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# The Canadian Practitioner and Review.

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## Original Communications.

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### THERAPEUTICS OF ARTERIO-SCLEROSIS.

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BY JOHN I. DAVISON, B.A., M.D.C.M., M.R.C.S. ENG.

Professor of Clinical Medicine, Trinity Medical College.

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An imperfect supply of arterial blood is so universally harmful to the animal economy, and so far-reaching in its effects, that the possible alleviation, or cure of a disease of the arteries, upon the integrity of which depends the blood supply to every part, can only be considered as of the greatest importance. Accidents and infections barred, death generally comes through arterio-sclerosis.

To begin at the beginning, I hold that young persons of both sexes should be taught that over-exercise is just as baneful, in a different way, of course, as under-exercise. As to the latter, there are not many children who do not play naturally, as the lambs do; and the tendency in civilized nations with highly differentiated sports, is altogether in the direction of over-exercise. True, in early youth and adolescence, the safety valves are in such excellent condition, that even a certain amount of abuse of the machine-engine seems to leave no permanent impairment. But too often the mechanism is taxed beyond what even young healthy flesh and blood can bear without injury. The spur of competition in games among the young men of to-day leads to a strain, especially of the heart and arteries, which makes itself felt, not only at the time, but all through life. Just as alcohol acts, partly by exciting too strong action of the heart, so undue, prolonged or severe exercise induces sclerotic changes in the arteries; and young athletes are "old men" as to their arteries by the time they are twenty-five. Life insurance companies look with disfavor on athletes as applicants for whole-life policies, knowing that often

in the dust of the arena is laid the foundation of future and early disease of the organs of circulation, with the inevitable shortening of the expectation of life. A case in point: Not long ago a young man, a school teacher, aged twenty-three, applied for life insurance. It fell to me to examine, and—decline him. He could not realise that he was not a gilt-edged risk. He was a power on the football field, and a well-known A1 amateur athlete. But, heredity aiding perhaps, he was about sixty or sixty-five years old according to Cazalas' rule, though he had seen only twenty-three summers. Indeed, I have examined many men of fifty-five or sixty whose arteries were younger than his were.

I need not enumerate the signs: hypertrophied heart; tortuous and degenerate arteries; displaced apex beat; accentuated second sound, *et al.* They have all been enumerated. Such persons are hard to treat. It requires time, tact and patience to get them to understand that they are not what they have always thought themselves, "in the pink of condition;" and accidents barred, reasonably sure of a long active life. Pity it is, also, that the young men who thus cripple themselves in early life are the ones who have the most pluck, stamina, earnestness and energy, and should therefore, make the best, and most progressive and useful citizens.

So much, in brief, for prophylaxis in the early period of life, when the abundant energy overdoes the natural instinct of the young animal to play. We now naturally come to the consideration of over-work in the ordinary affairs of life. The fact that men especially, and not a few women, habitually over-work themselves is patent to every physician. The expression, "The Strenuous Life" has become trite, even in its short life, but it expresses exactly the condition under which a great majority of persons, living under the newer civilization, exist. Constant teaching is needed to impress the truth upon them that the strenuous life kills early. Even when the truth is borne in upon the combatants, the struggle goes on as fiercely as ever. Here and there *one* has sense enough to realize that wealth, titles, office decorations, etc., without health are not to be desired; and that the sheltered life is the one which makes for the true happiness of the individual. That John Tompkins with a good digestion is really happier than Jay Gould with aepsia.

The temperament, of course, has much to do with arterio-sclerosis. The slow-moving, phlegmatic individual does not weaken and exhaust his nervous force by allowing trifling irritations to produce great activity, and thus wear out the circulatory apparatus; while the active, sanguine, nervous man puts his heart and blood-vessels to do superfluous, and, for the

most part, purposeless work, inducing early senescence. So a part of your duty will be to teach your patient to cultivate the *festina lente*, the cheerful habit of mind, contentment, and self control. I have said enough to direct your attention to the duty you owe to your patients and fellow-citizens, in speaking in season and out of season, against the fierce struggle for wealth and supremacy. The millions may come (not, however, to many, though the struggle be for all) but with little power to enjoy them.

*Temperance.*—It is given to few persons to have the natural, normal balance, which causes them to lead temperate lives. We have been accustomed to think of temperance, as the very limited use, or total abstinence from alcohol. Now, while no body of men have more reason to deplore that terrible scourge—the abuse of alcohol—than physicians have, so also no other body should so fully realize that temperance runs along other lines than abstinence from whiskey consumption. Intoxications take place from too much nitrogenous food, from constipation, from mental worry, from over-work, from tobacco, because of a jaded and worn-out nervous system, from the exigencies of social life, etc.

I do not speak of uric acid, that scape-goat in medicine, which some of our brethren used to demonstrate to admiring patients in their blood, by means of a pocket lens. Recent investigations discredit this product entirely as the causative agent in gout, and so in arterio-sclerosis. In the *Lancet* of January, 1903, Professor Woods Hutchinson shows “that uric acid is no longer regarded as a product of the improper combustion of proteids into urea”—also, “that uric acid is innocuous, and that variations in its excretion are purely symptomatic.” This is a blow to many a practitioner who gives uric acid as a cause for hosts of complaints, for which the pathology is nebulous, from ingrowing toe-nail to appendicitis; all going to show that we still, as in the days of Job, “are often counsel by words without knowledge.”

I fear that there is much intemperance of a sexual nature; and that sexual neurasthenia is quite common, both among men and women. At any rate we know that intemperance along any line tends to arterio-sclerosis; here, again, prophylaxis is of much more importance than drugging.

I need proceed no further in this direction, having briefly called your attention to the necessity of practising temperance in every phase of life, if the sum of the years is to be complete, and the machine to do its best work to the end of the chapter.

To speak more definitely, let me urge that the patient suffering from this disease should live a quiet, well-regulated life, and avoid excess in everything—eating, drinking, pleasure

and excitement of all kinds. Alcohol should, in my opinion, be entirely interdicted, though some physicians think light wines may be allowed. I would like to say, that in the vast majority of cases where the patient takes a stimulant, it is the alcohol he is after, and not the particular flavor which he may enjoy, more or less, and it is the alcohol that does the injury, whether it be in the guise of beer, wines, spirits or liqueurs. I do not deny that the use of light wines is less injurious than that of heavy spirits, but the difference is largely due to the diminished amount of alcohol taken.

As to food, it should be light and easily digested, so that no irritating products formed from decomposition of meat nutrition, whether uric acid or xanthin bases, or poisonous ptomanies, shall act upon the vessel walls, stimulating them to proliferative processes, or anatomically injuring them, as do lead, ergotin, etc.

Rumpf advocates a diet low in lime salts. His suggestion is one which does not include milk. It is: Meat, 250 grm.; potatoes, 100 grm.; bread, 100 grm.; fruit, 100 grm.; fish, 100 grm.; along with butter and sugar. The patient may take vegetables instead of fruit, but is not allowed cheese, eggs, rice or spinach. This diet contains ten times less lime salts than a meat diet. He allows only distilled or boiled water as a beverage. It would seem that this plan of Rumpf's is reasonable, if the arteries show signs of calcification, but arterio-sclerosis is not necessarily calcification, and so every case could not come under this line of treatment. It has been observed that certain diseases, notably epilepsy and arterio-sclerosis, are rare, if not quite absent in herbivorous animals. The hint is taken, and I believe with good results, in respect to the treatment of epilepsy. Why should it not be taken in regard to arterio-sclerosis, and a vegetable diet prove equally prophylactic and curative as in epilepsy? Unfortunately, the large ingestion of vegetables would tend to the deposition of lime salts. So it seems that there is no rule that will apply to all cases and at all stages, except this one: Less food, and of a bland unirritating character, easily digested; in other words, temperance again in the matter of food.

*Now, as to Syphilis.*—May I say that I think a symposium at some future meeting of this society on the old subject of enthetic disease would be productive of much benefit. We all see syphilis mentioned constantly, as present among us, and as causative of many and varied lesions, especially of the nervous system. But I think a heresy has crept in during the past two decades as to the necessary treatment of this disease. Owing to imperfect therapeutics, the awful effects of syphilis show years after, and I have no doubt that every one who hears me

has seen pitiable cases of ruined lives which might have been spared as useful and happy ones had the necessary care and time been taken in the early treatment of the disease. By early treatment I mean that of the first three years after infection. The heresy, to my mind, is that Jonathan Hutchinson's old rule of three years of mercury and iodide of potash; then six months of iodide of potash; then, no signs, marriage allowed, has been abridged with deplorable results, both to patient, his wife and offspring.

Of course, the therapeutics of syphilitic arterio-sclerosis are the therapeutics of syphilis. I might as well say here, that the drug treatment of the syphilitic process necessitates the free use of mercury, preferably by inunction, and iodide of potash internally.

When a patient gets near the end of the chain the question often arises as to spas and mountain air, etc. I can only say that there is a great volume of testimony regarding the benefits which arise from such treatment. I have known of at least one case of angina pectoris, which was given up by specialists in New York City, recover a fair amount of comfort, with an additional margin of life, by a stay at Bad Nauheim, with graduated exercises, and modified Schottt movements. The question is too large to enter upon here, but if I ever have a case of arterio-sclerosis which seems absolutely hopeless, I shall recommend Nauheim, if the purse will allow.

*Altitude.*—Generally speaking, persons suffering from arterio-sclerosis do not do well at even a moderate elevation, and all high elevations are positively dangerous.

I cannot enter upon even an enumeration of the remedies and methods of treatment for arterio-sclerosis of the brain, heart, kidneys, etc., which, while pertinent to my subject, properly belongs to treatment of diseases of these organs, respectively. It is left to me to say a few words as to the drug treatment of arterio-sclerosis *per se*.

And, fortunately for your patience, there is but one class to which I need refer, viz., the iodides. It would be interesting to be able to say why and how these remedies give such good results, but with our present knowledge we must be content to use them empirically, nothing doubting that their long-continued use will result in good to the patient.

Lauder Brunton, in his lectures on "The Action of Medicines," a most admirable and helpful work, let me say, something after the style of Fothergill's masterpiece of book-teaching, his "Hand-book of Treatment," has two or three pages which are worth being committed to memory in this connection. He shows that iodide of potash given continually for months and years for other diseases, such as rheumatism and stiffened

joints, effects wonderful changes in the arteries. He also shows the very beneficial effects of baths and massage in the same direction.

These iodides, the "medicines of the arteries," as they are called, must be exhibited for long periods of time, in order that their beneficial effects may be seen. When the potash salt unduly reduces the heart's action the sodium salt may be used. They should be given in fairly large, but not heroic doses, say ten or twenty grains well diluted before meals. Milk forms a very suitable vehicle for their administration. Some practitioners prefer tincture of iodine in doses of ten minims in sweetened water before each meal. The advantage of the tincture is said to be that "the iodine selects its own basis and thus in no way irritates the stomach or degenerates the body."

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## THE CARDIAC ASPECT OF ARTERIO-SCLEROSIS.\*

BY DR. T. W. G. MCKAY, OSHAWA.

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The changes to be considered are:

1. Compensatory hypertrophy without and with dilatation.
2. Dilatation and failure of compensation.
3. Pathological conditions in the (a) coronary arteries, (b) myocardium, (c) endocardium. These are all more or less independent.
4. Disturbed cardiac innervation.

*Compensation.*—Efficient compensation and good health may exist for years and present no symptoms.

It is the natural result of cardiac response by means of muscular hypertrophy, to the stress induced by the peripheral resistance following the toxic arterial spasm and increased functional activity of the heart. It is best marked in younger, vigorous adults or the well-developed middle-aged. They show on examination a full, regular, strong, sustained high-tension pulse of normal rate and no apparent thickening. The enlarged heart is indicated by heaving precordial impulse, displacement of the apex beat downwards and outwards, increased percussion dulness, prolonged first sound on auscultation and a clear ringing and accentuated second sound, particularly over the aortic area.

In more advanced cases arterial thickening and associated myocardial and endocardial changes are to be found. The preliminary change in the left ventricle is followed by hypertrophy in the left auricle and also in the right ventricle

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\* Read at meeting of Ontario Medical Association.

and auricle, the signs of enlargement increase and the impulse becomes heavy and more forcible. The pulmonic second sound is accentuated.

As dilatation overcomes hypertrophy, the cardiac impulse becomes lessened in rate and the tension lowered. The first sound of the heart is shortened and sharpened. Complaints are now heard of headache, tiredness, coldness, numbness and tingling of the extremity, noises in the ears, dizziness and gastrointestinal disturbances. There is an increased flow of urine of a low specific gravity and containing traces of albumen. Ruddiness gives place to pallor, robustness and corpulence to a loose flabby fat. Anemia becomes marked. This condition demands prompt hygienic and tonic treatment.

Failing compensation is marked by weakness, dyspnea, precordial distress, vertigo, loss of consciousness, irritability, convulsions and insomnia. The heart is still more dilated, its action becomes weak and irregular and may be accompanied by to-and-fro soft valvular murmurs due to relative incompetence. These must not be mistaken for murmurs due to endocardial lesions, which may also be present. Nutrition fails rapidly. The patient becomes sallow, emaciated and cachectic. The urine becomes scanty and high colored. The pulse is rapid, irregular and intermitting. Lividity and breathlessness on slight exertion, congestions of the internal viscera, edema of legs, edema of lungs, cardiac asthma, laryngeal cough and rusty, frothy or albuminous sputum, hemorrhages, hypostasis—all indicate the gravity of the condition.

In long-standing cases emphysema and fibrosis of the lungs are found. Death is frequent from hypostatic pneumonia and in the more acute cases from syncope and sudden death. The heart is dilated in all directions, its impulse may be seen and not felt. There is marked epigastric pulsation, venous congestion and pulsation; fetal and gallop rhythm of the heart may be found. The prognosis is very grave. Treatment in milder cases is cardiac stimulation; in severe cases with marked lividity and urgent dyspnea venesection.

Changes in the coronary arteries give rise to:

1. Embolism, which is very rare, and not diagnosable.
2. Aneurysm, which is also extremely rare.
3. Coronary endarteritis, which is one of the commonest manifestations of arterio-sclerosis. It leads to defective nutrition and degenerative changes in the myocardium.
4. Thrombosis is due to coronary endarteritis. It gives rise to anemic infarct, fatty degeneration and slow fibroid change. It is a frequent cause of angina pectoris, rapid heart failure and sudden death.



