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CANADA

MEDICAL JOURNAL.

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ORIGINAL COMMUNICATIONS.

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*Lectures on the Diseases of the Eye recently delivered before the Ophthalmic Class of the Toronto School of Medicine.* By A. M. ROSEBRUGH, M.D.

(Continued from page 554.)

LECTURE II. GLAUCOMA,\* AND GLAUCOMATOUS DISEASES, AND THEIR TREATMENT BY IRIDECTOMY.

We are indebted to Prof. Alfred Von Graefe, of Berlin, not only for the modern theory of glaucoma, but also for presenting the means of curing this hitherto incurable disease. He discovered, by means of the ophthalmoscope, that peculiar condition of the optic nerve entrance called *excavation* or *cupping*; and also showed that in cases of glaucoma, there exists an arterial pulsation in the optic nerve. From his extensive clinical experience, he was soon able to prove that these ophthalmoscopic appearances, and all the other symptoms of glaucoma, are closely connected with the tension of the globe, which inwardly accompanies glaucomatous diseases. Recognizing the abnormal hardness of the eye as the essential element in the disease, he sought for means of permanent relief. He had tried in vain the usual remedies, such as mercurials, anti-phlogistics, diuretics, diaphoretics, &c. He also tried tapping the anterior chamber, methodically repeated, but with only temporary benefit.

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\* When the eye of an aged person becomes glaucomatous, there may often be seen in the advanced stage of the disease, a green reflection from the interior of the eye; this green reflection was formerly considered a pathognomonic symptom of glaucoma, the name *glaucoma* is from γλαυκός—sea-green.

Having found that iridectomy proved of great benefit in ulcerations and infiltrations of the cornea, by diminishing tension, he next had recourse to this operation for the relief of the excessive intra-ocular pressure in glaucoma.

In 1856, Von Graefe tried iridectomy for glaucoma, and with perfect success; he found that it not only relieved the tension of the globe permanently, but that, if performed in suitable cases, and sufficiently early, all the other symptoms were also permanently relieved.

Iridectomy is now recognized by most oculists of eminence, as the only cure known for glaucoma.

In bringing this subject before you, we will take it up in the following order:—I. Nature of Glaucoma; II. Varieties of Glaucoma; III. Treatment of Glaucoma.

#### I. NATURE OF GLAUCOMA.

According to Von Graefe, the characteristic symptoms of glaucoma all refer to *increase in the intra-ocular pressure*. These symptoms are:—1st. Hardness of the globe. 2nd. Impairment of the acuteness of vision, and contraction of the visual field. 3rd. Anæsthesia of the cornea. 4th. Dilatation and sluggishness of the pupil. 5th. Flattening of the anterior chamber. 6th. Ciliary neuralgia. 7th. Pulsation of the retinal vessels. And 8th. Cupping of the optic nerve-entrance. The augmentation of the intra-ocular pressure is believed to be caused by excessive secretion (“diffuse imbibition,”) of the aqueous and vitreous humours; the ciliary neuralgia (“ciliary neurosis,”) is undoubtedly caused by pressure upon the ciliary nerves, and the dilatation of the pupil (“iridoplegia”) due to paralysis of the nerves supplying the iris.

In most cases of glaucoma, the process is evidently of an inflammatory nature; but it is yet to be proved that inflammation is an essential part of the glaucomatous process. The most eminent authorities now regard glaucoma as depending on inflammation of the choroid, ciliary body, and iris, resulting in excessive secretion of the aqueous and vitreous humours which cause augmented tension of the globe. Prof. Donders maintains, however, that although most cases of glaucoma are accompanied by symptoms of irido-choroiditis, yet the inflammation is secondary, and that the intra-ocular pressure is the essence of the disease.

Glaucoma is most frequently met with between the ages of 50 and 60, and may be called a disease of old age.

We will see, as we proceed, that glaucoma may appear as a primary or as a secondary disease. In the former case, the two eyes are never attacked simultaneously; but after the disease has attacked one eye, there

is a great tendency in the disease to invade the other also; sometimes a few days only may elapse; in other cases many months, or even years. When glaucoma supervenes upon another affection of the eye, as, for instance, traumatic cataract, iritis, &c., it is called secondary glaucoma.

