominal Surgeons Transactions, v. 42.
- American Neurological Association Transactions, v. ss.
- American Pediatric Society Transactions, v. 42.
- Collected Papers of the Mayo Clinic, v. 21.
- Contributions to Embryology, v. 21.
- Medical and Surgical Reports of Episcopal Hospital, Philadelphia, v. 6.
- Medical Annual 1930.
- Monographs of the Rockefeller Institute—No. 23.
- St. Bartholomew’s Hospital Reports—v. 63 and Supp. 1930.
Prognosis in Herpes Zoster

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Mr. B. came into my office with a kink in his side as if he had a twist in his spine. His wife followed a few feet behind to hear how serious or how trivial his ailment might be. He sat down uneasily and told me that he had a rash around one side of his body and that it itched, but was so sore he could not scratch it; that it burned, but cold made it worse, and it was sore, "Oh so sore!" One glimpse at his uncovered side revealed shingles (herpes zoster). "Well, well!" said his wife. "You can just keep on with your work, shingles is nothin'." However, one day about six months later Mrs. B. came in with a rash on one side of her chest, but she knew it wasn't shingles because "Shingles ain't nothin' like as bad as this." But shingles it was, and she had to suffer the same unpleasant symptoms as her husband, but with more resentment and real respect for the disease.

I had always thought, like Mrs. B., that, unless it appeared around the head, where it must always be considered serious, "Shingles is nothin'," but I have changed my mind even though I have never had them myself, and I now believe that every case must be considered serious until it is fully recovered.

In April, 1929, a man aged 65 came to me with a rash over the left shoulder and down the left arm. I gave the usual advice regarding herpes zoster, outlined the treatment, and assured him that he would be "all right in a short time"—a very bold and bad prognosis to make. Ten days later he called me to his home and told me that he believed he was losing the use of his arm; but I reassured him that I thought he would be all right in a short time. Next day he had little use of this arm; also there was a weakness of the other arm and also of the legs. On the following day the reflexes were gone. His abdominal muscles and the muscles of respiration were paralyzed and he was struggling for breath. By this time the condition of the patient began to look serious even to me. I asked for a consultation. As the man's chest was now filling due to his inability to use the muscles of respiration, we were obliged to consider the case hopeless. On the next day, the fourth after the paralysis had developed, I found that the patient could use his limbs and respiratory muscles a little and there was also a partial return of the reflexes, but, unfortunately, the change came a little too late, as his chest condition had developed to such an extent that he died the following day.

What happened you may ask? Textbooks do not tell us, and I have been unable to find a report of a similar case. My speculation is that the infection spread from the posterior root to the cord itself producing a transverse myelitis.
Three months later, in June, 1929, I had a similar case, but as it occurred in the lumbar region, only the legs were affected. The patient had complete loss of reflexes for about four days and paralysis for about two weeks.

I may have run into a particularly virulent type of infection, and I believe care should be taken not to give a too favorable prognosis in any case of herpes zoster.

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JAMES MACKENZIE AND HIS MESSAGE

(J. Hay, B.M.J., p. 1033-June 7, 1930.)

SIR JAMES MACKENZIE came of hard-working, sturdy Highland stock and knew the adversity of straitened conditions. He thought for himself rather than depend on memory alone, hence he received no honors in his early school days; but the honor which comes to a few men was in store for him.

Apprenticeship with a chemist and his resultant contact with the practitioners of the district furnished the impetus for his medical career. As a practitioner he defined the limits of his own knowledge with fearless honesty and won the confidence of his ever-increasing clientele.

The mechanism of such conditions as pain, cardiac murmurs, sense of exhaustion, etc., was unknown and to place these matters on a physiological basis he devoted the major portion of his life. Probably the best known of his writings is his book on "Diseases of the Heart," a copy of which every medical student should read. The Mackenzie polygraph is also well known, but he felt this was an unimportant contribution to clinical medicine since it encouraged the physician to depend on so-called instruments of precision. (He never allowed laboratory equipment to blind him to the essentials of clinical medicine, declaring that the bedside is the place for the physician.) During the war, Mackenzie, with his extensive knowledge of heart conditions, was able to render a lasting service to his country. Before his time our knowledge of the irregularities of the heart was chaotic, but he, through diligent search and patient study, brought order in place of chaos, and placed medicine on a different and higher plane.—E. H. Ainslie, '33.
Non-Varicose Crural Ulcer

Sebert G. Henry, M.D.
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Among the intractable and wearisome conditions which the medical profession is called upon to treat, the crural ulcer and the associated trophic disturbances appear in the first rank. Dressings, and dressings, and more dressings; changes in types of dressings and applications; month after month of treatment before improvement is noticed. The patient becomes discouraged and irritable, often wandering away to other physicians, and many times to unscientific practitioners.