## Myocardial changes :

1. Aneurysm of the heart is rare and hard to diagnose. It interferes with the mechanical action of the heart. It is generally in the left ventricle and follows fibroid myocarditis. Rupture occurs into the pericardium and causes instant death.

2. Fatty infiltration follows along the coronaries and their branches, interfering chiefly with the mechanical action of the heart. It occurs in stout, plethoric, middle-aged, luxury-loving individuals who live too well and exhibit defective elimination. It gives rise to no special symptoms except those of a weak heart. The heart is usually enlarged, dilated and relaxed. The prognosis is good unless complications set in. Such cases do good under hygienic gymnastic and Spa treatment.

3. Fatty degeneration is usually allied more or less with fibroid infiltration. It is insidious in its onset. The muscle elements undergo hyaline degeneration, fatty change and atrophy. Connective tissue infiltration of a conservative character to maintain the resistance of the heart-wall follows after. Once established there is no tendency to return to a healthy condition. The subjects of it are usually middle-aged and out of the male sex. The symptoms are those of a dilating heart. The heart is enlarged and flabby and relaxed, and its substance friable. Over-exertion induces syncopal and anginal attacks; later on these occur at night. There may be Cheyne-Stokes symptoms. The prognosis is very grave. Treatment is mostly palliative, dietetic, hygienic and massage, with tonics such as iron, arsenic, strychnine and oxygen, carminative stimulants and heart tonics in emergency cases.

4. Fibroid infiltration, fibroid myocarditis is the commonest and most important of the arterio-sclerotic lesions. Generally associated with hypertrophy, it may be either general or local. It follows coronary obstruction and chronic congestion of the heart and indicates attempts at repair. The heart muscle atrophies and fibroid-infiltration occurs. The chambers are dilated, their walls thickened, their resilience and contractile power diminished. There is a gradual failing of compensation and often other associated degenerative changes. Sudden death or angina pectoris may be the first manifestations of the presence of the condition. Like fatty infiltration it occurs mostly in middle-aged people or those over fifty and most often in males. The signs and symptoms are those of failing compensation. Frequent attacks of gastralgia have a grave significance. Signs of emphysema or chronic Bright's or arterial degeneration are always present. In advanced elderly cases slow pulse (20 to 40 beats to the minute) with syncope, epileptiform and apoplectiform attacks (the Stokes-Adams

syndrome) are to be found. The arteries are thickened, palpable and firm, the pulse regular at times but more often slow and of irregular force and rhythm. When secondary to mitral disease and emphysema it is feeble, changeable and compressible. The heart is enlarged in all directions; its beats less forcible and more diffuse than in pure hypertrophy. The first sound is longer, duller and rarely heard at the base. The second sound is dull, muffled and prolonged. The prognosis is grave. Treatment is as for fatty degeneration, with the use of nitro-glycerine.

Endocardial changes :

1. Aortic changes are due to valvulitis, fibrosis, contractions and adhesions of the valve segments. The changes are most marked at the points of contract and the attachment to the fibrous ring of the aortic opening, and are induced by dilatation of the aorta, high tension, disordered cardiac nutrition and involvement of the coronaries.

(a) Aortic stenosis is diagnosed by a harsh, rough, sawing systolic murmur associated with cardiac thrill and hypertrophy and a small, slow, sustained pulse of fairly high tension. It occurs usually in older people. In simple cases the prognosis is good. Life may be long. Death results from exhaustion of the ventricle and syncope, or degeneration and asystole. It is usually associated with aortic regurgitation.

(b) Aortic regurgitation may be primary, following atheromatous and dilated aorta or due to relaxation in aortic stenosis. It comes on gradually and is usually found in younger or middle-aged people and accompanied by a murmur of relative stenosis. There is a great hypertrophy of the left ventricle, a diastolic murmur traceable to the aortic valve, throbbing arteries and Corrigan's water-hammer pulse. The prognosis is graver than in all other valvular troubles and angina is common. Cerebral embolism may occur. It leads sooner or later to dilatation and mitral insufficiency.

2. Mitral disease is due to increased ventricular pressure following circulatory obstruction and relaxation of an over-worked degenerating heart muscle. It also follows degenerative changes in the cords and papillary muscles and valves and the fibrous ring of the opening.

(a) Mitral regurgitation is the common result of all conditions which prevent a proper closure of the valve. Once the equilibrium is established it may persist for years. The signs are a mitral systolic murmur transmitted to the left and heard posteriorly, accentuated pulmonic second sound and hypertrophy of both sides of the heart. The pulse is small, of low tension and often dicrotic. The inevitable outcome is dilatation and its consequences.

(b) Mitral stenosis is due to contractions and adhesions of the valves and degenerations in the neighboring wall of the ventricle. It induces marked dilatation and hypertrophy of the left auricle, right ventricle and auricle, and causes pulmonary congestion. The signs are presystolic thrill and murmur of a churning character, hypertrophied right heart, the left heart normal in size, and accentuated pulmonic second sound. The prognosis is unfavorable. Failure of compensation is the result of this lesion.

3. Pulmonary incompetence is exceedingly rare.

4. Tricuspid incompetence may be temporary, to relieve a laboring heart, or permanent. It is a common sequence of aortic stenosis, mitral incompetence and aortic regurgitation. The signs are systolic pulsation in the jugulars, swollen and pulsating liver, a soft, low, systolic murmur over the lower end of the sternum, accentuated pulmonic second sound, increased cardiac dulness to the right of the sternum, epigastric pulsation and cardiac failure. The prognosis is bad. The treatment of all valvular troubles is to maintain the maximum of compensation.

5. Thrombi in the left ventricle may cause systemic emboli in the right ventricle; they give rise to pulmonary apoplexy and infarcts.

6. Ulceration of chronically diseased valves may give rise to malignant endocarditis manifested by rigors, fevers, chills, sweats, cardiac pain, sense of oppression, shortness of breath and embolism. The prognosis is very grave.

*The Senile Heart.*—The heart is small, not necessarily hypertrophied, pigmented, fatty or atrophic. It shows brown atrophy.

The arteries are tortuous, stiff and rigid. The patients are emaciated, sallow, anemic and cachectic, with arcus senilis. The heart is small and its action weak. The pulse is small, rapid; it may be slow, at times irregular and intermitting. Syncope is common. The treatment is mainly stimulants for the acute attack.

*Angina Pectoris.*—This symptom-group is induced by all such cases as increase cardiac embarrassment by constricting arterioles, by local cramp of the muscle and by stretching or compression of the cardiac plexus. Fatty degeneration and mitral regurgitation tend to relieve the tendency towards it. It is least dangerous in fatty infiltration and gravest in aortic regurgitation, atheroma, fibroid degeneration and aortic and mitral spasm. It is characterized by intense, agonizing constricting precordial pain. In mild attacks it may be only dull and oppressing. In severer attacks the pain radiates down the inside of the left arm to the fingers, to the sternum, to the intrascapular region, to the side of the chest and at times to the

right arm. The face is pale, anxious and ashy, and covered by a cold beady sweat. The lips are livid. The patient at times is restless, but more often quiet. The pulse may be small, hard, thready and irregular; nearly normal in rate or slowed. The heart sounds are feeble, distant and valvular. The attack lasts only a few seconds or minutes and subsides. It may recur successively. Death may occur at the height of the attack or by faint and syncope. Relief is accompanied by eructations of gas, flatulence, passages of large quantities of urine and exhaustion. Treatment: First, from the paroxysm, by amylnitrite, nitroglycerine and morphia, followed by stimulants and carminatives, if needed; secondarily, iodine of potash, arsenic, etc., as the cardiac state requires.

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## EYE SYMPTOMS IN ARTERIO-SCLEROSIS.

By J. CAMERON CONNELL, M.D., KINGSTON.

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Changes in the retinal vessels as a result of arterio-sclerosis are seen with comparative infrequency, though they are not so rare as was formerly supposed. Raehlman found visible changes in twenty-four out of forty-four cases of arterio-sclerosis. Disturbance of function is not always present, and, in the absence of subjective eye symptoms, no doubt many cases escape observation. When vision is affected the reduction varies from slight fogginess to complete binocular blindness.

The changes to be seen by the ophthalmoscope are: (1) Pulsation of arteries and veins. (2) Tortuosity and attenuation of the vessels; (3) white streaks along the margins of the larger vessels; (4) hemorrhages; (5) rarely, a beaded appearance of the smaller vessels is seen, due to the formation of small aneurisms.

The third symptom mentioned—the formation of white streaks or lines along the margins of the larger vessels—is thought to be pathognomonic of senile arterio-sclerosis. It may, however, be very difficult to differentiate this from the somewhat similar appearances which follow neuro-retinitis. In the latter condition, however, the calibre of the vessels is not usually constricted as it is in arterio-sclerosis.

Pulsation of the vessels is most likely to be seen early in the course of the disease when the arterial tension is high. Several varieties of abnormal pulsation are seen, but the most common resembles a rhythmic wave, beginning at the papilla and spreading out over the retina. The pulsation is produced by a difference between the intraocular tension and the general

arterial tension. The most marked cases of pulsation I have seen have been associated with aortic insufficiency.

Tortuosity of the vessels is most noticeable at points where vein and artery cross, and it is at these points that hemorrhages most frequently occur, and that the pathological processes are most marked. Lateral displacements and flexions are more common than real changes in calibre.

The changes in the retinal vessels consist of connective tissue formations complicated with degenerative processes which affect the intima and result in thick, rigid vessel-walls. The media is thinned and shows hyaline degeneration, while the adventitia is thickened. The smaller vessels show greater changes proportionately than the larger ones. Constriction is present in those portions of a vessel which remain hard, and where softening takes place the walls yields and forms an aneurism. This process in the veins causes a spindle-shaped varicose appearance.

All these conditions are present more frequently and extensively in the choroid, but their demonstration is rarely possible with the ophthalmoscope.

Bader describes the process as a thickening of the walls of the small arteries of the retina and choroid by a homogeneous, strongly reflecting, not quite transparent substance. Consequent upon these alterations in the arteries and upon the hemorrhages, are degenerative changes, fatty degeneration of nerve fibres, infiltration with round cells and separation of the fibres by hyaline fibroid material. This explains the loss of vision.

Hemorrhages, both flame-shaped and irregular, may occur at any stage. The larger hemorrhages are likely to be at points where the veins and arteries cross, as already stated; the smaller flame-shaped ones at any point in the nerve fibre layer of the retina.

Several cases in elderly people have come under my notice in which small sub-conjunctival hemorrhages, developing without apparent cause, have been the immediate reason for the consultation. The conjunctival lesion appeared trifling, but examination of the fundus showed an advanced arterio-sclerosis. One of these patients died suddenly a short time ago while taking a cold bath.

The recognition of arterio-sclerosis of the retina is of value, as it indicates similar disease of the cerebral vessels. This indication may be regarded as positive even when the vessels of the general circulation are apparently unaffected.

To the oculist the information is important as it affects the indications for treatment of concurrent eye lesions and the prognosis in operations.

My experience also leads me to believe that epistaxis in old

people, without apparent cause or after violent emotion, must be regarded as a symptom of incipient arterio-sclerosis, *i.e.*, it occurs in the pre-sclerotic stage when the only recognizable symptom may be the heightened arterial pressure. Later on the attacks diminish in frequency, when there is lowered blood pressure and lessened cardiac activity.

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## CEREBRAL ASPECT OF ARTERIO SCLEROSIS.

By H. A. McCALLUM, M.D., M.R.C.P. (LOND.)

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Physicians of the past generation had spoken of arterio-sclerosis under the head of "brain softening." When attributing this condition to arterio-sclerosis with its accidents one must not forget that defective metabolism and altered blood are precedent conditions or causes and their destructive process may be as readily spent upon the parenchyma of organs as upon vessel walls. Alterations in the cerebral neurons arising from the same cause as arterio-sclerosis may keep pace with the changes in the arterial wall. This is to be kept in mind as an explanation of the mental and sensory symptoms found in the early and late stages of arterio-sclerosis. So many theories in medicine based upon the cardio-vascular system have perished that it is difficult to command any enthusiasm for theories of pathological phenomena so based. Leaving all theories aside, thickened arteries constitute an index to a variable clinical condition. Arterio-sclerosis has a tendency to spend its worst storm upon certain of the vital organs. Brain vessels may be diseased without much determinable evidence elsewhere. Syphilitic arterio-sclerosis may produce nodular changes in the circle of Willis and sylvian arteries while sparing the rest of the arterial system within the skull, thus showing a very selective action of the syphilitic. The changes due alone to cerebral arterio-sclerosis can be classed as: (a) Cerebral anemia, local or general, arising from diminished vessel lumen, with or without thrombosis; (b) cerebral hemorrhage. The results of local anemia are variable, depending upon the situation and its completeness. Thrombosis of a terminal artery generally gives rise to an area of local softening. General brain anemia arising from arterio-sclerosis without vessel plugging is said to give rise to attacks of vertigo, fugitive motor and aphasiac symptoms. Transitory paralysis of motion and speech, while very suggestive of syphilitic arteritis is not peculiar to leucitic patients. It is the warning signal of conditions of thrombosis, whose onset may follow these warnings with all the clinical picture of an apoplectic stroke. The cere-

bral anemia effecting the medulla is a cause of heightened tension in arterio-sclerosis. Cases of arterio-sclerosis unaccompanied with renal cirrhosis showing considerable increase in tension should be suspected as marked cerebral types of the condition. The increased blood-pressure, being called up by the cardio-vascular centres in the medulla, overcomes the diminished lumen of the cerebral arteries. I shall return again to this question of cerebral anemia and high tension under the head of cerebral hemorrhage. Arterio-sclerosis of the vessels supplying the medulla has been charged with the causation of Cheyne-Stokes respiration, Adam Stokes syndrome and a form of pseudo-bulbar paralysis.

The most common motor symptom of arterio-sclerosis is hemiplegia with or without aphasia. As pointed out before, transitory hemiplegia or aphasia is significant of impending thrombosis and its occurrence in a syphilitic subject should be met by heroic doses of iodides and free mercurial unctions. Alternating hemiplegia from arterio-sclerosis is not unknown. I saw a case under the care of Dr. Hurlbert, of Mitchell, who had had paralysis of the left arm two days previously. On the day of my visit the left arm was virtually recovered, but his right arm was completely paralyzed. There was no cardiac disease. The urine showed a trace of albumin and casts. At my visit his condition was not serious, but two days afterwards he became suddenly comatose and died in a few hours. While the case may have been uremic paralysis I am inclined to look on it as arterio-sclerosis terminating in thrombus.