## II.

The varieties of glaucoma are:—1. Acute inflammatory glaucoma. 2. Chronic inflammatory glaucoma. 3. Glaucoma simplex. 4. Secondary glaucoma.

### I. ACUTE INFLAMMATORY GLAUCOMA.

According to Von Graefe, there is a premonitory stage in about 75 per cent. of the cases of acute glaucoma.

*Premonitory Stage.*—The symptoms of the precursory stage are arranged by Soelberg Wells in the following order:—(1.) Increased tension of the eye-ball. (2.) Marked increase of any existing presbyopia. (3.) Venous hyperæmia. (4.) Haziness of the aqueous and vitreous humours. (5.) Dilatation and sluggishness of the pupil. (6.) Periodic dimness of sight. (7.) The appearance of halo or rainbow round a candle. (8.) Intermittent pains in and around the eye; these are not always present. (9.) Slight contraction of the field of vision.

These symptoms may be so slight as to escape observation; or they may be very marked; their intensity varying with the severity of the attack. When the attack is severe, we may often observe, also, diminution of the anterior chamber, arterial pulsation, and indistinctness of vision.

(1.) *Increased Tension of the Eye-Ball.*—In ascertaining the degree of tension, the patient should turn the eyes downwards, and gently close the eye-lids; the surgeon now applies the forefinger of each hand to the upper part of the eye-ball above the cornea. By making pressure alternately with the two fingers, he can easily ascertain whether the globe can be readily dimpled, or is of a strong hardness. Mr. Bowman, of London, distinguishes nine degrees of tension of the globe,—normal tension, four degrees of increased tension, and four degrees of diminished tension,—as follows:—Normal tension; doubtful increased tension; first degree, or *slight* but *positive* increase of tension. Second degree of increased tension, or *considerable* tension; third degree of increased tension, called *extreme* tension; doubtful diminished tension; first, second and third degrees of diminished tension.

For convenience and accuracy in notetaking, Bowman designates these degrees by special signs; thus, in the order in which they have just been mentioned:—T<sub>0</sub>. T<sub>1</sub>? T<sub>1</sub>. T<sub>2</sub>. T<sub>3</sub>. — T<sub>1</sub>? — T<sub>1</sub>. — T<sub>2</sub>. — T<sub>3</sub>.

In the premonitory stage of acute glaucoma, the increased tension of the eye-ball never reaches the third degree or extreme tension, in which the fingers cannot dimple the eye by firm pressure; it varies in degree, however, but seldom reaches more than the first degree in which there is slight but positive increase of tension.

(2.) *Rapid Increase of any Pre-existing Presbyopia.*—We know that as age advances, the “near point” recedes from the eye; in youth we can read ordinary type at a distance of less than 4 inches; but at the age of 40, in order to see the letters distinctly, we must hold the book or paper at least 7 inches from the eye. During the premonitory stage of acute glaucoma, and often before any other symptom, it is found that the “near point” usually recedes in a very rapid and marked manner; the patients, who are generally over 50 years of age, being obliged, in the course of a few months, to change their reading glasses repeatedly for stronger ones.

This rapid increase of the presbyopia appears to be due to paralysis of the ciliary muscle; the paralysis being the effect of the excessive intra-ocular pressure upon the nerves supplying the ciliary muscle.

(3.) *Venous Hyperæmia.*—In chronic glaucoma, the ciliary veins are dilated and peculiarly tortuous; but in the premonitory stage of acute glaucoma, the congestion is generally slight. A few dilated veins are generally seen running here and there over the sclerotic.

With the ophthalmoscope, we find that the retinal veins are also dilated and tortuous, but not to the same extent as in later stages of the disease.

(4.) *Cloudiness of the Aqueous and Vitreous Humours.*—In the majority of cases, during the premonitory stage, the cloudiness of the aqueous and vitreous humours is but moderate in degree; in some cases it is hardly perceptible; in others the diffuse haziness of the vitreous is so marked that it prevents ophthalmoscopic examinations.