Case Report

George H., aged 30, a carpenter, was injured on July 13, 1929, causing a small superficial abrasion over the right tibia. In spite of daily dressings and the use of various antiseptics, as bichloride of mercury, mercurochrome, balsam of Peru, and scarlet red, while he continued at work, an ulcer about two inches in diameter formed. The ulcer had a punched out appearance with edema, some pigmentation and considerable discharge. No foci of infection were detected, urinalysis and Wasserman test were negative. Under local anesthesia six stellate incisions were made in the margins of the ulcer. Improvement was noticed for a short time, then it relapsed to the same old indolent ulcer. But under the following treatment improvement was rapid, and it was completely healed in three weeks. He went to work two weeks later. There has been no recurrence up to the present time. The leg was shaved, scrubbed with liquid green soap, swabbed with gasoline, ether and alcohol in order to remove all traces of ointments previously used. Diathermy treatments were given for 30 to 45 minutes daily for one week, followed by infra red treatments for 15 minutes night and morning, after which the ulcer was painted with two per cent. mercurochrome. A dressing was applied consisting of a small pad of sterile gauze saturated with boric solution, one-fourth inch thick and slightly larger than the ulcer area, covered with oiled silk, and bandaged to a point just above the calf of the leg. With this treatment it was not necessary to confine the patient to bed, although he remained at home, keeping the leg elevated.

Discussion

The chronicity of these ulcers may be due to the following causes: An infectious condition of the ulcer, which, even after applications of antiseptic dressings for weeks contains numerous bacteria; the lowered nutrition of the skin and the surrounding cellular tissue with obliteration of the capillaries, and the neuritis of sensory nerve endings. To these factors must be added the immobility of the skin on the anterior
surface of the tibia. The great extent of the ulcer in many cases pre­
vents spontaneous cicatrization under such unfavorable anatomical and
physiological conditions.

A large per cent. of these ulcers are due to poor circulation either
local or general and yet we must keep in mind the possibility of diabetes,
syphilis, and focal infections, for which appropriate treatment should
be given.

The objectives in the treatment of ulcers are to ensure cleanliness
and to improve the circulation. Local treatment should represent an
attempt to convert a non-healing and septic wound into a healing one.
This may be effected with the patient ambulatory, or, under the most
desirable condition of rest in bed with elevation of the limb on pillows.

To obtain cleanliness, the leg is shaved, and both the leg and the
ulcer are washed with liquid green soap, swabbed with gasoline, ether
and alcohol. Should the base be necrotic or should a cellulitis be present,
hot, moist, mildly antiseptic dressings, such as boric acid or Dakin's
solution may be applied and changed every three hours until the granu­
lation tissue and the base assume a more healthy appearance.

Every case of ulcer has usually an associated edema, for which dia­
thermy treatments are given until improvement in the circulation is
apparent. This is followed by radiant heat from a 1,000-watt tungsten
bulb at about 12 inches distant or infra red burner at the same distance.

SUMMARY

A non-varicose crural ulcer was successfully treated with dia­
thermy followed by infra red radiations after routine methods had
failed, without confining patient to bed. No recurrence in over twelve
months.

REFERENCES

Ther. and X-Ray and Radium (Vol 9, No. 3, 1928.)
René Leriche and René Fontaine—Strasbourg Medical, (86.8.)
Robinson, C. A.—Arch. Radiology and Electrotherapy, 26-253 (1922.)

I ought not to pronounce judgment on a fellow creature until I know
all that enters into his life; until I can measure all the forces of tempta­
tion and resistance; until I can give full weight to all the facts in the
case. In other words, I am never in a position to judge another.

—Hamilton W. Mabie
The Yellow Plague

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At a time when the last leaves have fallen red and golden to be caught in the brisk breath of autumn and passed scurrying up the street, there comes an ebb in the tide of season admirably suited for reflection. Here in the waning twilight may we ponder about men and books, ships and knights, and sealing-wax and things.

The lamps now glitter down the street;
Faintly sound the falling feet;
And the blue even slowly falls
About the garden trees and walls.

Now in the falling of the gloom
The red fire paints the empty room;
And warmly on the roof it looks,
And flickers on the backs of books.

—ROBERT LOUIS STEVENSON,
in "A Child's Garden of Verses."

Now anatomy becomes a succession of vast intriguing vistas, physiology a romance like no other, and pathology the playhouse of ten thousand dramas. May I sketch some scenes from one of the stories which I like most?

Let us wander then for a while amongst the records of that long and glamorous procession of men who come to us out of the past, the standard-bearers of an hundred crusades against the yellow plague. In the turning of the pages of history, a picture of intricate weft is spun in the fabric of time. The earliest accounts of yellow fever are obscure and scarcely perceptible in that Stygian night of the undifferentiated fatal putrid fevers. Livy in his account of the second Punic war, describes a pestilence bearing many points in common with yellow fever which, becoming rampant among the troops encamped before Syracuse in the autumn of 213 B.C., produced havoc in the Roman and Sicilian soldiery and destroyed the Carthaginian hosts to a man.

"Accessit et ab pestilentia commune malum quod facile utrorumque animos averteret a belli consiliis."