As pointed out by Sir William Gower, cerebral thrombosis may give an exact clinical picture of apoplexy. In cities where syphilis is common the majority of cases of hemiplegia surviving the first week are thrombotic. This was well expressed by a well-known neurologist: "The *post-mortem* statistics of general hospitals show that the majority of cases of hemiplegia are due to cerebral hemorrhage while *post-mortem* statistics of nerve hospitals show that hemiplegia in the vast majority of cases is due to thrombosis. These apparently contradictory statistics point to the frequency of early death in cerebral hemorrhage and the chronic character of thrombotic cases. We come now to a consideration of cerebral hemorrhage. Bouchard and Charcot, in 1866, pointed out that rupture of miliary aneurisms is the cause of cerebral hemorrhage. This view of cerebral hemorrhage harmonizing with the antecedent condition of hemoptysis is being generally accepted by neurological authorities. It may not explain all the forms of hemorrhage, indeed there is evidence that in cerebral structure adjacent to new growths softening may weaken a vessel to rupture without antecedent aneurismal dilatation. I might remark while passing on the frequency of hemorrhage into and surrounding new

growths of the brain constituting not infrequently a terminal condition. The form of apoplexy known as ingravescent is of great interest. It is onsetted with fugitive symptoms, but unlike those that precede thrombus they are neither hemiplegiac nor aphasiac, but rather the symptoms of shock, viz., the face becomes pale, the body cold and the pulse very weak; faint and exhausted, he may fall to the ground or have slight convulsion; after a little while he may walk home; he is quite sensible, but oppressed; then he becomes flushed; he answers questions slowly and gradually he sinks into coma, from which he rarely recovers." Fagge attributes this picture and its terrible fatality to abercrombie and declares that all subsequent writers have recognized the truth of it. It is the frequent picture of meningeal hemorrhage of traumatic origin and is of great medico-legal interest. English pathologists invariably refer to the frequency about with which granular contracted kidney and arterio-sclerosis are associated with cerebral hemorrhage. Continental authorities seem not to have found the kidneys cirrhotic in anything like a similar proportion of cases. The effusion blood in cerebral hemorrhage encroaches upon the blood supply of the brain through increased intracranial pressure, this necessitating increased arterial tension to force blood into the cranial cavity. The tension will mount with the increasing intracranial pressure. This mounting of arterial pressure serves to help diagnose apoplexy from other forms of coma.

Any form of acute compression threatening to produce anemia of the medulla will be attended by a rise in blood-pressure to restore the local circulation. The local anemia, however, may become so severe as to lead to a failure of the vasomotor centres and a rapid fall of blood-pressure. This respiratory centre becomes likewise embarrassed. (See Harvey Cushing's article on "The Blood-Pressure Reaction of Acute Cerebral Compression, Illustrated by Cases of Intracranial Hemorrhage," *American Journal of Medical Science*, June, 1903. See also Mutter lecture in *American Journal of Medical Science*, 1902, Vol. CXXIV, page 393.) While passing, I might mention the great value of Babinski's extensor great-toe reflex as a diagnostic sign separating apoplexy from other sudden complications. The immediate appearance of Babinski's sign after cerebral hemorrhage makes it of great value. I saw with Dr. Hadley Williams and McLaren, five hours after a runaway accident, a comatose patient with a view to operation. Babinski's sign was present in both feet accompanied with forced movements on the right side. The left side was flaccid and gave the most marked Babinski sign. The patient was trephined over the right middle neurigeal artery and a large subdural clot found was removed. The opinion held before operation from the double Babinski sign that the hemorrhage



was bilateral and extensive, was shown by the temporary character of the improvement and the death of patient the following day. Before leaving the subject of cerebral hemorrhage it has often been a subject of interest whether there are persons of peculiar build or body habit who are particularly prone to apoplexy. It would seem to amount to this, Do cases of cirrhosis of the kidney show peculiar build or body habit, for it seems that the vast majority of cases of apoplexy are cases of renal cirrhosis? Apart from this line of argument, clinical statistics will show cases of apoplexy to be very frequently of spare frame. It would far exceed my allowed time to enter into the mental and sensory side of arterio-sclerosis. The meaning of the term "brain softening" to the laity shows how frequently mental symptoms attend on arterio-sclerosis. The relation of arterio-sclerosis to testamentary capacity is of interest to the medical expert. In the treatment of the cerebral type of arterio-sclerosis, the entire body must be considered before treatment is instituted. The patient should be examined from head to feet in the naked state. The state of nutrition of the skin muscles and the amount and position of the cutaneous fat constitute inarticulate speech to the experienced eye. The normal disposition of the female and male fat is very different. The former carries her fat in the breast, buttock and upper half of her four limbs, particularly the legs. The rest of the body in most cases is avoided in this warehousing in the female.

The male warehouses his fat on the neck, between the shoulders and in the abdominal cavity. The female, after the climacteric, had a tendency to take on the male type in fat disposition; but where one sees any well-marked type of this departure it will be found to be accompanied by arterio-sclerosis. In male patients a departure toward the female form of fat disposition, viz., on the limbs and buttocks, is of similar significance. It may be said that these pathological cases of fat disposition is an attempt to revert to the type seen in the child. These cases of arterio-sclerosis require massage, baths and careful dieting and regulation of out-door exercise. They are always anemic and this feature is not unfrequently overlooked, because the skin of their faces looks rosy. In syphilitic cases of cerebro-arterio-sclerosis iodides and mercurial unctions should be given heroically.

In the nonsyphilitic hypodermic use of artificial serums have given in some hands good results in cases of vertigo of arterio-sclerosis. Trunicek's salts—soda chloride, soda phosphate and magnesium phosphate made into a solution ten times as strong as in the normal serum; dose of this 1 to 2 c.c. hypodermically—have been given and supposedly good results occasionally obtained. Trunicek's salts can be given in tablets several times a day by the stomach.

## THE MEDICAL EXPERT AS A WITNESS.\*

BY W. R. RIDDELL, ESQ., B.A., B.Sc., LL.B., F.B.S., EDIN., K.C., TORONTO.  
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*Mr. Chairman and Members of the Medical Profession,*—You will allow me to say, in the first place, that I decline to look upon myself as an entire stranger in a gathering of medical men and women. True it is I do not have the honor of being a doctor of medicine, nor do I practise medicine (for which I duly offer up thanksgiving every day of my life), but I had the good fortune during my earlier years to study medicine for a short time in the same office as my friend, Dr. Powell; and that has given me an interest in medical subjects and in medical men which I have never lost, and which I trust I never shall lose.

The very interesting paper of Dr. McKenzie, and the still more interesting discussion which followed, struck me as I sat on the platform as furnishing a strong illustration of what Herbert Spencer and the evolutionists call differentiation, and the advance and evolution from the homogeneus to the heterogeneous. Now, when I studied medicine there was no such difficulty about diphtheria as there is now. The diagnosis, the treatment, the prognosis were perfectly simple. If the neighbors' children had had a sore throat and died, and my child had a sore throat, then it was diphtheria. If they had not died of sore throat, then it was not diphtheria. The treatment too, was perfectly simple. Once the case is diagnosed as diphtheria--take a stick about six inches long with a piece of cotton rag more or less clean (they had no antiseptic or aseptic methods in those days) tied around one end of the stick, and make it tight with thread, No. 30 preferred; dip that into a solution of nitrate of silver and swab out the throat. That was the treatment, and the only treatment. Prognosis, too was certain. Repeat that treatment, If the child gets better it probably will not die. If it takes a turn for the worse and dies, then the case is hopeless. There were no cultures in those days. They had beef tea, indeed, but it was used to feed the patient, not the bacteria. They had nothing in the way of incubators and the like that you put into your waistcoat pockets, or into the axilla of the patient in order to develop bacteria. There was then no difference of opinion as to diagnosis, treatment, prognosis. Now I see no two medical men seem to be able to agree except on this point: "If you get a really costly medicine, the more of it you administer the better the result."

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\* Read at meeting of Ontario Medical Association.

Like my friend, Dr. McKenzie, when I was asked to read a paper before this Association I had some little difficulty in coming to a conclusion as to what kind of paper would probably answer your requirements best. As however, I had already, at the request of the Medical Faculty of the University of Toronto, prepared a series of lectures for the medical students upon the subject of "Medical men in Court," I thought it might not be out of place to take part of one of these lectures, change it somewhat, and adapt it to the "meaner capacity," as the Shorter Catechism has it, and give you that. That will account for the didactic tone which I propose to use. You will please consider yourselves students who are sitting at the feet of Gamaliel and learning from him.

In the English language the adjective has three degrees of comparison: The positive, the comparative, and the superlative. The noun substantive, with the exception of a very few words, has nothing of the kind. One of these exceptions is the useful and expressive word "liar." There are three kinds of liars: there is the liar, the d——d liar, and the expert witness. Now that gibe, that proverb derives most of its vogue from the medical witness. And there is a modicum of truth concealed in it although when one considers what it means, and what it implies and considers what a medical witness, as a rule is, it will be found to be grossly extravagant and grossly unjust.

There are two kinds of witnesses: the common witness, who speaks as to a matter of fact; the expert witness, who speaks as to a matter of opinion; and when we remember that an expert witness is only such when he is speaking as to a matter of opinion, and that in the case of opinions there are, and always have been and always will be, differences, it is not at all wonderful that expert witnesses do not agree in their testimony.

Concerning opinions there is constant disputing: and it is not doctors alone who are constantly disputing. Take the clergy: the *odium theologium* is worse than the *odium medicum*, and the *odium forensecum*, and both of these, God knows, are bad enough. The clergy of one church believe that the theology of another church is based upon error and they know that the opinions of the clergy of that other church are wrong. Members of my church know that they are right, and the other fellows are all wrong. Orthodoxy is my doxy; heterodoxy is your doxy. Lawyers do not agree, even when they are put on the Bench. Occasionally a lawyer is put on the Bench; it is not always the case, but still those who are lawyers are put there. I have in my mind more than one case of pure law, not matters of fact at all, but matters of opinion where one court has given a verdict for the plaintiff, this has been reversed by the next court, that again reversed, and then

in the Supreme Court this last was again reversed. The only reason, perhaps, this was not reversed again was because there was no other court to go to. Politicians—people generally—do not agree in their opinions. Over there in the adjoining Park in the Legislative Assembly this afternoon they will be discussing a matter of opinion, and if you will give me a list of the people who are going to vote, if you tell me their names, I will tell you the majority on one side or the other. Opinions must necessarily differ, and, therefore it is that the expert witness who is called upon to swear, not to a matter of fact at all, but to a matter of opinion, almost as a matter of course differs from another expert witness.

Now, you will say that I am travelling very wide from my subject, but that is really not so, as I hope to be able to show you in a few minutes. What is the object of a court? What is the witness in the box for? What are courts of justice kept up for? They are kept up for determining facts, in the first place, and then applying the law to those facts so found; the judge applies the law, the facts are found by a jury, or by a judge sitting instead of a jury—and I shall for convenience use the word “jury” instead of judge sitting for a jury. The facts so to be found by the jury are not to be found by them from their own knowledge. In the jury box, as everywhere else, one is entitled to use common knowledge, that is, what everybody is supposed to know. Everybody is supposed to know that we have night and day, there are seven days in the week, that water is wet and fire will burn, and that when medical men get together at dinner they have a good time. I won't say anything further on the latter matter, lest it might lead to painful misapprehensions. A juryman or a judge has no right to found a verdict upon his own knowledge of facts. He determines the facts upon the evidence given in the witness box and by the witnesses; and therefore it is that the witness is probably the most important man in the court of justice after all, although you will find difficulty in convincing the unhappy litigant of that.

What is the object of cross examination? It is to determine two things. The object ultimately is the truth, and that is determined in two ways: finding out first of all how near the witness is trying to tell the truth, and secondly, how far he is worthy of belief even if he is trying to tell the truth. Now both of these two matters must be considered. A man may be perfectly truthful, telling what he believes to be the exact truth, and by reason of his want of capacity, or by reason of some idiosyncrasy, which can only be determined by careful investigation, he is not succeeding in telling the truth.

Again, the value of the evidence of a witness depends upon

a number of things. In the first place, it depends upon the opportunity which the witness has had to investigate the matters concerning which he is giving evidence. This is the case with the common witness as well as the expert witness. I have heard medical men swear (I have never heard medical men say it outside of the witness box) that a man who has examined a patient once will have as good an idea of the extent of his injuries, and the probabilities of making a rapid recovery, as the man who has been with him from the time the injury took place, who has waited upon him, prescribed for him over and over again, who has joyed over him when he showed signs of recovery, and whose heart has gone down as his patient's health has gone down. However that may be, the means of observation which a witness has is the first thing of importance. The second thing is his capacity to observe, his capacity to form an opinion, his capacity to understand what he sees. That is a matter largely of education and of experience. Again, the value of the testimony depends upon a man's memory—how accurate is a person? how retentive is his memory? does he remember what he thinks he remembers? Is it the fact that he is telling the truth concerning something that has taken place in the past? Another thing is his capacity to say what he means. You may think that is an extraordinary statement; it is not. No man who has been much in a court of justice but will agree with me in this. Not one man in twenty appreciates the value of an accurate use of the English language. Not one man in twenty can express exactly what he means, so that there cannot be any mistake about what he does mean. The capacity to express one's thoughts, the ability to put in words and in decent English what it is desired to convey, is another thing upon which the value of a witness's testimony depends.

Another thing is his honesty. Medical witnesses are generally honest. The medical man who will allow himself to be approached, and who will give evidence contrary to fact or contrary to his real opinion, for the purpose of enabling the plaintiff to get a larger verdict out of a railway company is as much a thief, is as much a criminal, and should be behind the bars just as truly as a man who opens a bank with dynamite.