(5.) *Dilatation and Sluggishness of the Pupil.*—In the advanced stage of glaucoma, the pupil is usually much dilated, and quite immoveable; but in the premonitory stage of acute glaucoma, the dilatation is never so well marked. Upon examining the pupils of a patient, one of whose eyes is healthy, and the other attacked by the first stage of acute glaucoma, we find that the latter is slightly more dilated than the former, and responds less upon the stimulus of light.

(6.) *Periodic Dimness of Sight.*—The character of the periodic dimness of sight in this stage of acute glaucoma, may be imitated by pressing the finger upon a healthy eye. According to Donders and Soelberg Wells, the dimness of sight is caused by stagnation and fulness of the

veins, and perhaps the emptying of the arteries. "The increased pressure produces the changes of the circulation, and the latter causes the obscurations. The truth of this assertion is also proved by the fact that these attacks of dimness are generally brought on by anything that causes congestion of the blood-vessels of the eye—for instance, a full meal, great excitement, long continued stooping, violent exercise, &c."—(*J. Soelberg Wells.*)

(7.) *The appearance of a halo or rainbow round a candle.*—In the premonitory stage, this is a very constant symptom. Upon looking at a lighted candle, the patient sees coloured rings, forming a halo round the flame.

(8.) *Intermittent pains in and around the eye.*—("Ciliary Neurosis.") We find generally, pain more or less acute in the forehead, temples, and passing down the side of the nose. These pains accompany the intermittent dulness of sight.

(9.) *Slight contraction of the field of vision.*—During these periodic attacks, objects upon which the eye may be fixed, are sometimes observed to be surrounded by a shadowy haze. The particular object to which the eye is directed is distinct, but surrounding objects may appear ill-defined, and in some directions quite indistinct.\*

A simple method of examining the extent of the field of vision is described by Soelberg Wells; as follows. "The patient being placed straight before us, at a distance of from 15 to 18 inches, is directed to look with the eye under examination (closing the other with his hand) into one of our eyes, his right eye being fixed upon our right, and *vice versa*. In this way, any movement of the eye may be at once detected and checked. Whilst he still keeps his eye steadily fixed upon ours, we next move one of our hands in different directions through the whole extent of the field of vision (upwards, downwards, and laterally,) and ascertain how far from the optic axis it is still visible; we then approach the hand nearer to the optic axis, and examine up to how far from it he is able to count fingers in different directions. We may thus readily discover whether the field of vision is of normal extent, or whether it is defective or obliterated in certain directions."

SECOND STAGE.—("Glaucoma Evolutum.") The second stage of acute glaucoma is sometimes ushered in without any premonitory symptoms. Usually, however, the affected eye has been subject to repeated attacks of the premonitory symptoms for a period of several months or even

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\* Called eccentric obscurations. When the eye is so directed that a line drawn from the object through the centre of the pupil would strike the macula lutea it is called *central fixation*; should it strike elsewhere, it is *excentral fixation*.

years. At first these symptoms are observed at intervals of several months or longer. Gradually the attacks become frequent, until they occur at intervals of only a few days.

If, after a premonitory attack, the pupil is dilated and sluggish, and the impairment of vision continues, and especially if the optic nerve entrance is already cupped, the disease has advanced to the second stage. Von Graefe calls the second stage of acute glaucoma—*glaucoma evolutum*, and describes it as follows.

“The special outbreak of the disease is generally sudden; sometimes it is developed by a gradual increase in the premonitory attacks. The general appearance of an internal ophthalmia is presented; violent, often unbearable pains in the eye, but especially in the forehead, temples, and side of the nose (as far as the extremity of the bone), injection of the subconjunctival vascular network, not unfrequently to the extent of chemotic swelling, with copious lachrymation, but with very little mucus; the anterior chamber diffusely hazy, the cornea generally dulled on its posterior surface, the pupil irregularly dilated, occasionally also broad posterior synechiæ, the iris of a dirty hue and pressed forwards; the power of vision sometimes entirely lost as if by a stroke, sometimes only much diminished; the field of vision, when it can be measured, either normal or somewhat concentrically contracted, at the same time, in the mass of cases, there are well marked subjective appearances of light, photopsia, chromopsia; as the rule, these violent symptoms arise in a restless night, and generally after much previous suffering from want of sleep. These inflammatory attacks may recede, vision being partially or almost entirely restored; yet the anterior chamber usually remains somewhat flatter, the pupil a little dilated, and more sluggish, the iris spotted, and the visual field often somewhat contracted. Such a temporary restoration may be spontaneous, although it is usually obtained by antiphlogosis, by opium in large doses, and by paracentesis of the anterior chamber. But in many cases the blindness continues from the very first attack, notwithstanding the retrocession of the inflammatory symptoms. The insidious nature of the disease is such, that either these inflammatory attacks are occasionally repeated, each time leaving a renewed and greater deterioration of vision, or no fresh inflammatory symptoms again appear, yet the visual field becomes continually more contracted, finally excentric, the grayish hue of the iris increases, the pupil dilates and entirely loses its mobility, the globe becomes constantly tenser, and the cornea perfectly anæsthetic. During this process the refractive media—the aqueous humour and vitreous body—may again lose their diffuse