Plutarch, in his life of Nicias, relates of a disease which greatly thinned the ranks of the Athenian army, besieged in the same city from 413 to 415 B.C. Spinden and Connor from the study of early Maya writings and drawings suggest the destruction of the Maya
civilization of Yucatan by the disease before the conquest of Cortez. Others have thought yellow fever to be the scourge which attacked the expedition of Christopher Columbus in the month of December, 1493, during the founding of the town of Ysabella on the Isle of Spain (Santo Domingo). Devastating disease in the form of a series of disastrous epidemics loomed ominously in the wake of early Spanish dominion in America. The effects of its inroads were marked by the abandonment of the newly settled towns of Capara (1508), Sevilla (1509), Melilla (1510), and Oristan (1510). Because of the limited knowledge of plagues and pestilences until comparatively recent times, all of these earlier descriptions unfortunately leave the identification of the disease in doubt.

When we pass from the conjectures suggested by the folklore and lay histories of many peoples we find the first authentic accounts of yellow fever coming from Guadeloupe and the Barbadoes between the years 1635 and 1648. From this time onwards, it became familiar in many harbours of the West Indies and Spanish Main, and in the Atlantic ports of the British American colonies. From time to time it was introduced by trading ships into the seaports of Europe.

In the eighteenth and nineteenth centuries, the harbours of the Iberian peninsula suffered from several visitations of the disease. In 1821 a severe epidemic broke out in Barcelona and this town, whose streets had resounded to the marching feet of many oppressors and had felt the vicissitudes of Carthaginian (Hamilcar Barca, 237 B.C.), Roman (elder Africanus, 205 B.C.), Visigoth (Ataulphus, 415), Saracen (Musa, 711), Frank (Louis, 801), Englishman (Peterborough, 1705), and Frenchman (Murat, 1808) was swept by a death more awful than the inroads of any of these. The toll of this epidemic was said to have amounted to some 20,000 lives.

In South America, the first known outbreak occurred at Guayaquil in 1740, but it was not until the middle of the next century that it was noted in Brazil and in Peru. In Rio de Janeiro alone, 60,000 persons died from the disease during the latter half of the nineteenth century, while Guayaquil at the turn of the century experienced more than 20,000 cases in somewhat over eight years.

The first factual report of the existence of yellow fever in Africa is that of Schotte of the St. Louis epidemic which raged in Senegal in 1778. Of the origin of the disease on the west coast of Africa little is known. Since the slave trade with the Americas commenced early in the sixteenth century, about 160 years before our first accurate description of yellow fever, it is not improbable that this region constituted the original home of the disease, from whence it might have been disseminated westward. On the other hand, there are those who would add to the iniquities of the slave trader to the West Indies, the further impeachment of the return of infected mosquitoes in the sodden holds of his reeky ships to the Gulf of Guinea, leaving the virus of yellow fever in return for the human cargo which he pillaged from its shores.
So far as we know, the disease has never become endemic in the many peopled lands of Asia, although in the warmer of these, the vector, *Aedes aegypti*, is widespread.\(^2\)\(^{13}\) 

In the harbours of the American colonies yellow fever was first heard of at Charleston in 1693.\(^5\) In the same year it occurred in Philadelphia, and this city during the next hundred years suffered several visitations from this pestilence. In the fall of 1793 President Washington and many of that notable group of patriots who had won their freedom before the muskets of Hessian mercenaries and the obstinacy of George III, fled the town before this plague.\(^2\)\(^{27}\) In Longfellow’s Victorian verse set to Homeric metre is found immortalized in beautiful though romantic fashion the Acadian legend of the perennial migrations of the constant Evangeline down river, through forest, across plain, inspired in persistent search by her undying emotion for Gabriel. She found him in Philadelphia moribund of yellow fever.\(^5\)\(^5\)

Matthew Carey’s\(^5\) history of the Philadelphia epidemic of 1793, reminiscent as it is of the accounts of the Black Death of medieval London, ought to be read by those of us who like to look upon man as some divinely appointed human being, too admirable to be merely the ape, *homo sapiens*. As a chronicle of man’s frailty, this author’s story ranks as a classic. Subservient to the old instinct of self-preservation, manifesting the emotion of fear, the wife deserted the husband in illness, the husband the wife in parturition; neighbour shot neighbour lest he bear him the pestilence. It is interesting, too, in this little book to note who remained to help their fellows during this period of stress. Stephen Girard, a wealthy merchant, a man who in the present day would be regarded as a capitalist, stayed to nurse the sick.\(^3\) The clergy remained to attend the ill and dying, as also did the physicians and medical students of Rush’s Philadelphia.

New Orleans was frequently invaded by yellow fever in the nineteenth century and the disease extended up the Mississippi valley as far as southern Illinois. In the days when sailing vessels carried their water in casks and tanks upon the open deck, even the northerly American ports could be jeopardized during the summer season by any mosquito larva laden vessel from an endemic zone. In 1803 an epidemic occurred in New York with 606 deaths; and even Quebec City suffered an outbreak in the summer of 1710.