Now, the object of cross-examination is to determine how far is the man's testimony to be relied upon, how far is what he is stating the actual fact. I remember once defending a man and woman for murder. A very graphic description was given by a young girl about thirteen or fourteen years of age of a whole series of circumstances, which she detailed so well and vividly that one could see that they led to an irresistible conclusion, that the man and woman in the dock were guilty

of murder. I cross-examined at some length and with some care. Her story wavered. Each time we approached the story from a different point of view it changed. One little circumstance was modified, and little contradictions began to appear. By a little careful leading, or perhaps by a good deal of careful leading, she began contradicting her story in important points. Before the cross-examination was through she had contradicted her whole story, and that not by inadvertence, but of intention. She had yielded to the suggestion of the stronger mind. She had been living for three months in the home of a well-known enemy of the prisoners. The judge discharged the prisoners, and would not allow the matter to go to the jury. I was asked by a clergymen ten minutes after the acquittal, "How could you get that girl to lie the way she did; did you think it was honest or right to ask her those questions?" I answered, "Yes, eternally so." He said, "Why! you knew she was telling what was not true?" "Yes, but I wanted the jury to see that girl had a mind of such a character as to yield to the suggestion of a stronger mind. That she would allow to be instilled into her brain thoughts which had never been there, and thoughts which ought not to be there, thus showing she was easily influenced." Then, taking the fact that she had been in the house of a well-known enemy of the accused for two or three months, the danger of allowing such evidence to procure a conviction was obvious.

I say cross-examination is one of the most valuable of weapons for arriving at the truth, and I speak of it because there is, at the present time, a feeling in some quarters against cross-examination. Take some of those very papers who are now crying out against cross-examination, and let anybody charge them with libel; and let that person be put in the witness box in order to give evidence against them, and they will be the very first person to say, "It is the duty of a counsel to test in every possible way how far the witness is trying to tell the truth, and how far the witness is succeeding in telling the truth." Of course, this will lead to inquiry into matters apparently irrelevant, but all proper cross-examination is directed to the sifting of opportunity, capacity, honesty.

Now, a witness has two duties. I suppose that probably will be news to you. I do not think you will find this in any of the books of medical jurisprudence. I don't think you will find it in any book of any kind—but I am not a man of theory, I am a man of practice. My profession calls upon me, and I am employed to get verdicts, if I can; that is my life work, and I propose to get verdicts by every honorable means, and I don't care one rap for theory. Your books tell you the witness has got only one duty, that is, to stand up there and tell the truth.

That is grossly wrong. I have heard witnesses tell the truth in the witness box and nobody believed them. A witness has more than one duty. In addition to actually telling the truth, a witness owes it to himself and to his position to tell the truth in such a way that the jury and spectators will believe him. Your text-books tell you, "Go into the witness box and answer the questions truly, and then leave the witness box secure in the approval of your own conscience." I say, however, that not only should a witness tell the truth, but he should tell the truth in such a way that people will believe him—and that, after all, is the main object of a witness—to say something which will be believed and have an effect upon the verdict.

Now, that leads me a little further. A witness box is no place for frivolity. A witness box is no place for jesting or trifling. The man who has taken an oath to tell the truth is under a serious obligation, and that obligation he ought to have in his mind before he goes into the witness box. Those are common-places, perhaps, to you, but none the less they are exceedingly important. If a man is going to be a witness, it is his duty to prepare himself by finding out all the facts concerning which he is likely to be asked. An expert witness who is going to be asked about his opinion ought to prepare himself with authorities backing up his opinion; he ought to be in a position to justify his opinion to the very utmost, because if the cross-examining lawyer is worth his salt that opinion may be severely tested. Physical preparation is not out of place. An important medical witness, being cross-examined by a lawyer who understands his business, has a physical strain put upon him which is not light. The lawyer feels it, but it is his business, he is at it every day, but the witness has an unaccustomed physical strain, and therefore one going into the witness box ought to see to it that he is as far as possible physically fit. One's personal appearance is not unimportant. The man who is decently and properly dressed will receive more consideration at the hands of the judge, and at the hands of the jury, than the fop, or the sloven. The medical profession never stood higher in the estimation of the people than when they had their distinctive garb of the furred robe, the cap, and with this the gold-headed cane. The judges are wise in their day and generation when they insist on lawyers wearing the gown and being properly clothed in court. The rule of old Polonius still stands good.

Costly thy habit as thy purse can buy,  
But not expressed in fancy; rich not gaudy,  
For the apparel oft proclaims the man.

These are preparations, things you consider before you go

into the witness box; matters which will, or may, bear upon the value of your testimony. They won't help you to tell the truth, but none of them will hurt you in the slightest degree. All will assist you in that important matter, *i.e.*, making the truth tell.

Then in the witness box I have been in the habit of laying down for solicitors, rules which will look almost absurd to you when I mention them, but rules which in themselves have a wide usefulness, and ought to be borne in mind by every witness. One third of the time of trial courts is taken up with perfectly useless blather—not only useless in itself, but doing harm in beclouding proper evidence, in belittling the other parts of the case which ought to receive attention. Now, while judges sometimes, and lawyers oftener, are responsible for that, to a great extent witnesses are also responsible for that in no few cases.

Rule 1.—Don't answer a question until you understand it. Now, that seems silly. Go into a court room and listen to a trial; you will find witnesses persist in answering something they are not asked, and in not answering what they are asked. If in the witness box you do not understand a question, or if the question is complicated, you have a right to have the question put in such a shape as that you do understand it, and to have it put in such a shape as that you can answer it without deviating from the strict line of truth. If the lawyer declines (and there are men who will decline) you have a right to appeal to the judge, and it is the judge's duty to see to it that the question is put in such a way as is understandable, and that it may be fairly answered.

In the second place, when you do thoroughly understand the question, answer it as briefly and concisely as you can consistently with the truth. If a question can be answered "Yes" or "No," answer it "yes" or "no." If it cannot be answered "Yes" or "No," refuse to answer it "Yes" or "No." It is a well-known trick in my profession to insist, with a great air of indignation, upon a direct answer to a direct question. Of course, that is simply "talkce-talkce" for the jury. Sometimes the witness yields to the insistence of the counsel and answers "Yes" or "No," when he feels and knows no such answer should be given. This is wrong. If a question cannot be answered "Yes" or "No," you have a right to appeal to the judge, and almost invariably the judge will put things right. Do not, however, be hypercritical. The counsel for the side upon which you have been summoned as a witness will give you ample opportunity to explain your answer, and frequently the judge will say, "Answer the question. You will have an opportunity to explain." Insist on this opportunity.



Thirdly, and a more important rule than either of the others ; when you get through answering a question, shut up. Men will talk and talk and talk, and the more they talk the better the cross-examining counsel like it, because it is absolutely certain if a man keeps his mouth wide open long enough, he is going to put his feet in it. In my experience I have seen more cases lost (I mean by incidental matters) by witnesses going on talking after they had finished their answer to the question than by anything else. If the lawyer understands his business you may be sure he will ask questions enough. If you answer all the questions he will put to you, you will be doing all the law calls upon you to do, and enough to pay for all the remuneration you get. I have been asked : What should you do supposing a question should be put in such a way as that any answer to it would be misleading? Say so. You have rights as well as the cross-examining counsel, and your rights are bound to be respected. Say, "I cannot answer that question in a way that will convey the proper impression." Have the question put in such a way that you can answer it. These three simple rules seem probably almost like baby talk, but if they were observed at least one-third of the time taken up in our courts would be saved, and at least one-half of the humiliation and mental pain which witnesses experience, both before and especially after they leave the witness box would be prevented.

Don't despise the cross-examining counsel. Poor chap! he may not know the difference between a heart and a liver if he were to see them. He may know nothing of medicine generally, but if he is worth his salt, and if he is doing honest work for the fee that is paid to him—I withdraw that—promised him—he will know as much about the subject for the time being as you do. Don't despise him; he is in a different line of business, but if he is a first-class man, he will, for the time being, know his subject; and if he is anything like a first-class man he will at least make the jury believe he knows more than you do about it.

Don't get into jangles. Don't cross swords in the way of wit with the counsel. That is our play, what we are after. Give me the witness that will jest with me, particularly an expert witness, and in nine cases out of ten he will give me what I want. If the cross-examining counsel laughs at you he has either got you on the hip, or you have hit him hard. If he laughs at you, then as a rule you have got him, but if he laughs with you, you might as well leave the witness box.

I have seen cases lost by witnesses being too smart. I have in my mind now a case (I think there is at least one gentleman in this hall who will remember it) where a medical witness,

called for the defence, used the word "imagination" in reference to the diagnosis of one of the medical witnesses called for the other side. Plaintiff's counsel knew that was all he wanted. Of course at once he was glowingly indignant at the idea of a member of a liberal and learned profession talking about another member of that profession using his imagination. It was perfectly useless for that medical man to say that he was using the word "imagination" in Tyndall's sense, "the scientific use of the imagination." The jury did not know Tyndall, and did not want to. All they knew was that one medical man ventured to say another medical man was imagining things, and promptly gave a verdict for the plaintiff.

Another medical man of the highest standing had the effect of his evidence absolutely destroyed when he admitted to me in the witness box that he was an advocate. It was perfectly useless for the gentlemen to say that when he used the word "advocate" he meant an advocate for the truth. The jury knew well what an advocate was. That he was a lawyer employed and paid to speak upon one side.

Don't go and talk outside of the question, and "don't get gay."

Now, Mr. Chairman and gentlemen, I have talked already longer than I intended. I have been trying to say to you something practical, and these are not "Counsels of perfection." I know medical witnesses who, under cross-examination (while I daresay they never heard of any such rules as these I have been speaking of), have followed exactly the spirit of these rules, and as though they had them in mind. Any medical man who respects himself, and is willing to do what is right, need have no fear of his position in the witness box under cross-examination if, first, he understands his business; secondly he takes pains to prepare himself; and thirdly, he is willing to tell the truth.

Gentlemen, I thank you very heartily for your kindness and the honor you have conferred upon me. If anything I have said will in the slightest degree assist you in the future, I am more than repaid.

## THE SIGNIFICANCE OF ALBUMIN IN URINE.\*

By JOHN A. AMYOT M.B.

Albuminuria is a condition of the urine in which, in some form or other, one or more of the members of the proteid group is present. Those of the proteids which chiefly concern us from a clinical standpoint are serum-albumin, globulin, hemoglobin, nucleo-albumin, albumoses, peptones, egg-albumin and caseinogen.

Albuminuria is usually taken to indicate disease of the kidneys, and its absence, on the other hand, to mean that there is no disease of them.

Proteids may enter the urine by other channels than the kidneys. Certain proteids may pass through the kidneys without there being disease of them, and again, we may have disease of the kidney without any albumin at all showing in the urine.

To the clinician, the value of the discovery of the presence of albuminuria lies in the fact that by combining symptomatology with certain simple and yet sufficiently accurate chemical and microscopical methods, it is possible to arrive at a pretty fairly accurate idea as to the source and significance of proteids in the urine of a given case.

The albumin of the urine that physiologists dispute over is that which is present in such small quantities that very special methods are required to show it. The ordinary methods used clinically do not show those physiological (?) quantities. The chief source of this so-called physiological proteid is probably the protoplasm of the shed and then disintegrated epithelial cells—nucleo-proteids.

Any proteids foreign to the blood (egg-albumin, caseinogen, peptones and albumoses) having got access to the blood-stream are immediately got rid of by the kidneys—excreted by them. The presence of these, then, do not, of course, indicate disease of the kidneys. They simply cannot be retained in the blood, in spite of the fact that they are proteids and colloids. These will all react more or less to the ordinary clinical tests for proteids. No cellular elements, such as renal-epithelium, bloods cells, tube casts, cylindroids, etc., will be found in these cases, and the history and symptoms will help out. Cancer of the alimentary tract, ulceration or even cellular alterations of the lining membrane without abrasion of the bowel may allow of the substances to pass into the blood and thence through the kidneys into the urine. It is of special importance to keep this fact in mind in those cases that show "after-meal" albuminuria.

\*Read at Ontario Medical Association. June, 1923

Or the presence of peptones or albumoses, and generally albumoses, when disease of the alimentary tract can be excluded, may give us a clue as to the presence of a deep-seated abscess in the body, or to disintegration of tissue, as takes place in certain cases of syphilis or some mental affections.

The proteids chiefly found in "renal albuminuria" are serum-albumin, globulin, hemoglobin and nucleo-proteids; but these may arise from other sources than the kidneys, *e.g.* perirenal tissues, the pelves of the kidneys, the ureters, the bladder, the seminal vesicles, the prostate, the urethra and the genitalia of the female (in them the urine for examination for albumin should be drawn by catheter). From these sources the proteid may come from disintegrating new-growths, abscess, sinuses, ulcerations, hemorrhages, or catarrhal inflammations. The presence of local symptoms, the quantity of proteid, and the microscopic structures found (cells from various areas) will serve to clear the diagnosis.

Now we have our "true renal albuminuria." This always indicates pathological alteration of structure or function in the kidney.

The kidney is the great excretory organ of the body. It has a vascular and a tubular structural arrangement peculiarly adapted for this purpose. Under stimulated activity an immense quantity of blood will pass through the kidneys in a very short space of time. In fact 5.6 per cent. of the total blood of the body will pass through them in one minute, which is from five to fifty-five times more than will pass through any other organ in the body, weight for weight. This blood carries with it various substances derived from various sources, *e.g.*, the alimentary tract, the internal secretions of various organs, the products of tissue metabolism, and since functions are various, so are the products. Urine is not a simple substance containing a few potash, soda and calcium salts, urea, uric acid and coloring matters, but contains various ill-defined substances, such as even under absolutely normal conditions are quite toxic. In fact it has been shown by Buchard that in fifty-two hours, aside from the salts we ordinarily think of as being present in urine, enough toxic material is produced that retained would produce death in an adult man. Surgeons know how destructive to tissues even sterile urine is. But we are not always under normal conditions. When disease comes about, new products are added to those above mentioned. The products of bacteria, *e.g.*, diphtheria, and typho-toxines (excessively destructive to tissue), and substances formed from the disintegration of our own organs, the result of the action of these various bacterial toxines. Under disturbed conditions various new products of metabolism are formed. Besides these we have various

substances formed from the foods and materials we take into our digestive tracts. An alimentary tract functioning normally will allow many substances to pass into the circulation that are harmful (unsuitable foods, *e.g.*, "gamey" meats, fish and vegetables). But when functioning abnormally, many more and more seriously poisonous products find their way into the circulation (such as products of bacterial activity, the bacteria being let loose under these conditions, now that the normal checking functions of the body are not doing their work).

All these products, simple salts (but may be in excess), ptomaines, toxins of various kinds from the alimentary canal, leucomaines, toxins, and various products of normal and abnormal tissue metabolism, all have to go through the kidneys. Besides these, particulate-matter and even pathogenic microbes in the blood, are got rid of by the kidneys.