turbidity, so as perfectly to allow ophthalmoscope examination of the back of the eye; then we generally find certain changes in the internal membranes, peculiar retinal ecchymoses in the form of round spots, and not unfrequently larger choroidal extravasations, especially in the equatorial region. There are also constantly found, at this later period, a progressively increasing excavation of the optic nerve, and arterial pulsation, appearing either spontaneously or on the slightest compression with the finger, appearances which are entirely absent after the first or the few first attacks."

Von Graefe has lately called attention to a very rare form of acute glaucoma which he has termed *glaucoma fulminans*, in which the progress of inflammation is so rapid, that the sight of an eye previously healthy, may be perfectly lost a few hours after the outbreak of the disease.

Two other forms of acute glaucoma are sometimes observed, the *hæmorrhagic* and the *subacute*; I must content myself with merely alluding to them.\*

## 2. CHRONIC INFLAMMATORY GLAUCOMA

Chronic inflammatory glaucoma sometimes follows an attack of the acute inflammatory disease; but it is more frequently developed from the premonitory stage; the disease not advancing to the second stage of acute glaucoma, and before there is any distinct internal inflammation recurring periodically.

As the disease progresses, the premonitory attacks continue for a longer time; the intermissions become gradually less distinct, and at length there are simply remissions in the symptoms-

Chronic glaucoma may lead to complete destruction of vision without much pain or other symptoms of acute inflammation; the eye being reduced to the same condition as in acute glaucoma after the inflammatory process has ended.

The tension of the eye becomes gradually very much increased until it can be no longer dimpled by firm pressure with the finger; the subconjunctival veins are dilated and tortuous; the cornea becomes flatter and loses its extreme sensitiveness; the iris is slightly discoloured and pushed forwards; the anterior chamber becomes shallow; the aqueous and vitreous humours become occasionally turbid, particularly after a full meal, excessive excitement &c; the pupil is widely dilated and usually

\* For further information on these subjects, see Von Graefé's memoirs on glaucoma in vol. v. of the publications of the New Sydenham Society; also four lectures on glaucoma by J. Soelberg Wells published in 1864 by J. Churchill & Sons, London.



immoveable; the field of vision becomes more and more contracted and the acuteness of vision diminished and finally completely destroyed.

If the aqueous and vitreous humours remain sufficiently clear for an examination with the ophthalmoscope, we will find the optic nerve-entrance excavated, the veins of the retina widely dilated and tortuous, and the arteries diminished in calibre.

**THIRD STAGE.**—*Glaucoma absolutum* is the name given by Von Graefe to that stage of acute or chronic glaucoma when the disease has run its course, vision being lost, and when all chance for benefitting the sight by an operation is past.

**LAST STAGE.**—In the last stage of glaucoma, all the tissues of the eye are either atrophied or softened; Von Graefe calls this *glaucomatous degeneration*.