At the dawn of the present century yellow fever was endemic along the Caribbean shores, in the West Indies, and on the Atlantic and Pacific seaboards of South America, as well as on the West Coast of Africa. In 1881 Carlos Finlay of Havana had announced his theory that yellow fever was propagated by a mosquito but in his own experiments he had failed to prove his contention.\(^1\) Acuity of observation on the part of Dr. H. R. Carter of the U. S. Marine Hospital Service, while working at Orwood and Taylor in Mississippi during the year 1898, first revealed the fact that an interval of 10 to 17 days elapsed in a single focus of infection between the occurrence of a first yellow
fever case and the development of a second one. The existence of such an unexplained time period before the recognition of a second case of fever suggested to Dr. Walter Reed the possibility of the disease being transmitted by an insect. In 1900, Reed, Carroll, Lazear, and Agramonte, of the Yellow Fever Commission of the United States Army in Cuba, proved by their experiments that the mosquito Aedes aegypti acted as an insect vector of the disease, and that an interval of about twelve days must elapse after the mosquito ingested infected blood before it could transmit the infection. Moreover, these workers were able to demonstrate that yellow fever could be conveyed not only by the puncture of the mosquito but also by the subcutaneous inoculation of non-immune man with the blood serum of a yellow fever patient which had passed through a Berkefeld filter. Their experiments were so carefully performed and executed upon a few human volunteers that despite the relatively small number of their observations their results have stood unrefuted on a single point now for thirty years. Although no mishap occurred to the men who acted as experimental animals during the course of the investigations, Lazear contracted the disease and died, while Carroll recovered after a severe attack. The work of Reed and his associates was soon confirmed and supplemented in Rio de Janeiro by the French Commission of Marchoux, Salimbieni, and Simond. The value of the results of the Army Commission was enhanced a thousandfold by the success which the coeval application of them met with in the active control measures of Major Gorgas in Cuba and Panama. This man made possible the completion of a canal linking two oceans. By methods designed to eliminate the mosquito intermediary of yellow fever, Havana was freed of the disease in eight months, and the Panama Canal Zone by the end of 1905. Oswaldo Cruz eradicated the disease from his native city of Rio de Janeiro in the five-year period between 1903 and 1908. Yellow fever was in like manner stamped out in Guayaquil, Ecuador, by M. E. Connor in 1918 and 1919, and in Peru by Hanson in 1921. With the destruction of the seed beds of dissemination for the disease in the Americas, lighter areas of infection became readily amenable to control.

Throughout the first two decades of the present century many false hopes were born as one or another investigator announced that he had isolated a micro-organism from yellow fever patients which he believed to be the cause of the disease. Although there were many such discoveries, it seemed certain that Hideyo Noguchi had uncovered the causative agent of yellow fever when he was able to fulfill all of Koch's postulates with a spirochaete isolated from the bloods of several cases diagnosed as yellow fever in Guayaquil. In the six years following his discovery, Noguchi or other observers isolated the organism which the former had named Leptospira icteroides from patients presenting symptoms of yellow fever in Merida and Vera Cruz (Mexico), Northern Peru, and Palmeiras (Brazil). This spirochaete became rather generally accepted as the cause of yellow fever.
Serious doubt was first cast on the aetiological role of the *L. icteroides* in yellow fever when Sellards, Schuffner, and their associates presented strong evidence for the identity of *L. icteroides* with the *L. citerohaemorrhagiae* of Weil’s disease. The results of these workers became of momentous significance when it was learned in 1926, by the West African Yellow Fever Commission of the Rockefeller Foundation, that a leptospira was not associated with the yellow fever of West Africa, a disease, moreover, which Klotz showed to be identical in the pathological lesions lesions which it produced with the yellow fever of the Americas. The final link in the chain of evidence which excluded *L. icteroides* from a causal relationship to yellow fever came only after the important discovery of an animal other than man susceptible to the disease.

In 1927, in Nigeria, Stokes, Bauer, and Hudson found that by the injection of blood from native patients suffering from yellow fever the disease could be produced in the Asiatic monkeys, *Macacus sinicus* and *Macacus rhesus*. In their experience the infection could be transmitted from animal to animal by the injection of infected blood or by the bite of a mosquito of the species *Aedes aegypti* which had fed on an infected monkey. They found the causal agent of West African yellow fever to be filterable just as the American Army Commission had demonstrated this property for American yellow fever. Serum from convalescent patients protected monkeys against death from the disease if given at the same time as the virus. The lesions found on pathological examination of the tissues in man and monkey dead of yellow fever were essentially similar. In some instances it was possible to transmit the disease merely by placing infectious monkey blood on the unbroken skin of monkeys. This mode of invasion may play a part in the not infrequent infections among laboratory workers with the disease. The transmission experiments of Stokes, Bauer, and Hudson were soon confirmed by the work of Mathis, Sellards, and Laigret in Senegal, and by that of Aragao in Brazil.