The work of the kidneys, under normal conditions, is heavy; under abnormal conditions it becomes excessive and trying. All the reserve is called out, but a time comes when all the substances passing through this living, active, protoplasm of the kidney cells produce their effect. The cell-protoplasm is changed in composition. It degenerates; it loses its selective power. It can no longer pick out from the blood what it is there to do, nor can it hold back substances that should be left in the blood. One class of substances it should hold back is that of the proteids, the albumins. These pass out into the urine with more or less hindrance, according to the quantity of protoplasm affected, and according to the quality of the changes that the protoplasm has undergone, according to what form of degeneration has taken place. Sometimes the cells are only slightly altered, sometimes they are killed out completely or altered so that they lose practically all function except that of looking after their own existence. In a general way the more alteration the more albumin will pass through. But the loss of the albumin is not the serious condition. The comparatively small quantity lost might have some effect on nutrition, not more, at any rate, than oft-repeated small hemorrhages. At any rate, it is not what gives rise to the pronounced and alarming symptoms in albuminuria, this loss of albumin.

Generally speaking, the quantity of albumin present is in proportion to the quantity of cellular protoplasm affected, and consequently put out of commission. In the chronic interstitial form the cells are gone, and the tubules obliterated. The toxic substances mentioned above are not excreted *in toto*, and in severe cases not at all. The consequences are grave enough where everything above the kidneys is normal, but when abnormal the consequences of their retention are much more

grave. A patient showing renal incompetency will sometimes last a long time, but all have seen how quickly they succumb to an intercurrent, especially, an infectious febrile disease.

By the examination of the urine chemically, the quantity and quality of the albumin may be made out. By the use of the microscope the structures affected may be discovered, and indications for treatment pointed out.

When albumin is present in urine, as shown by the ordinary clinical tests, and it can be narrowed down to the kidneys as to source, we have evidence of pathological alteration in their structure or their function. On this depends the reduction of excretion, and according as this is more or less complete, the consequences are more or less grave.

# Clinical Note.

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## SOME CASES OF ANTE-PARTUM HEMORRHAGE.

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BY K. C. McILWRAITH M.B., TOR., F.O.S. ED.

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A number of these cases were reported at a recent meeting of the Toronto Medical Society, and the discussion to which they there gave rise leads me to hope that they may be of interest to the wider circle of the PRACTITIONER'S readers.

CASE 1.—A young negro girl was admitted to the Burnside Hospital, pregnant about eight months, suffering from quite profuse hemorrhage. On examination, a collapsible tumor, with thin walls, about the size and shape of one's finger was found presenting at the vulva. Traced upwards, this was found to take origin from the side of the vagina, and to be simply a dilated and prolapsed vein, comparable to a hemorrhoid. From a small abrasion near the base of this vein the hemorrhage was coming. With some difficulty it was tied off and the patient had no further trouble from it.

CASE 2.—Was of a somewhat similar nature. The patient came to the Burnside with hemorrhage—not quite so profuse as in Case 1. Examination showed varicose veins of the vulva and vagina. The hemorrhage was coming from one of these in the cervix. She was kept in bed and given saline purgatives and the hemorrhage ceased. She then insisted on going home, and her physician tells me that the hemorrhage did not return.

CASE 3.—Was seen in consultation with Dr. C—. The patient was about five months pregnant. She had been troubled with persistent vomiting, and her physician, finding the cervix edematous had applied iodine to it. The edema and the vomiting disappeared, but were succeeded, after a time, by continuous free hemorrhage, so much so that when I saw her she was blanched and her pulse was rapid. Examination with the speculum showed a greatly swollen cervix, from almost the entire surface of which blood was oozing. It was drawn down with tenaculum forceps, and from the punctures thus made free hemorrhage took place. A provisional diagnosis of cervicitis was made, and a piece removed for examination showed the absence of malignant disease. Saline cathartics, rest in bed, and the application of astringent tampons were advised, and under this treatment the hemorrhage was checked for a time. It returned, however, the patient miscarried and then the cervical trouble subsided.

CASE 4.—This patient was sent to St. Michael's Hospital with a diagnosis of hemorrhage from placenta previa, a diagnosis which was confirmed on examination. The placenta was lateral, to the left of the os. The history was that of hemorrhage coming on during unusual exertion. Labor pains were present and the os partially dilated. A Braxton-Hicks version was done and the delivery then left to nature.

CASE 5.—Before patient in Case 4 had left the hospital a second patient was admitted for the same cause. In this case also the placenta was to the left, but overlapped the os. The same treatment was carried out. Both mothers recovered without further incident and one child was saved.

CASE 6.—Seen at St. Michael's Hospital in consultation with Dr. M——. The patient was nearly at full term and had lifted a wash-tub. Severe hemorrhage followed and labor set in, each pain being accompanied by a flow of blood. The os was found partially dilated. Dilatation was completed under chloroform. As the head was still freely movable above the brim and the hemorrhage was continuing, version was chosen in preference to forceps as being quicker. Mother and child both did well.

CASE 7.—Seen in consultation with Dr. C——. The patient was about the eighth month of pregnancy. At the fifth month she had been operated on for appendicitis with pus formation. Subsequently she had an attack of lobar pneumonia. When I saw her the fetal heart could be heard low down to the right. She suffered at times from smart hemorrhages, and in the intervals from a greenish and rather offensive discharge. Rest and antiseptic douches, very cautiously administered, were tried, but the patient miscarried. Child was born alive, but did not live long. During the puerperium the patient had a slight attack of phlebitis.

CASE 8.—This patient I have just finished attending for the third time for the same condition. On the first occasion, a little more than two years ago, she began to suffer about the second month of pregnancy from hemorrhages, alternating with a greenish and offensive discharge. On examination the uterus was found retroverted. She was sent to the pavilion at the Toronto General Hospital, the uterus replaced, and a ring pessary inserted to keep it in place. She was kept at rest until the pregnancy had advanced so far as to make retroversion impossible and then sent home. I delivered her at full term of a male child. He has not been as healthy as her other children, and is only now beginning to walk. On two subsequent occasions she had refused to go to the hospital, and I have endeavored to carry out the same treatment at home. Early abortion has resulted each time.



CASE 9.—In this case, at the third month, slight hemorrhage came on at intervals, without any obvious cause, for two or three days. Rest in bed for two or three days, followed by gradual resumption of housework, was sufficient to avert the threatened abortion.

CASE 10.—Was similar to Case 9. The patient had, in addition, some crampy pains. She had been for some time previous to her marriage assistant in the office of a well-known gynecologist, and feared that she might be having an ectopic pregnancy. I was able, after examination, to reassure her on this point. Rest was sufficient, and I subsequently delivered her at full term of a healthy child.

CASE 11.—Sent to St. Michael's Hospital on account of hemorrhage. Placenta previa thought possible, as no other cause could be assigned. The patient was about the seventh month of pregnancy. On examination I could find no evidence of placenta previa. She was kept in bed. There was no further hemorrhage, but labor came on in a few days, and she was delivered of one child about seven months advanced, and one dead and macerated fetus about four months advanced.

Hemorrhage from varicose veins about the vagina or cervix is not a very common cause of antepartum hemorrhage. The amount of blood lost may be large or small, according to the size of the vessel opened. I have never seen a case like Case I reported. The vein should be dissected up and ligatured like a hemorrhoid. When this is not practicable and the hemorrhage is severe, pressure will probably control it. In slighter cases rest and saline cathartics may be sufficient.

Severe hemorrhage from an eroded and inflamed cervix is also a rare occurrence in pregnancy. It is casually referred to by some authors, who have apparently found the hemorrhage trifling, and not at all by others. Astringent tampons are recommended. In another such case I should feel inclined to try the effect of adrenalin chloride.

The Braxton-Hicks method is the one that is most generally serviceable in placenta previa. This subject is too extensive to be taken up in detail here, but I should like to emphasize one point in this treatment, which I am afraid is sometimes overlooked. After the version is done, do not proceed to immediate delivery, for fear of tearing the cervix. This may lead to serious and sometimes fatal hemorrhage. Let nature complete the case, only assisting the after-coming head.

Case 6 was an ordinary severe case of accidental hemorrhage, and Cases 9 and 10 slight ones. No cause could be found for the hemorrhage in either of these two, and I have mentioned them because I believe that such slight hemorrhages in early pregnancy are more common than one is generally led to suppose.

Case 8 is remarkable for the vicissitudes through which the patient came. The abortion was probably due to some slight traumatism or infection of the uterine wall at the time of the appendicitis operation. Had the pneumonia been the cause the child would probably have been dead. Mal-positions of the uterus often cause trouble in pregnancy, but are usually accompanied by severer symptoms than were present in my cases. The reposition of the uterus was easily effected.

In several of these cases I have had occasion to refer to the alternation of hemorrhage with a greenish-colored and sometimes offensive discharge. It was present in Cases 7, 8 (three times), 9 and 10. The change from hemorrhage to a discharge of this nature, which gradually ceases, often means that the trouble is subsiding, but not always.

## Selected Article.

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### MODERN THERAPY OF SEPTIC PUERPERAL AND SURGICAL INFECTIONS.

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Boswell Park, M.D., LL.D., Buffalo, N.Y., Professor of Surgery University of Buffalo, says (*Alpha Omega Delta Bulletin*, March, 1893), that the most efficient measures for the treatment of surgical infections are the various silver preparations, for whose introduction into surgical and obstetrical work we are indebted to Credé, of Dresden. We have been for decades looking in vain for an effective antiseptic which is devoid of marked toxic or irritating properties. Allotropic silver (collargolum) seems to offer us the nearest approach thereto. Between this silver preparation, which is so bland, and the silver salts, like nitrate of silver, there are the lactate and citrate of silver, also introduced by Credé, of which reasonably strong solutions can be used upon quite sensitive surfaces without producing much if any disturbance.

Let us first take the aqueous solution of soluble metallic silver (collargolum), which in the strength of 1 to 500 in distilled water makes a somewhat cloudy solution. In this strength it may be used by intravenous injection in cases of severe general or puerperal sepsis, rapidly spreading gangrene, acute articular rheumatism or other serious infections. In fact, solutions as strong as 1 to 100 may be employed, it being desirable to introduce 6 cg. (.9 grain) to 10 cg. (1½ grains) at least. If there be difficulty in injecting it into a vein it may even be given beneath the skin. Unpleasant effects will not be noticed, neither will any immediate relief follow, but the solution thus introduced coming into contact with the blood, which in these cases is swarming with germs, will promptly begin its bactericidal work, whose effects should be manifested after two or three hours by a fall of temperature and amelioration of septic symptoms. Silver used in this way has been of great service in cases of carbuncle and even of acute anthrax. Moreover, its administration may be repeated as often as may seem necessary.

When metallic silver is made into a suitable ointment (unguentum Credé), which, by the way, much resembles mercurial ointment, and is then applied to the skin, there is a rapid absorption of the silver itself with its dissemination into the blood stream and results like those just mentioned. It is simply a somewhat slower method of introducing it into the system. For many years I held and taught that the combination of resor-

cin, ichthyol and mercurial ointment, which I believe I introduced into surgical practice, was the most effective remedy for the treatment of erysipelas and all similar septic infections. To-day I have found but one combination which I think superior for this purpose, and that is the silver ointment, unguentum Credé. I believe that its properties are more marked than those of the ointment which I so long used. No matter what part of the body be anointed absorption takes place readily and promptly, consequently any convenient surface may be medicated in this way. Cleanse the skin thoroughly, smear the ointment freely over the surface, cover the area with oiled silk, and put over this, if comforting to the patient, a warm application to promote absorption. If the surface be not tender, the ointment may be rubbed in. In cases of puerperal sepsis it may be applied over the abdomen or to the inside of the thighs. In erysipelas it should be applied to the affected part.

Lastly, I would speak of the use of lactate and citrate of silver, not only for such purposes as the preparation of catgut, silk, gauze, etc., but in solutions of from 1 to 300 to 1 to 500 for the irrigation of septic cavities, and for such purposes as washing out the peritoneal cavity in cases of tuberculous peritonitis, for which I have repeatedly used it and always with benefit.

In my own experience, in several instances, a flushing of that cavity with a 1 to 500 solution has been of the greatest apparent benefit and has never occasioned any regret. Infected bladders, uterine cavities and vaginas may be advantageously, freely and frequently washed out with similar solutions. When using them one may have the feeling that he is using solutions of greater efficacy and of far less toxicity than any of the mercurial preparations would afford. Therein lies the beauty of these preparations, that in anything like equal strength they are more effective and much less toxic than the mercurial salts.

I often state in my clinic that the good old-fashioned nitrate of silver is not used nearly so much as it should be and prove the strength of my conviction by its general use in 1 to 10 per cent. solutions in pus cavities. Not only is a full germicidal effect obtained but also that stimulation to healthy granulation which the nitrate is well known to afford. All in all, if I could have but one source for antiseptic solutions and applications I would rather look toward the preparations of silver than in any other direction.—*Buffalo Medical Journal.*

## Editorials.

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### THE MEDICAL FACULTY OF THE UNIVERSITY OF TORONTO.

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The re-established Medical Faculty of the University of Toronto is now sixteen years old. The seventeenth session will be opened under unusually auspicious circumstances in the new building October 1st. As Professor Mackenzie tells us in the *University of Toronto Monthly*, the architect has been successful in combining utility with architectural beauty. The interior construction is based on what has been called the unit system of laboratory construction, worked out by Professor Minot and his colleagues for the new medical buildings of Harvard University. The unit adopted for the Toronto building is 30 by 23 feet, each unit having its long wall practically filled by two large windows, thus ensuring good lighting. The adoption of this system simplifies the problem of construction, as the partitions may be put in independent of the unit lines, and may be altered at any time in a few hours, at little expense. The building is situated in the space between the west wing of the Biological Department and the Library, and faces the University lawn. The western portion has two stories, and two wings, which run east into the ravine, have each four stories. The Arts Department of Physiology will occupy the southern and the Medical Faculty the northern portion of the building.

The definite arrangements as to the details of the programme of the opening exercises will not be completed until early in September, but we learn that the following gentlemen will attend: Professors Osler and Welch, of John Hopkins University; Professor Minot, of Harvard University; Professor Keen, of Philadelphia, and Professor Sherrington, of Liverpool, England. Invitations are also being issued to various universities and to the profession in Ontario. It is expected that the opening exercises will extend over two or three days and will be exceedingly interesting.