### 3. GLAUCOMA SIMPLEX (DONDEERS.)

This disease was first described by Von Graefe as "Amaurosis with excavation of the optic nerve," and by Soelberg Wells as "Apparently non-inflammatory glaucoma." Glaucoma Simplex differs from acute and chronic glaucoma in the fact that it may run its course, even to complete blindness, without the appearance of any inflammatory symptoms. The first symptom, generally, in this form of glaucoma, is increased intra-ocular tension. If the increased tension continues, the optic nerve-entrance becomes excavated, the nerve atrophied, the arteries diminished in calibre, and vision may be completely lost. In the majority of cases, however, inflammatory symptoms show themselves either during the progress of the disease, or long after blindness has supervened. Von Graefe mentions an interesting case which illustrates the fact that the inflammatory symptoms in glaucoma simplex are sometimes very transitory in their character. A patient of his for several years past was subject to attacks of glaucomatous symptoms in his right eye only after having played at cards for some time. The tension of the eyeball on such occasions would be very manifest, the pupil dilated and sluggish, the iris and lens pushed forwards, and vision indistinct. With the ophthalmoscope, the retinal veins would be seen to be dilated, and the faintest pressure upon the eyeball would produce arterial pulsation. The excavation of the optic nerve-entrance would not be present as the intra-ocular pressure would be too transient. On the following morning all these symptoms would disappear and the vision again become normal.

Glaucoma simplex also differs from inflammatory glaucoma in the fact that the two eyes are sometimes attacked almost simultaneously, or the one very soon after the other, and also that it often attacks myopic eyes.

(To be continued.)

*Compound Dislocation of the Ankle treated by Cold Water.* Reported by DRS. WHITCOLM AND FULLER.

(Continued from page 52.)

July 12th. The patient is to-day in the street, he can move the foot with the heel on the ground far enough back to take a short step from it. There is considerable thickening around the joint; frictions are applied twice a day with a stimulating liniment.

Aug 15th. The patient walks with a cane and is attending to his business with little inconvenience; he has all the natural movement of the joint, can bend the foot inward only to a slight degree, but the motion is improving as the inflammatory thickening subsides. The patient can flex and extend the foot so that he can take about a natural step.

Observations. This case is of importance not only because it is out of the usual mode of practice in such cases, and terminating with such a happy result, but it shows what may be done by the steady perseverance of a remedy applied by principle in any injury involving or laying open a joint. The principle which has guided us in the treatment is one derived from Mr. Paget, viz: "That the healing process, or repair of injured parts, takes place in the inverse ratio to the amount of inflammation present." To diminish action in the part, and to avoid inflammation as much as possible, therefore we applied cold. Ice and cold water were the cheapest and best remedies; we kept the part cool from the commencement, and never allowed it to get warm until there was no farther danger of inflammation and suppuration of the joint. The icebag to the leg was a valuable auxiliary in keeping the ankle cool, the blood being thereby cooled before it reached the part. Cold bathing we have found a valuable remedy in traumatic as well as in other fevers, which by lowering the temperature of the body, exerted its influence, likewise, upon the injured part. Opium was freely administered so as to relieve pain, and we particularly noticed the much greater relief obtained, and longer effect produced, by the hypodermic method, and the improvement of the tongue and digestion after its use. The splints were changed often and the leg also placed in different positions in order to give ease to the patient. The part was not fixed as in a fracture and great care was taken of the heel.

When first taken out of the splint the sole looked inward, but this was remedied by a wide plaster tightly drawing the foot to the outside.

An error was committed by not covering the wound sooner and protecting it from the direct effects of the cold, though this led to no serious consequence; we tried to close the joint by producing a scab but found no good result.—Granby, Aug. 28th, 1866.

In giving the above, the concluding portion of Drs. Whitcomb and Fuller's paper, published in our last issue, we can only remark, by way of explanation, that by some unforeseen circumstance, the type was overlooked; we were ourselves absent from the city at the time the No. went to press, and the gentlemen in whose hands we left the work to be done, omitted this portion.—Ed.

## REVIEWS AND NOTICES OF BOOKS.

*A Practical Treatise on Urinary and Renal Diseases, including Urinary Deposits.* Illustrated by numerous cases and engravings. By WILLIAM ROBERTS, M.D., Fellow of the Royal College of Physicians, London; Physician to the Manchester Royal Infirmary; Lecturer on Medicine in the Manchester School of Medicine. 8vo. pp. 516, Philadelphia: Henry C. Lea, 1866; Montreal: Dawson Bros.

There are few subjects of special pathology which have made greater strides during the last few years than diseases of the urinary organs. The design of this work, is to give the practitioner an account of organic diseases of the kidneys, and of that class of affections characterised by some alteration of the urine.