That the West African yellow fever and the American yellow fever are immunologically identical has been carefully and definitely established. Sera from patients who have recovered from the American yellow fever protect monkeys against inoculation with the West African yellow fever virus. The converse of this statement is also true. In West Africa the disease has never been confused by the presence of a leptospira. The causal agent is a filter-passing virus. Neither is a leptospira associated with the present yellow fever in Brazil. The disease is one in the two hemispheres. Its single exciting agent is a filterable virus. Weil’s disease is a *yellow fever* in the sense that it is a disease which may present clinical symptoms indistinguishable from the true yellow fever. Endemic as it frequently is in many parts of Central and South America, it is not surprising that during epidemics of true yellow fever cases of Weil’s disease intermixed among the former should have been mistaken for yellow fever. From
cases in this category presented to him as yellow fever, Noguchi isolated leptospires. Dr. Noguchi went to Africa in 1927 to make a further study of the aetiology of yellow fever, but unfortunately his career was prematurely ended by the disease he was investigating at Accra in May, 1928.

At the time of writing much evidence has been amassed to show that the causal agent of yellow fever belongs to the class of filterable viruses. It is filterable through Berkefeld filters of all grades and through Chamberland L-11 candles. It presents, as Frobisher has shown, physical properties similar to other viruses. As Theiler has recently demonstrated, the virus produces, when injected intracerebrally into white mice, an encephalitis with herpetic-like inclusions in the parenchymal cells of the nervous system. Torres and Cowdry and Kitchen have been able to demonstrate nuclear changes in the cells of the liver in man and monkey which resemble closely the type of alteration described as a nuclear inclusion in other virus diseases. Exceedingly minute quantities of blood withdrawn from an animal on the first day of its fever from the disease, even as little as one ten-millionth of a cubic centimeter, may prove fatal to a susceptible animal. The virus can be preserved for periods of a year or more when hepatic tissue, blood or serum containing it is desiccated completely in the frozen state.

Thus, much progress is being made and has already been made against one of man’s most picturesque foes, against a fellow with a flare for dramatics, but yet one not to be underestimated, a shady rogue with still a trick or two left up his sleeve. Since in the event of defeat it is customary first to establish the reasons therefor, one ought to state that many of the “first string” men are already out of the play. The game will have to be carried on with several substitutes because the yellow fever virus has taken from us Lazear, Stokes, Noguchi, Young, Lewis, and Hayne.

(References will be found on reprints.)

Hemorrhagic Disease of the New-Born
BY MARSH W. POOLE, M. D.

Detroit, Michigan

This condition, while relatively uncommon, is, at the same time, of sufficient frequency that it merits very careful consideration, chiefly because of the extremely undesirable sequelae which may follow.

The symptoms appear from the second to the seventh day of life, the majority beginning on the second or third day. The symptom which ordinarily attracts attention is bleeding from the skin or the mucous membranes, the common sites being the base of the umbilical
stump and the intestinal mucosa. If the hemorrhage takes place high up in the intestinal tract, pallor may be noticed before free blood can be seen in the stool because of the fact that small quantities of dark blood may not be easy to distinguish from meconium of early infancy. Fortunately, however, when the hemorrhage is high, some of the blood will usually find its way into the stomach from which it is promptly vomited and immediately attracts attention. When the bleeding comes from the lower bowel, mouth, nose, vagina or skin, the presence of bright red blood on the diapers or on the baby’s clothing is sufficiently alarming to demand instant care.

The cases most difficult to diagnose are those in which the bleeding occurs within the cranial cavity and it is here that only the prompt interpretation of the neurological symptoms of drowsiness, extreme fretfulness, twitching, convulsions or cyanosis, followed by energetic treatment will prevent irreparable damage. If there is no bleeding elsewhere to furnish a clue, the diagnosis can only be made by spinal or cisternal puncture and a consideration of the bleeding and clotting time of the blood.

The etiology of this disease is difficult to explain unless we assume that in these children one of the blood elements, probably prothrombin, is not formed with sufficient rapidity, so that the supply derived from the mother fails to prevent the escape of blood from the capillaries after a day or two of its separate existence. There is no defect in the capillaries themselves, in the blood calcium, nor quantitatively in the blood platelets; also the condition bears no relation to hemophilia, purpura or the other blood dyscrasias and the patient has no greater tendency to bleed in later life than other individuals.

Once the diagnosis is definitely established from the clinical symptoms, and from the prolongation of the bleeding and clotting time, blood from a suitable donor should be given immediately. After careful typing 20 c.c. of unmodified or citrated blood, given intravenously, will stop the bleeding at once, and as much more as necessary should be given to replace that which has been lost so as to bring the hemoglobin percentage back to its normal level. The administration of blood intramuscularly is unsatisfactory, because frequently the child becomes almost exsanguinated while this blood is being absorbed and transfusion has to be resorted to a few hours later. Also, if the patient continues to bleed for a period of time the blood becomes coagulable and new sites of hemorrhage may appear, very often intracranial, a most undesirable and dangerous complication.