It is singularly opportune to have such a magnificent building completed just in time to receive the new amalgamated Medical Faculty. Much will be expected from this faculty in the near future. The profession of Ontario have for years

demanding from the Provincial University more than we have had in the past so far as the science of medicine is concerned. They have asked especially for more original research work and a thoroughly good post-graduate course. Such demands are reasonable and should receive a prompt and satisfactory response. A good fifth-year post-graduate should be inaugurated without delay. The universities and the Medical Council of Ontario appreciate the situation and are now considering the matter carefully. Let us hope their deliberations will be wisely conducted, and that we will soon have a post-graduate course worthy of our big province.

#### TENTATIVE PROGRAMME OF INAUGURAL CEREMONIES.

October 1st.—3 p.m., Addresses by President Loudon (introductory); Professor Sherrington, of Liverpool University; Professor Minot, of Harvard; Professor Welch, of Johns Hopkins; Professor Keen, of Jefferson Medical College  
8 p.m., address by Professor Osler.

October 2nd.—3 p.m., Special Convocation. 8 p.m., Faculty banquet.

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#### THE PHYSICIAN AS A GAMBLER.

The physician is generally considered to be rather a poor business man, and his history in Toronto compels us to assert that he is not a good gambler. The historian tells us that all peoples, of all shades and colors, gamble, but the biggest *plunger* of the lot is the Anglo-Saxon, "because of his superb vital life-force." We incline chiefly to three forms: horses, cards, and stock margins. The gambler at the Woodbine has a good time for a couple of weeks, has his ups and down, and, of course, comes out *short* at the end of the races. He doesn't mind, however, if he has had lots of fun, and he goes to work with the laudable aim of saving something for the next races. Card gambling is less healthy. The player works at night in a room which becomes close and stuffy, and generally smokes and drinks too much. Neither of these forms of gambling is considered correct; neither meets with the approval of the clergy.

Stock gambling is really the only form that is eminently respectable. Here the doctor can work shoulder to shoulder with the preacher, the elder, the church warden, the class-leader, the

widow and orphan, or the fellow who has the widow's and orphan's money. We understand that the preacher is more scientific in his methods than the innocent doctor, and becomes therefore the shrewder speculator; he knows more about selling *short*. We learn from experts that in stock margin gambling it is more satisfactory to sell what you haven't got than to buy what you don't get.

Of course, in the long run, the large dealers capture the *pots*. They then become great philanthropists, pillars of churches, and by common consent occupy the highest seats in the synagogue. Occasionally, however, even the *top notchers* come to grief, but strong influences come to their rescue. The press loudly proclaims that they are men of undoubted integrity. The banks help them in various ways and assume an "attitude" that has a "reassuring effect." In troublous times things sometimes become unhinged, but gradually "stability" comes. This is well explained in a certain instance in one of the leading papers as follows: "The cause making for stability is the fact that many weak holders have been wiped out, and their places taken by strong interests, fully able to protect themselves." The devil may take care of the small holders, the press, the banks, and the people in high places don't bother much about them.

Stock fever has been endemic among the physicians of Toronto for the last twenty-five years. Our profession furnishes a fine share of the "small dealers" who are necessary for the *game*. Duffin's Creek, Hogs' Hollow, and Mimico stocks are put on the market at a suitable time. They may mean nothing, but for gambling purposes they answer very well for a while. The nothing is intermingled with the substantial in a very ingenious way. Whether one is buying 10 per cent. of nothing or of something he is in any case getting nothing. The physician who gets his *tip*, buys and sells *shrewdly*, and increases a capital of one or two hundred to five hundred or a thousand dollars within a year is for a time the happiest man who walks our streets. There have been many of them during the last five years, but he is generally sadder and wiser to-day. After careful consideration and consultation with those who *know* we tender the following advice to the clever and ambitious young physician: Don't be a clam, start at once; play the *game* like a man; you will be more apt to be *closed out* soon.

## THE TORONTO HOSPITALS FOR JULY.

The reports for July of the hospitals\* in Toronto give interesting statistics regarding the health of the city.

### TORONTO GENERAL HOSPITAL.

Patients in Hospital, June 30.....	227
Patients admitted in July.....	260
Births (male, 13 ; female, 7) in July.....	20
	507
Patients discharged in July.....	250
Patients died in July.....	19
Patients remaining, July 31.....	243

### TABLE GIVING CAUSE OF DEATH.

	MALE	FEMALE
*Accident (trolley).....	..	1
Anemia.....	..	1
*Appendicitis.....	1	..
Cancer.....	..	2
Gangrene, senile.....	1	..
Heart disease.....	3	1
Hemorrhage of brain.....	1	..
Ovarian disease.....	..	1
Pneumonia.....	1	..
*Peritonitis.....	2	..
Senile decay.....	1	1
*Septicemia.....	.	2
	10	9
Total deaths, .....		

\* Moribund cases (6) when admitted. Only eight cases of typhoid are at present under treatment.

### ST. MICHAEL'S HOSPITAL

Patients in hospital, June 30th.....	149
Patients admitted in July.....	202
Births in July.....	10
Discharged in July.....	171
Died in July.....	13
Patients in hospital, July 31st.....	175

Cause of death : Pneumonia, meningitis, cancer of tongue, carcinoma of rectum, cardiac dilatation, hemiplegia, cystitis, peritonitis, nephritis, cerebral softening, intestinal obstruction, septicemia, extravasation of urine.

### GRACE HOSPITAL.

Patients in hospital, June 30.....	62
Patients admitted in July.....	80
Births in July.....	13
Patients discharged in July.....	96
Patients died in July.....	3
Patients in hospital, July 31.....	56

Nephritis, cerebral hemorrhage, and multiple abscess of liver, causes of death.

\* No report received from Western Hospital.



# Progress of Medical Science.

## OPHTHALMOLOGY AND OTOTOLOGY.

IN CHARGE OF J. T. DUNCAN.

### Acute Violent Delirium After Cataract Extraction.

In the *Therapeutic Gazette*, Dr. Schweinitz gives an interesting account of this rather rare condition, occurring in a patient of his

The history is as follows: For a number of years he has had slowly growing cataracts, which began in the form of the so-called nuclear opacities. In order to facilitate the extraction of an unripe cataract, and temporarily to improve vision, more than a year ago I performed iridectomy on each eye. At the last clinic the right cataract, although it was not completely ripe, was readily extracted. No complication of any kind occurred until about thirty hours later, when the delirium began quite suddenly, with hallucinations of persecution. Within an hour this delirium gave place to most violent manifestations simulating acute mania, the patient fighting and struggling and screaming incoherent sentences at the top of his voice. With much difficulty he was secured with suitably padded cuffs, and a sixth of a grain of morphine administered, followed about an hour and a half later, inasmuch as it produced no effect, by an eighth of a grain of the same drug. As the delirium continued in exaggerated degree, 1-100th of a grain of hyoscine was given hypodermically. Within half an hour the patient was quiet and gradually sank into a deep sleep. For some hours there was marked diminution in the number of respirations, which fell as low as eight per minute. At the expiration of about ten hours he awoke, weak and depressed, but entirely free from mental disturbance. The urine contained albumin and granular casts; indeed, this condition of the urine had been known for some time, as for the past year albumin had been present. His recovery has been complete; the operated eye has healed perfectly, and his visual acuity is excellent.

Mental disturbance after operations upon the eye, particularly after the extraction of cataract, is not very uncommon, and as in this patient, usually manifests itself during the evening of the second or third day after the operation. The degree of mental disturbance varies greatly. Sometimes it appears merely as an exceedingly temporary confusion of ideas, and sometimes as a violent delirium, associated with aggravated hallucinations.

Naturally, the etiology of this condition has attracted a great

deal of attention, and all manner of theories have been advanced to explain it. It has been suggested that the disordered cerebration depends upon a special predisposition; or perhaps that the patient has been mentally unbalanced before the operation, and that the operation has simply been an exciting cause; or, to use Parinaud's phraseology, the condition depends upon extreme preoccupation of the patient for the days preceding the operation—that is, although apparently calm the patient really is in a state of suppressed excitement, which excitement liberates itself in this explosive manner after the operation is completed and he has been retired to a darkened room with bandaged eyes. Indeed, bandaging of the eyes itself has been supposed to cause the delirium, because it has been noted that in some instances immediate relief followed when the bandage was removed from the unoperated eye, thus permitting the patient to come in touch with his surroundings. Again, the delirium has been supposed to be due to the administration of drugs prior to the operation, and particularly to the instillation of atropine solution in the operated eye. Restriction of diet, alteration in the diet, the withdrawal of stimulants to which the patient has been accustomed, and the like, have all been brought forward as etiological factors.

#### **Leucoma of the Cornea.—Administration of Thiosinamin with Negative Results.**

In the same journal, *Therapeutic Gazette*, Dr. Schweinitz speaks of the use of thiosinamin, remarking that this drug is obtained by mixing the oil of black mustard seed with alcohol and aqua ammonia. The drug is supposed to be an active alterative, and a pronounced lymph stimulant. Dr. Suker advises the use of it internally in cases of corneal opacities, and has reported cases of such opacity with some good results. The case of corneal opacity of which Dr. Schweinitz speaks (leucoma of the Cornea) was a good case on which to try the effects of thiosinamin, and it was accordingly given in full doses for three months but without the slightest effect. In this case and others in which he tried the remedy, Dr. Schweinitz failed to obtain the least favorable result.

#### **Operative Treatment of Glaucoma.**

Mr. W. A. Harper (*Medical Age*, for June, 1903), gives a brief account of this subject. He holds that medical treatment is only palliative, all mydriatics having a tendency to increase the tension; but myotics, especially sulphate of eserine, lessen the tension, and is often an important adjunct in combating the disease.

The only curative means yet known is an operation, the

principal one being iridectomy, first performed in 1857. Other operations have been tried, such as sclerotomy, cutting of the ciliary muscle, and more than a dozen other substitutes. All have either proved failures, or are accomplished with more or less objectionable features.

The latest operation put forward for this disease is excision of the superior cervical sympathetic ganglion. Harper thinks we are only justified in doing this operation for the cure of glaucoma when other operative measures have failed.

J. T. D.

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## OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, JAMES W. F. ROSS, ALBERT A. MACDONALD,  
K. McILWRAITH, AND HELEN MACMURGHY.

### Puerperal Sepsis.

Dr. E. P. Davis, Professor of Obstetrics Jefferson Medical College, Philadelphia, in a recent article on this subject deals with (1) prophylaxis; (2) methods of treatment. The latter he subdivides into (a) valuable; (b) experimental; (c) injurious—these last being wholesale drugging, undue stimulation of the heart, and repeated intra-uterine manipulations.

Under prophylaxis the chief points mentioned are: Good care of the patient during pregnancy, the exercise of the utmost skill in preventing avoidable lacerations, and the prompt repair of unavoidable lacerations, and above all, rigid surgical cleanliness, asepsis and antisepsis in every step and detail of the labor as regards patient, nurse and physician, dressing, instruments, etc. Routine douching should never be practised.

Methods of treatment which have proven of value are briefly these: Upon the development of septic infection the physician should gently and thoroughly cleanse the uterus and vagina, removing all foci of infection and irrigation with a large quantity of lipsol or creolin solution (1 per cent.), or normal salt solution at a temperature of 100 degrees. The vagina should then be lightly tamponed with dry bichloride gauze, which is removed after forty-eight hours, and the uterus and vagina thoroughly irrigated again with lipsol (1 per cent.) No further douching should be done. Other valuable methods of treatment are the application of an ice-bag covered with flannel to the abdomen, the prompt and thorough emptying of the intestine, the use of strychnia, ergot, alcohol, and morphine, if necessary. The patient's strength must be maintained by plenty of nourishment, chiefly beef-juice, broth, gruel, milk, fruit-juice, raw fresh eggs, and an abundance of water. The importance of good nursing, and of surgical intervention when indicated, is insisted on.

The author considers that the following methods of treatment are still in the experimental stage: (a) The employment of antistreptococcus serum: (b) the administration of nuclein, in order to increase the leucocytosis: (c) inunctions with Credé's silver ointment or the intravenous injection of collargol: (d) intravenous injection of formalin "presents for consideration one patient who survived the injection"; (e) hysterectomy, either vaginal or suprapubic (the latter has enjoyed the smallest mortality); ligation and exsection of infected and thrombosed veins, principally those of the pelvic structures (a procedure which would seem especially applicable in cases of pyemia.) Hysterectomy of the gravid infected uterus (fetus dead) has in the author's hands given good results.—*The Philadelphia Medical Journal*.

The same very important subject of puerperal sepsis was discussed at the twenty-eighth annual meeting of the American Gynecological Society recently held in Washington, a paper being read by Dr. Vineberg, of New York. Among those who spoke was Dr. J. Whitridge Williams, of Baltimore, who laid stress on the bacteriological examination of the lochia and the blood, and remarked that he had seen only two cases of puerperal sepsis in which an operation was distinctly indicated.

Dr. Craigin, of the Sloane Maternity Hospital, emphasized two points in treatment, namely, to make sure that the uterus is empty, and to do as little damage to the interior of the uterus as possible in making sure that that organ is empty. Some other physicians, in contributing to the discussion, questioned the practical value of bacteriological examinations so far as treatment is concerned.

The New York Academy of Medicine discussed the surgical treatment of puerperal sepsis at their May meeting. Dr. H. J. Boldt strongly condemned indiscriminate curetting, and said further: In the acute forms of puerperal septicemia and pyemia in which it is probable that the general circulation has been invaded by micro-organisms, whether a bacteriological examination of the blood at the time of making the examination proves this or not, no method of surgical intervention is of benefit; on the contrary, it is likely to shorten life. In all puerperal infections the form of surgical intervention, if one is indicated, must be left to the judgment and conscientiousness of the physician, and the prognosis will vary according to the conditions to be combated. With our present knowledge no strict rule by which one should be governed can be laid down.

H. MCM.

## Personals.

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Dr. C. R. Cuthbertson, of Toronto, started for California, August 1st.

Dr. Jamieson, M.P.P., Durham, visited Toronto Island early in August.

Dr. Gibb Wishart, of Toronto, spent the greater part of August at Go-Home Bay.

Dr. H. C. Burritt, of Toronto, returned to his home, August 14th, after a six weeks' holiday.

Dr. Wm. Britton, of Toronto, has returned after spending a holiday at Cleveland, Muskoka.

Dr. J. Cross, of Australia, after a ten years absence, is visiting his relations in this Province.

Dr. J. L. Davison, of Toronto, has returned from a successful fishing trip on the Labrador Coast.

Dr. J. T. Fotheringham left Toronto, August 4th, for the Saguenay and the Maritime Provinces.

Dr. E. W. Spragge returned to Toronto, August 13th, after a sojourn of three weeks in Muskoka.