When there has been intracranial hemorrhage, repeated cisternal and spinal drainage should be done over a period of days, after the bleeding has been checked by a transfusion in order to remove the blood, if possible, and by keeping the intraspinal pressure low, to minimize the damage and lessen the chance of idiocy and spastic paralysis. Occasionally, if there is a localized large collection of blood, trephining may be necessary.
The Elder Scribes of Medicine

MARGARET STRANG, M.D.

Ayr, Ont.

They stalk in the gloom among the bookstacks,
Shadowy figures long gone.
Wrestlers were they with death in other ages,
Dead; but their words live on.

Brooding here among the books of their making,
Watching a new world unfold;
Proud that they had so much to give us,
Who later were shaped to their mould.

MEDICINE is an ancient science. The recording of signs, symptoms and methods of treatment, including prescriptions of fearful and wonderful length, is a custom centuries old. And the collecting of such records into libraries is a habit of the medical profession.

At one time medicine was a more or less circumscribed science. Now it has a multitude of branches touching almost all the other sciences. It would be interesting to go back, say to the year 500 B.C., and from a seat in the gallery of time, watch the long scroll of medicine roll back. See in pageantry, pass such great figures as Hippocrates, Celsus, Galen, Lennec, Harvey, Simpson. If the dignity and grandeur of the profession never smote us before, surely it would then.

It is humanly possible to occupy that gallery seat and watch the pageant pass,—through the medium of books, especially those old books now long out of date, penned by the men whom we might aptly call "The Elder Scribes of Medicine."

One wonders if these men, as they wrote, realized the value of the task they set themselves, not only from an historical, but from a scientific viewpoint. Where would the modern science of medicine be without those old records as foundations?

No single generation of statesmen can expect to solve all the problems of a nation of a race. Neither can one generation of physicians hope to cure all the ills to which mankind is heir. It is piecemeal work. We in the twentieth century can only hope to build another step or
series of steps on the long stairway already laid down. But the detailed record of each step is absolutely necessary for the next, not only that succeeding generations may understand the sequence, but that valuable information may be made permanent.

Many of the medical books of to-day are from the pens of specialists, and rightly so. Who, better than they, can give us the latest detail of disease and the warfare being waged against it? They have the material to work upon, the opportunity to observe, and the time to write—or dictate.

But, fifty or a hundred years ago, specialists were few and far between. It was the general practitioner, who, when the day’s work was done, if it was ever done, or in the odd hours between calls and office patients, sat down, not to read and relax, but often to write, making his contribution to the records of medical practice and progress.

Medicine has made tremendous strides within the last fifty years. Even the youngest and poorest of us starting out to do general practice in the year 1931, have an equipment of instruments and drugs such as doctors of two generations since, never dreamed of possessing. Yet we have much to learn from these elder physicians. Few and crude, perhaps their instruments were obsolete, now, many of their ideas may be; but we, apt to rely overmuch on mere machinery, need to discover and remember that they counted as their instruments, the trained eye, ear and the sensitive finger. They had a fine instinct for their craft that we have scarcely begun to acquire.

They wrought according to the best of their knowledge and, so, too, they wrote. In comparison to the highly technical works of to-day, invaluable though these may be, somehow it is easier to find the authors behind the old books. And, having read, it is a worthwhile experience to feel both inspired and ashamed in the presence of the simple, great-hearted physicians of another age; inspired by what they were and did; and ashamed that we, with so much more knowledge, cannot do better.

Where are these books to be found? Certainly not on a doctor’s private shelves, unless he loves history for its own sake, or is addicted to collecting books, but they are on the shelves of the Medical Library at Western. They rub covers with the very latest works on medicine and surgery, psychiatry and pediatrics. True, the enthusiastic tide of students, practitioners and research workers surges mostly about the later books, leaving the old ones unread. But the books are there, well-written, entertaining, informing, and we are the losers if we do not read a few.

The hours a student or busy doctor has to give to other than necessary reading are limited in number, but those who spend them with some of the elder scribes of medicine are, themselves, on the way to become better physicians.

To misquote Kipling,—

“Something stored within the bookstacks,
Something hidden. Go and find it.”
A STUDY of our vital statistics will at once reveal that the advancement of the age of expectancy during the past decade has been due almost entirely to organized efforts to combat those diseases which take their toll early in life, while the individual who reaches middle life is faced with an increasing probability of falling a victim to the so-called degenerative diseases: cancer, diabetes and cardiovascular-renal disease.

The incidence of neoplastic diseases has increased in much greater proportion than has that of the other chronic diseases which have a comparatively minor economic importance. This social problem involves not only humanitarian aspects, but also presents another phase, in that the individual is affected at the time of his greatest economic value. This makes it of paramount importance to realize the need of a specific therapy in this particularly harassing malady.

There is still a lack of general agreement as to the proper treatment of a given case of cancer. In recent years there has been a marked awakening of interest concerning the value of radiation therapy. Its indications and limitations are being gradually understood. There are, however, many instances where the various physical agents do not render the service they are capable of and unfortunately are not infrequently used in a manner which ultimately brings discredit to them.