Dr. Primrose, of Toronto, spent the month of August at Gordon Bay, Lake Joseph, Muskoka.

Dr. Edmund E. King, of Toronto, spent the month of August at Trent Bridge, on the River Trent.

Drs. E. M. Hooper and E. A. Clark, of Toronto, spent a part of the summer at Milford Bay, Muskoka.

Dr. J. T. Wagner, of Toronto, has returned from Sparrow Lake, where he spent part of the summer.

Dr. Jerrold Ball, of Toronto, left for Atlantic City, August 14th, and expects to be away about a month.

Dr. Andrew Gordon, of Toronto, spent a portion of the month of August at the King's Royal, Owen Sound.

Drs. Jas. H. Richardson and W. H. Ellis, of Toronto, spent their summer holiday in Huntsville, Muskoka.

Dr. Kennedy McIlwraith spent three weeks on one of the lakes near Bobcaygeon, and returned to Toronto, August 23rd.

Dr. George Bingham, of Toronto, left August 12th for a visit to the Maritime Provinces.

Dr. W. H. Montague, of Hamilton, after spending several weeks at Murray Bay, returned to his home August 6th.

Dr. Palmer, of Toronto, has spent the greater part of the summer in Grimsby. He will resume practice early in September.

It is expected that the Hon. Dr. Sullivan, Senator, will be Dean of Kingston Medical College, in the place of Dr. Fife Fowler, deceased.

Drs. Reeve and Cameron, of Toronto, left England after the close of the meeting of the Allied Colonial Universities, and reached Toronto, August 21st.

We regret to state that Dr. H. B. Anderson had rather a serious relapse of typhoid, but his friends will be glad to know he has now practically recovered.

Dr. C. H. Vrooman, of Winnipeg, visited Toronto early in August, and after looking through the hospitals, went to Montreal, New York, and other cities of the United States.

Dr. Norman D. Buchanan, (Tor. '03.) and Dr. Frank C. Neal, (Tor. '03.) sailed from Montreal for Liverpool, August 11th. They expect to spend two years in post-graduate work in London, Berlin and Vienna.

Dr. William Bayard, the well-known and highly respected nestor of the medical profession of St. John, N.B., celebrated his 90th birthday, August 22nd. Dr. Bayard has been a physician for more than sixty years, is still in active practice, and in excellent health.

The Ontario Government appointed the following to compose the Provincial Board of Health. They will act for three years: Edward E. Kitchen, M.D., St. George, chairman; Alexander Thompson, M.D., Strathroy; R. P. Boucher, M.D., Peterborough; Wm. H. Oldright, M.D., Toronto; John Douglas, M.D., Cobourg; J. J. Cassidy, M.D., Toronto. The retiring members of the board are Dr. H. E. Vaux, Hamilton; Dr. J. H. McCullough, Owen Sound.

## Obituary.

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J. W. McLAUGHLIN, M.D., M.R.C.S., and L.R.C.P., Edin.

Dr. McLaughlin, of Bowmanville, died at his home, August 9th, after a long and painful illness, aged 63. He was born in Tyrone, Darlington Township, and received his degree in medicine from the University of Toronto, in 1864. He was gold medallist in his graduating year, and was always recognized as one of the ablest of Toronto's graduates. After practising in Enniskillen for nearly eight years, he went to Great Britain for a post-graduate course, and passed the examinations for the double Edinburgh qualification. He removed to Bowmanville, and commenced practice there in 1875. From that year he was generally considered one of the best medical practitioners in Ontario. He represented West Durham as a Liberal in the Ontario Legislature for three Parliaments. In entering the Legislature he formed a partnership with Dr. Alex. Beith which continued up to the time of his death. On retiring from Parliament, he was appointed registrar for West Durham. He was an active member of the Ontario Medical Council for many years. He was what may be designated an aggressive reformer in all respects, almost a radical at times, but he was ever honest and true. No higher type of man ever existed in the medical profession of Canada.

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### LUCIUS S. OILLE, M.A., M.D.

Dr. L. S. Oille, of St. Catharines, died Aug. 15th after an illness of a few weeks, aged 73. His career was, in many respects, a most brilliant one. He early gave evidence of his great ability in his course in Arts and Medicine in the University of Toronto, being a gold medallist in each department. After completing his course in medicine in 1858, he commenced practice in St. Catharines and remained there until the time of his death. Apart from his great ability, he was possessed of boundless energy, and soon took a very prominent part in all matters of public interest. He represented the city as a member of the Council, Deputy Reeve and Mayor. He took an active part in establishing the city water works system. He was the chief promoter of the first street railway between St. Catharines and Thorold and of the Niagara Central Railway between St. Catharines and the Niagara Falls. He was also president of the City Board of Trade and a member of the Board of Trustees of the Collegiate Institute for many years. In professional matters he was inclined to be pessimistic. He took a deep interest in Medical Council matters and in his *alma mater* the University of Toronto, being generally a *member of the opposition*. He was one of the organizers of the Defence

Association of Ontario and a keen critic as to the methods of the authorities of the University of Toronto. His death means an irreparable loss to St. Catharines and the whole Niagara district.

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**FIFE FOWLER, M.D. ABERDEEN, L.R.C.P. EDIN.**

Dr. Fife Fowler, of Kingston, died August 3rd, aged 80. He was born at Elgin, Scotland, and came to Canada when he was twenty years of age. For many long years he was one of Kingston's most prominent physicians, and continued in active practice even in old age until a short time before his death. He was one of the founders of the Royal College of Surgeons of Kingston, and was one of the most active workers in its interests at all times. He and the late Principal Grant were mainly instrumental in bringing about closer relationships between the College and Queen's University, some twelve or thirteen years ago. He was for many years Dean of the Medical College and its representative in the Medical Council. He was possessed of good ability, great industry, and sterling honesty, and was highly respected by all who knew him within and without the profession.

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**JAMES MCGARRY, M.D. MCGILL.**

Dr. McGarry, of Niagara Falls, died August 13th, aged 69.

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**JOHN BOSTWICK LUNDY, M.D.**

Dr. J. B. Lundy, of Preston, died August 20th, of paralysis, aged 78. He was a graduate of the University of Buffalo, and also of the University of Toronto. He commenced practice in the early fifties in Sheffield, and removed to Galt in 1878. He went to Preston in 1888 and lived there in retirement until the time of his death. He took great interest in his profession at all times, even after he gave up general practice.

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**LACHLAN CURRY SINCLAIR, M.B.**

Dr. Lachlan Sinclair (Tor. '64), of Tillsonburg, died August 21st, at his home, aged 64. He was one of the best known and most successful physicians in Western Ontario. He took an active part in politics, being a strong Conservative. On account of his great popularity he was induced to oppose Mr. John Charlton in a constituency strongly Reform as a rule, and although defeated, polled a large vote. He was in all respects a public-spirited man and was highly respected by all classes and all creeds in and about Tillsonburg.



## Book Reviews.

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**Schmidt on Venereal Diseases.** *Lea's Series of Medical Epitomes.* A Manual of Genito-Urinary and Venereal Diseases for the use of Students and Practitioners. By **LOUIS E. SCHMIDT, M.D.**, of Chicago Polyclinic. In one handy 12mo volume of 250 pages, with 21 illustrations. Cloth, \$1.00, net. Lee Brothers & Co., Publishers, Philadelphia and New York, 1902.

This little volume contains much information that is required by the general practitioner and in a very clear and concise form. It is up-to-date and may be relied upon to give aid when in doubt. It keeps one abreast of the rapidly advancing technique.

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**Regional Minor Surgery.** By **GEORGE GRAY VANSCHAICK, M.D.**, Attending Surgeon French Hospital, N.Y. etc., etc. Bound in cloth. Heavy book paper, 226 pages, profusely illustrated. Price, \$1.50. International Journal of Surgery Co., New York.

In this day of elaborate treatise and verbose volumes and the theoretical handling of medical subjects, it is a pleasure to find an author who will take the time to elaborate the minor and practical affections. This is an opportune work and will be of the greatest service to all, but more especially to the young man just starting practice. He will find here what he will need in his early years and so nicely presented that it will be a most useful aid. Although devoted to minor surgical techniques, the same amount of care has been bestowed upon the treatment of each individual condition that is, in the text-books, accorded only to subjects of major surgery. The aim throughout has been to provide the general practitioner with a book that will afford him such practical information as he can utilize in his routine surgical work. No space has been taken up by theoretical discussions, each subject being treated in a clear and concise manner, yet omitting no detail of the least importance. While in many surgical affections a number of methods are applicable, the writer has selected only those which, in an extensive experience of nearly twenty years in hospital and private practice, have proved most-satisfactory. The book is profusely illustrated with original sketches.

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**Acute Dilatation of the Stomach.** By **H. CAMPBELL THOMSON, M.D.** (Lond.), M.R.C.P., Assistant Physician to the Middlesex Hospital, etc. London: Ballière, Tindall & Cox, 8 Henrietta Street, Covent Garden.

Acute dilatation of the stomach occasionally occurs as a primary condition, but more frequently as a complication of some pre-existing disease. It may follow operations upon any part of the body, and may rapidly cause a fatal termination to

cases in which the patient appeared otherwise to be doing well. The condition has not, up to the present time, received the attention it deserves. This small book contains an admirable summary of its chief characteristics, together with a collection of recorded cases, which will be found very interesting and useful for both the physician and surgeon.

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**A Text-Book of Modern Materia Medica and Therapeutics.** By A. A. STEVENS, A. M., M. D., Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal and St. Agnes Hospitals, Philadelphia. Third edition, greatly enlarged, re-written and reset. Handsome octavo of 663 pages. W. B. Saunders & Company, 1903. Cloth, \$3.50 net. Agents, J. A. Carveth & Co., Limited, 413-415 Parliament St., Toronto.

Since the appearance of the last edition of this book such rapid advances have been made in materia medica, therapeutics, and the allied sciences, that the author has wisely rewritten the entire work. He has altered the general plan of the book considerably, and instead of considering the drugs in alphabetical order, as in the previous editions, he has classified them according to their pharmacologic action. This arrangement, notwithstanding the present unsettled state of pharmacology, possesses certain advantages in that it aids the student to correlate established facts, and to apply them more readily to the treatment of disease.

The part devoted to Therapeutics has evidently undergone a thorough revision; and we note that all the newer remedies which have been shown by competent observers to possess real merit and to be worthy of a more extended trial at the hands of the profession, have been considered. Indeed, the work is in every particular thorough and accurate, and its title, "Modern Materia Medica and Therapeutics," is fully justified. We heartily commend the work to students and practitioners.

# Selections.

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## SURGICAL HINTS.

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In the case of an intoxicated person who has received a severe injury, it is always best to empty the stomach at once by means of the stomach tube and funnel.

It is never wise to anesthetize a patient in the presence of many people. It renders them more agitated and nervous. It is preferable to anesthetize in an adjoining room, or to cause all but the anesthetist and one assistant to leave the room until the patient is thoroughly under the influence of the anesthetic.

For the removal of fish-bones, pins, needles, etc., from the upper part of the esophagus, if a bristle-probang is not at hand, make a little ball of absorbent cotton, lubricate it with a little butter after it has been tied to a string, and cause the patient to swallow it. By pulling it out again with the string the foreign body can often be removed.—*International Journal of Surgery.*

In giving ether it is a mistake, after anesthesia is complete to continue it until it becomes very profound, and then to leave it off until the patient shows signs of returning to consciousness. Allowing the patient one breath of pure air to every four or five of ether will commonly keep him in excellent condition, while the anesthesia is effective and safe.

In every severe injury of the hand or fingers perfect rest is desirable, and it is always of advantage to place the hand on a splint so that the patient will be unable to use the fingers.

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### Agurin.

Agurin is a double salt of soda theobromine and sodium acetate. It occurs as a white powder, is readily soluble in water, and has a distinct alkaline reaction. It is very hygroscopic, and solutions of the drug therefore readily decompose.

Agurin has, in a measure, replaced diuretin, the older salt of theobromine and salicylate of soda as a diuretic in dropsical conditions, and its action is similar to that of diuretin, in that it acts best in cardiac dropsy as a special stimulant to the kidneys in connection with the use of digitalis. It is well tolerated, and its effects may last several days. The dose is from ten to fifteen grains, given in powder form.—*The Clinical Review.*

**Syphiloma Hypertrophicum Diffusum Faciei.** GOTTFRIED TRAUTMANN. (Arch. f. Derm. u. Syph).

The manifestations of tertiary syphilis often occur in the form of an elephantiasis. This form may be produced either by the products of syphilis, giving rise to a form clinically known as indurative œdema, or it may be the outcome of syphilis itself as a diffuse syphilitic infiltration. When the infiltration takes place in the region of the nose, the syphilis is often overlooked and rhynophyma accepted, especially when the patient denies infection and no other direct syphilitic manifestations are present. Such a case came under the observation of Trautmann. The patient, suffering from the local affection for thirteen years, has been regarded by competent physicians as a case of rhynophyma. The consistency of the affected tissues, the hard separate nodules without any particular development of blood vessels, the involvement in the process of the upper lip in form of sores and rhagades, spoke against rhynophyma and for syphilis. Iodide of potash taken internally procured a remarkable change and confirmed the diagnosis. —*Journal of Cutaneous Diseases.*

**An Epidemic of Trichophytosis of the Scalp in School Children**

By WERTHER. Monatshft. f. Prkt. Dermt.

Werther describes an epidemic of ringworm in school children, seventeen out of thirty being affected. The main points of interest being:

1. The different clinical forms in some of the cases.
2. The identity of the trichophyton as shown by cultures.
3. The botanical peculiarities as shown in cultures, especially in the method of "Plaut."
4. The successful inoculations of pure culture in animals and on man.

The source of infection could not be positively established, but the first case developed in a boy on his return from a vacation. The author mentions cattle as a possible source of infection, although near the end of his article he identifies the growth as Sabouraud's trichophyton of the cat. He recommends the ingenious method of Plaut (Münch. Med. Wochenschr., 1902, No. 5, S. 208) of placing the suspected hairs between a slide and a cover-glass, which is placed on moist blotting-paper in a Petri-dish. The aerial forms of growth from the trichophytic hair give a very typical picture in from six to eight days. The endogenous spores or terminal chlamydospores render identification easy. The dry cultivation of the trichophytons frees it from contamination by bacteria and pus-cocci, and affords an admirable method in studying the trichophytons.—*Journal of Cutaneous Diseases.*

## Miscellaneous.

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### Importance of the Pulse in the Puerperium.