Although the evil is decreasing there are still all too many inoperable cases referred to the radiologist. Only too frequently is the radiologist called into consultation after a surgical operation has already been performed, and the most opportune time for his aid may have passed. Too many cases are turned over to the radiologist after the orthodox surgical procedure has been performed, for treatment of questionable value and the assumption of responsibility for the ultimate course of the case. Not infrequently does the surgeon or clinician refer a patient to the radiation department and insist upon a specific form of therapy when other methods are clearly indicated. This defect is usually attributable to a limitation of knowledge of the physical agents on the part of the physician. If the surgeon is not personally familiar with and well versed in the fundamentals of radiation, he should have a radiologist in consultation.

It is true that in the aggressive efforts of the past decade against cancer some of the enthusiasm of the radiologist has extended beyond reasonable limits, to the detriment of his specialty. In criticizing neglect of pre-operative radiation on the part of the surgeon, it is only fair
to state that this form of treatment is sometimes carried too far by the radiologist. Furthermore, such procedures as the application of radium to metastatic lymph nodes from a carcinoma of epidermal origin, or the exclusive use of X-ray in carcinoma of the mouth or cervix uteri, are measures which tend only to discredit these physical agents. In view of the newer knowledge of the radio-sensitivity of different forms of tumors, the tendency toward treatment of many tumors of unknown type and origin is regrettable.

The present status of radiation therapy in gynecology is largely due to the efforts of the gynecologists themselves when they submitted uterine cancer to radium and roentgen-therapy, and ascertained definite facts as to the true worth of these agents. As a result, we have reports of so-called operable cases of carcinoma of the cervix collected from the group of the largest clinics showing about 35 per cent of five-year cures by either surgery or radiological treatment. When radiation therapy becomes more accepted for carcinoma elsewhere in the so-called operable stage, similar results may be reasonably expected. However, to quote Handley, "Each step in advance has required for its verification and establishment a period of about six years."

It is significant that every institution where radium has been available long enough for the demonstration of its value is increasing this supply as rapidly as possible. The intimate relationship between operative surgery and radiology in the treatment of cancer has so modified many of the operative procedures that we might very well regard cancer therapy as a special field within itself.

As a practical solution it would appear obvious that our efforts should be directed in two main channels: 1, the establishment of so-called cancer clinics, under the control of a director who would determine the treatment after a consultation with a surgeon, clinician, radiologist and pathologist; 2, continuance of public and professional education. Many a man could be spared to his family and to his community if the early lesion of the lip, tongue, or skin received the scrutiny and the care of an effective cancer clinic. Many a mother would be restored to her home if the early intermenstrual bleeding or the primary lump in the breast were properly interpreted. The periodic health audit should do much to bring about this desirable feature in the control of this modern scourge.

The great thing in the world is not so much where we stand, as in what direction we are moving.—Oliver Wendell Holmes.
IDEALISM is popularly supposed to be the peculiar property of poets and priests. Born of the sunrise, at the bone-littered mouth of some Cromagnon cave, it has run like a flame through the centuries. Aurignacian man knew it, and, in a world of darkness, cut the first crude beginning of art and science. Neanderthal man buried his dead with food and weapons. The Paleolithic man-brute dreamed beyond the sun. What means the swastika?

Poet and priest, dreaming, teaching at the point of torturing blade, in the light of limb-torturing fire, made Idealism the lever and their lives the fulcrum by which Mankind was lifted out of animality and set in the Greece of Plato, in the China of Lao Tsze, in the India of Buddha, in the Persia of Omar Khayyam.

To-day, safe in the body comfort the Machine provides, we make mock of the blood brothers of Plato and Diogenes, who, long haired, unkempt, pitifully insecure, and made self-conscious to the point of blustering self-assertion, whine from the attic and the gutter the Idealist’s eternal dream of beauty and truth. We remember Galileo at the feet of the Pope, but we forget Baudelaire at the feet of Rothschild. We remember, with approval, the poet in the advertising office. We worship Christ on the Cross.

So, you see, we improve.

When the Medical profession was born in a frantic mother’s half-instinctive gathering of herbs for a sick child, there was no thought of Idealism in its actions. It was a personal thing. Ug, the daughter of Ug, was gathering she knew not what, to cure she knew not what, in the child of Ug. She was impelled by exactly the same motive as is a she wolf solicitous for her whelps. Came medicine men, witches, and the blood-stained poles in barber shops. Came the alchemists, the blood-letters and leeches. In the caves and hovels of the magicians and witches a spirit was stirring itself. A flame was being born.

Slowly but surely the old buncombe and abacadabra gave way to patient investigation, to unselfish experiment, to sincerity, to purpose. Men hid in the desert to follow proscribed studies in anatomy. Men burned at the stake muttering, as the smoke closed their mouths, that
the blood did circulate, that the head and not the stomach was the seat of thought. A new dignity descended upon the alchemist, upon the bone-setter. No longer was the money, paid in return for the setting of a limb to the withdrawal of an arrow, the chief concern. There was a desire to help a fellow man, to add to the knowledge of the world, to make the world cleaner, safer, more beautiful, to make mankind more nearly god-kind in the perfection of his body. The man of medicine had been admitted with the man of God and the apostle of beauty into the temple of Idealism.