Aichel (*Muench. Med. Wochenschr.*) enters a plea for the importance of carefully noting the pulse during pregnancy, and especially during the after labor. The pulse should be taken some time during pregnancy, so that the standard pulse rate may be obtained for future reference. The author believes a study of the pulse far more valuable clinically than a study of the temperature curve. In a number of cases in which the temperature had returned to normal the pulse remained rapid, and this was in every case explained by a subsequent complication or exacerbation. In 5 per cent. of his cases Aichel found a pulse of 100 during the entire puerperia, but inasmuch as the pulse during pregnancy had also been 100 he expected no complications and none followed. Such observations will frequently relieve the physician of much worry, as they are absolutely reliable and of fully as much value in obstetrics as in general surgery.—*Ex.*

### What Constitutes Total and Permanent Disability?

This interesting question is passed upon by the Supreme Court of Minnesota in *Monahan vs. The Columbian Knights*. The question at issue was the construction which was to be put upon the by-law of the order which says that a certain sum is to be paid out of the funds when a member in good standing becomes "totally and permanently disabled by reason of accident or disease from following any occupation whatever." The court says that in order to recover under this section it is not necessary that a member shall be disabled to the extent that he has not sufficient power to follow some easy occupation or to perform some slight service. The trial judge expressed the views of the court in apt language: "The words 'following any occupation' mean something more than the doing of one or more acts pertaining thereto. They involve the idea of continuity, and involve also the doing of all those things which are an essential part of the work or business in which a party is engaged." It is difficult to conceive of a case where a man could be so completely disabled as to prevent his engaging in any kind of occupation. In this case it was shown that the plaintiff was unable "to follow any occupation because he was not able to do all of the essential acts necessary to be done in the prosecution of an occupation.—*Journal of the American Medical Association.*

**More Haste, Less Speed.**

The popular notion which still exists in the minds of the public, even among educated individuals, that a large dose of a given medicine must bring about a proportionately rapid cure, is obviously a most dangerous fallacy. This was exemplified by the recent narrow escape from fatal poisoning of a well-known French actress. This accomplished lady was anxious to fulfil a certain professional engagement, though suffering at the time from a cold; and tincture of aconite having been prescribed she proceeded to swallow a teaspoonful instead of a few drops, as ordered, hoping, no doubt, that by so doing the malady would be prevented from developing into anything more serious. The inevitable result followed, namely, acute aconite poisoning, manifested by numbness of the limbs and increasing circulatory weakness. Fortunately, under prompt medical treatment, the patient recovered, and the artiste will, in all probability, soon be restored to her numerous admirers. Many similar instances will doubtless be recalled by many practitioners, in which such unreasonable hurry and disregard of medical directions have led to serious mishaps.—*Medical Press and Circular.*

**Lay Advice to Recent Graduates in Medicine.**

In an editorial in the *Outlook* of June 27th are some timely bits of advice to recent college graduates, one of which is intended for graduates in medicine. It is well worthy of quotation, and we therefore present it in full.

After giving some sound advice to theological students, the writer goes on to say: "Or you are going to practise medicine. If your patients were all reasonable men and women, your task would be easy: but they are not. Even in their best estate they are not all reasonable men and women, and you will have to deal with them when they are not in their best estate, but are morbid. You will have to deal with patients who throw your medicine out of the window, and still expect you to cure them; in one house with a mother busy with other things and careless of the sick child; in another house with a mother whose weak and tearful sympathy does much to negative the influence of your presence and the effect of your medicines. It is not enough for you to know physiognomy and anatomy and therapeutics; not enough for you to know what your medical school has told you; you must know men and women—their physical constitutions, their mental and moral constitutions. You must understand them—their life, their narrownesses, their prejudices, their unreasonablenesses. You must see into them that you may minister to them."—*Boston Medical and Surgical Journal.*

## POINTS ON ENDOMETRITIS.

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The *Clinical Review* of May, 1903, published an interesting article by F. H. Martin, M.D., on "Endometritis."

In outlining the local treatment for uterine engorgement, endometritis and chronic treatment for uterine engorgements, endometritis and chronic urethritis, the writer believes it well-nigh impossible to state definitely where one of these conditions ends and the other begins, so closely are they associated. In discussing treatment, we must consider the condition to be met; the endometrium presenting its varied stages of congestion, inflammation, degeneration of membrane with its putrefactive concomitants, according as types change from acute to chronic. In acute form the discharge is catarrhal in character, and as the disease becomes chronic we see the discharge turn to a greenish-brown color and very offensive. In this stage, frequent hot vaginal douches of Glyco-Thymoline in twenty-five per cent. strength to encourage rapid depletion of the membrane, together with rest, will generally suffice. When the chronic stage is met, we must look more carefully into the cause: if displacement is present it must be corrected; if old lacerations are shown they must be aided in repair. Dilatation of the cervix will generally show us a turgid congested membrane, thickened from one-eighth to one-half inch by inflammatory process, in varying degree of decomposition, which demand radical treatment. There are those who hold against any local intra-uterine treatment, others disapprove the curette, but the ideal treatment now recognized generally is one which promptly rids the cavity of all agents that are producing toxins, the absorption of which might endanger sepsis. To thoroughly remove this broken-down membrane, the curette is used when irrigation will not suffice, the sharp variety is condemned as unnecessary and dangerous. An irrigating curette with a dull spoon is acknowledged to be the best. This instrument contains a small cannula which, when attached to a fountain syringe, permits the flow of an antiseptic solution such as Glyco-Thymoline, during the entire operation. The danger of the curette comes largely from the fact that unless used with precaution, it tends to destroy the lymph barrier or reaction layer which Nature has erected in her ideal method of combating this disease. Uterine phlebitis is aggravated by the rough use and at times the walls have been punctured. When sepsis is present, the curette is worse than useless. Depleting antiseptic measures are our hope. Glyco-Thymoline, used in fifty per cent. strength as an irrigation, rapidly reduces the inflammatory engorgement, checking further absorption of toxins, drawing outwardly through the capillaries the products of inflammation, and exerting a powerful influence in reducing temperature

In the typical case of endometritis after thorough curettage, the intra-uterine cavity should be flushed with a fifty per cent. solution of Glyco-Thymoline, and the vagina tamponed with a well saturated Glyco-Thymoline gauze. This should be removed in twelve hours, and vaginal douches of twenty-five per cent. Glyco-Thymoline hot, ordered three times a day.

A recent case occurring in the practice of G. F. Meeser, M.D., of Philadelphia, Pa., Mrs. J. R. (multipara), aged 39, miserable appearance, anemic, nervous, digestion poor, constant pain in pelvic region, and unable to attend to household duties. Examination disclosed ovaries inflamed and the cervix enlarged and ulcerated—endometritis well marked—discharge, muco-purulent in character and very offensive. I curetted the uterus thoroughly, using a medium curette, washing out the cavity afterward with equal parts of Glyco-Thymoline and hot water, 110 F. Packed with iodoform gauze, which was allowed to remain for six hours, when it was replaced with sterile gauze saturated with pure Glyco-Thymoline. This was removed next morning and followed with an intra-uterine douche of Glyco-Thymoline in twenty-five per cent. strength. Vaginal tamponing was then instituted, using a gauze saturated with pure Glyco-Thymoline, this to remain twelve hours. Vaginal douching with a twenty-five per cent. solution of Glyco-Thymoline (hot) twice daily, gradually reducing the strength to a ten per cent. solution. This treatment was carried on about six weeks, at which time, the patient was discharged as cured.

### Cataphoresis in Gout.

Dr. Charles Begg claims to have obtained excellent results in the treatment of chronic gout and rheumatoid arthritis by this procedure. Two methods may be employed, either the joint is immersed in a solution of a drug to be employed, the positive electrode being placed in the bath and the negative on an indifferent part of the body, or the positive electrode is kept as wet as possible by frequent applications of the solution. The author employs a large negative electrode and a small button-shaped positive electrode.—*Edinburgh Medical Journal*.

### Etiology of the Tubal Pregnancy.

Ortiz (*Zeitschrift für Geb. u. Gyn.*), from a study of twenty-three specimens of tubal gestation, arrives at the conclusion that the cause of arrest of the impregnated ovum in the tube is the presence in the latter of cul-de-sac formed by the adhesion of neighboring folds of mucous membrane, the result of previous attacks of salpingitis. These false cavities were found in every specimen examined by examining numerous serial selections. This explanation has not been offered by any previous observer—*American Journal of the Medical Sciences*.



### The Medico-Legal Aspect of Chloroform Administration.

The employment of such a powerful, and under certain circumstances lethal, agent as chloroform places a very great responsibility upon the shoulders of the medical man who undertakes the task of inducing anesthesia. So great is this responsibility that the necessity of entrusting the induction of anesthesia to a qualified man specially delegated thereto is generally recognized, and no one will gain-say the inexpediency of cumulating the functions of chloroformist and operator in the same individual. Admitting that in country practice it is not always practicable to secure the assistance of a fellow-practitioner, the onus of establishing that point naturally rests with the operator. A mishap which occurred under these circumstances in the North recently formed the subject of an action for damages, it being alleged by the plaintiff—the widow of the unfortunate victim—that death was due to the inobservance of certain precautions by the surgeon, amounting to negligence. The alleged negligence consisted in the chloroform having been administered soon after a hearty meal, in the absence of skilled assistance, and the lack of appliances and drugs for resuscitation. The jury returned a verdict in favor of the defendant, having, no doubt, been influenced by the consideration that in the event of negligence being established, patients in districts remote from the centres of civilization would in future be deprived of relief even if they were willing to incur the extra risks. Any other decision, indeed, would have had far-reaching and very serious consequences for the public, since no practitioner would henceforth have been willing to render himself liable to an action for damages for doing his best to perform what he conceived to be his duty. Looking at the question from a broader point of view, it may be laid down that a practitioner who does not take all the usual precautions before administering an anesthetic, and who more particularly does not make use of the best available means which the ingenuity of inventors has placed at his disposal to minimize the risks of anesthetization, fails in his duty to his patient. We are impelled to this remark by the fact that practically all the deaths under chloroform occur when the drug is administered by what is commonly and erroneously described as the "open" method, that is to say, on a towel or ordinary mask. Present methods of teaching in the medical schools are largely responsible for this faulty procedure being so popular. It is quite the exception for a practitioner to have been trained to use a scientific inhaler which alone will enable him to measure the exact quantity of the drug that is being inhaled. One of these days the public will awaken to the unnecessary risk to which they are exposed by the neglect to

employ such inhalers, against which nothing can be urged except their expense and the moderate amount of experience which their use requires. The aggregate death-rate from chloroform narcosis is still lamentably high, and it shows no signs of a tendency to diminish—rather the contrary. Circumstances may justify a relaxation of these precautions, but such relaxation should be the exception and not the rule, as we fear it is at present. The result of the action just referred to must not blind us to the fact that a great moral responsibility, which the whim of a jury may at any time convert into a legal responsibility, falls upon those who lightly manipulate an agent with such disastrous potentialities.—*Medical Press and Circular*.

### **Sir Hector Macdonald's Incomprehensible Change of Character.**

One of the difficult things to average comprehension is that in incomprehensible change of character which sometimes comes over minds once strong and brave and great after the involution and premature overstrain sets in and the high inhibitions cease to restrain the suggestions and impulses of the lower centres of strong organisms perverted by the changes of neurone disease and decadence.

An example of such a case appears in the later days of Bonaparte and Webster, and lately has been repeated in the bizarre immoral conduct of the brave thirty-year battle tried Major-General, Sir Hector MacDonald, whose pitiable suicide, under charges of gross immorality, the British press has not yet ceased to discuss.

While the world wonders how a man of the glorious deeds of fighting Mac, the invincible soldier of more than thirty years of dauntless heroism mid tropic war and fields ensanguined, could fall so low, only the psychologist and neurologist knowing the tenure of normal psychic neurones and neuroglia and how they break and act abnormally under the stress of overaction and astonish us by erratic and often erotic instability, can comprehend such minds.

MacDonald did things which were as much a surprise and chagrin to himself as to the friends and companions in arms who knew him best. This once manly hero, accustomed to face death as nonchalantly as the maudlin puppets who so lavishly censure him in his mental misfortune, face a puppet show, burst into tears at the momentary realization in more lucid intervals of the enormity of his erratic impulses. hitherto regulated and restrained by the once strong high psychic which had on many a bloody field led serried columns to victory and renown for his country.

At the British war office the theory of insanity was quite

generally held. It is a pity it had not been officially so held, and an army commission of inquiry into the possible insanity of such an irreproachably gallant officer who could, after thirty years of exceptional probity and courage, do the insanely immoral things reputed to him.

The *St. James Gazette*, among all the critics of the gallant soldier, appears the most to approach the true psychological estimate of this apparently much misjudged affair:

“Thirty years of service in the tropics is bound to wear a man’s nerve. His lamentable end is quite consonant with innocence in a rough soldier of great determination but unbalanced judgment.”

And the *Alienist and Neurologist* is quite inclined to agree with the view of the *Gazette*.

The brain of a British soldier in constant service in the tropics is liable to break, and when it fails in its higher psychic areas, when the normal inhibitions inside the lower centres may run riot and startled saner minds by otherwise unaccountable excesses.—*Alienist and Neurologist*.

### Tent Life for the Tuberculous Insane.

Tuberculosis has long been the bane of our asylums, though, happily, during recent years more strenuous efforts have been made to combat the disease by the introduction of the open-air method of treatment and the isolation of those suffering from chronic phthisis. The results have been most encouraging, and have, in a measure, been in accordance with the expectation of those who were responsible for these reforms. Some interesting experiments made in the same direction by Dr. C. Floyd Haviland with some of the tuberculous inmates of the Manhattan State Asylum show the great therapeutic value of an abundant supply of fresh air in the treatment of consumption. The patients were taken to live in tents duly protected from the weather and heated by stoves. Every precaution was also taken with regard to sanitation and food supply. At the end of one year the death-rate had fallen from fourteen to between eight and nine, while improvement was noticed in the condition of nearly all, fifty-one out of eighty-eight cases showing an increase in weight. The use of tents for this purpose is certainly more economical than wooden structures, while they would seem to be especially adapted for demented patients, upon whom the more elegant and esthetic chalet or pavilion would be thrown away. It is to be hoped that Dr. Haviland’s example may be followed in similar institutions in this country and with like benefit to their inmates.—*The Medical Press and Circular*.