The endless procession of the years swept by. Slowly but surely the dark was giving way to light. In Africa a man gave his life to the study of yellow fever. In South America like sacrifices were made. An Englishman invented a vaccine. Chloroform was found to be a safe road into the borderland of death where purposeful and painless violence might be done an injured body, and life prolonged.

Came 1930 in a sumptuous Birmingham, Ala., hospital. Dr. T. H. Williams was completing a Cesarean operation. Turning suddenly to Dr. R. M. Coston, he gasped, "Doctor, take care of my patient," and fell dead to the floor. "Dr. Coston," the newspaper reads, "completed the operation without delay and later in the day the mother and her newly born daughter were reported as 'doing well'." There is no reason to suppose that Dr. Williams' splendid gesture is mentioned in Dr. Coston's statement of fee.

Medicine has taken its place with the Arts in Humanity's battle with the darkness of Ignorance and the brute of Ugliness. Working hand in hand they have produced this mighty civilization we so proudly call "modern." And here it must not end. Just as long as medicine retains Idealism will it be of value. Without it, the doctor of medicine will degenerate to the level of the tradesman and the "commercial" artist who is no artist at all. Dignity will go out of the offices and be replaced with the cold force of Necessity, and the stubborn reluctance of Demand. Research will cease, atrophy, and die. "Dr." will again mean witch doctor, and be synonymous with charlatanism and big business. "Profession" will again mean, to the inquiring at least, just that, and will not be accepted.

Let the doctor, standing shoulder to shoulder with the poet and the priest, carry the standards of civilization ever onward, until the utmost beauty is our own, and the utmost system won.

CORRECTION

Our attention has been called by Dr. H. O. Foucar to an error in his article in the December issue. Case No. 5, page 58, should read "..... symptoms were atypical ..." instead of "typical." Our mistake; excuse us, please.
Varicose Veins

BY H. O. McPHEETER, M. D.

The author has often been impressed with the amount of disability that accompanies the extreme and complicated cases of varicose veins, and by the fact that such patients may become invalids for life, when, under proper care and treatment, they might again be made useful members of society. He does not believe that the medical profession as a whole realizes the importance of this condition and how miserable may be the patients so afflicted. The time-honored and accepted excision of the offending vein in the hope of cure, has been unsuccessful in such a large percentage of cases that we must seek new and more effective methods of treatment.

These words from the introduction show sufficiently the purpose of the book. The first chapter is devoted to the anatomy of the venous system. The author emphasizes the importance of the communicating set of veins and points out the part they play in the formation of varicose veins.

Varicose veins are classified according to their size or diameter. This classification is offered as a substitute for that of Bernstein, who groups them according to the pathological formation present or types of varices. We believe that a classification based on both size and pathological formation will be of more value when one is estimating the amount of solution to be injected and the number of injections that may be necessary for a given case.

The discussion of the embryology of the veins and their values is based chiefly on the work of Kampmeier and Bardeleben. The latter believes that some of the valves of fetal growth do not survive to adult life. The development of valves seems to be associated with muscular movement and they are usually just back of and supporting the column of blood from a tributary vein. They all seem to have their development by the fifth month of gestation.

Varicose veins appear to be the result of various factors. The most accepted theory states that there is an increased intra-abdominal pressure plus a progressive degeneration of the valves and a later weakness of the vein wall. The weakness of the vein wall is due to loss of muscle and nerve control resulting from infection, endocrine disturbances, or congenital factors. The author advances experimental and roentgen ray evidence to prove that in all varicose veins, and particularly in those where the valve action has become deficient, the venous blood is stagnant or flows in the reversed direction.

The author describes the most generally accepted surgical and medical methods of treatment. The section devoted to the injection treatment is most extensive, and the technique is described in detail. The author prefers for injection the calorose solution.
(invert and cane sugar solution). His next choice is the quinined-
urethane solution. It is possible that his description might in-
fluence the reader to believe that injection is quite a complicated
procedure. We do not use a tourni-
quet and altogether our technique
is not as complicated as that
described and so far our results
have been excellent.

This is an excellent monograph
and should be of great interest to
each practitioner and may be
heartily recommended.
VITAMIN ADVERTISING AND THE MEAD JOHNSON POLICY

The present spectacle of vitamin and irradiation advertising running riot in newspapers and magazines and via radio emphasizes the importance of the physician as a controlling agent in the use of vitamin products.

Mead Johnson & Company feel that vitamin therapy, like infant feeding, should be in the hands of the medical profession, and consequently refrain from exploiting vitamins to the public.

The best help is not to bear the troubles of others for them, but to inspire them with courage and energy to bear their burdens for themselves and meet the difficulties of life bravely.—Lubbock.