The work is divided into three parts, the first of which is introductory to the other two, inasmuch as it treats of the physical and chemical properties of the urine, and of the various changes it undergoes in different conditions of health and disease, in so far as they possess a practical bearing. In the introductory chapter, Dr. Roberts gives a diagram of a most useful clinical companion, consisting of a circular stand with two tiers, somewhat resembling an ordinary cruet stand, but made with compartments to hold all apparatus necessary for testing the urine at the bedside. This is intended for Hospital use, as we can always in private practice, procure a supply of urine and carry it home to our own laboratories. The first part of the book treats upon the physical properties of urine; its chemical constituents; inorganic deposits; abnormal substances found in urine; organic deposits, &c. The various substances, found in urine, as uric acid and its salts, the oxalates, cystine, xanthine, leucine, the phosphates, &c., are treated of, and their microscopical appearances illustrated. Urea may be regarded as the principal constituent of this section, when it is remembered that the daily separation of urea by an adult in health, between the ages of twenty and forty, averages about 500 grs. It is the final product of the metamorphosis of albuminous tissue, and is the form under which the greater part of the nitrogen leaves the body. Professor Haughton published a table in the *Medical Times* in 1864, whereby he estimated the amount of urea excreted, by taking the specific gravity of the entire quantity of urine passed in 24 hours. This for most practical purposes will be found sufficiently correct, but does not apply in urine where there exists either albumen or sugar. Dr. Roberts gives this table somewhat abridged.

In this chapter are given Liebig's volumetric method for the quantitative estimation of urea, and also Davy's process, which is less exact. These for the most part are normal constituents of urine.

The next chapter treats of the various substances which are not peculiar to this secretion and which as a rule are found as evidence of diseased action, such as puss, blood, fatty matter, cancerous and tuberculous matter, spermatozoa confervoid vegetations, albumen and sugar. The second part of the work is devoted to urinary diseases, or diseases of which the chief characteristic is some alteration of the urine itself—such as diabetis insipidus; diabetis mellitus; gravel and calculus; and chylous urine. Each of these subjects are illustrated by cases, some of which have come under the notice of the Author.

*Diabetes insipidus*; characterised by increased thirst and excessive discharge of urine, limped in character, and low specific gravity free from sugar and albumen. From the observation of the past no special uniformity exists either in the course of the symptoms, or the anatomical lesions found after death. The disease appears to be rapid in its attack, coming on in some cases after blows received on the head; great muscular exertion; following febrile or inflammatory disease; exposure to the hot sun; cerebral disease; or it may have existed from birth. But the very large proportion of cases appear to have no exciting cause. It has been observed at all ages, from infancy to extreme old age.

This singular malady is not necessarily fatal, as persons have suffered from this condition from infancy to advanced life. When it accompanies or follows other lesions, as of the brain &c., the symptoms resemble much in their course and termination that of the other form of diabetes. Again cases are mentioned in which this condition was cured after having existed for years, by the application of a blister in the course of treatment of acute pleurisy.

“It is now generally believed that the minute bloodvessels possess in their circular and longitudinal muscular coats a provision for an active expansion as well as an active constriction of their calibre. This provision is under the control of the sympathetic branches of nerves (*nervi vasi-motores*), and serves to maintain the aqueousness of the blood within certain limits of health. When the tissues and blood are overcharged with water, the renal vessels expand, and permit a copious transudation of an aqueous urine; when, on the other hand, the system is undercharged with water, they contract, and thereby restrict the urinary transudation. In diabetis insipidus this endowment seems greatly impaired; the renal capillaries appear to resemble the iris in glaucoma, which remains in a motionless, semi-dilated state, and neither contracts

with light nor dilates with belladonna. In polyuric subjects the contractile power of the renal vessels is apparently paralyzed; and the power of regulating the urinary flow consequently lost.

“On this view, the primary cause of diabetes insipidus must be looked for in some other parts than the kidneys; namely, in some part of the chain of sympathetic nerves which controls the action of the contractile tissues of the renal vessels. This chain extends from the kidneys to the abdominal ganglia, thence to the spinal cord and the floor of the fourth ventricle, where the sympathetic system seems to have its centre. From above, this centre receives impressions from the encephalon.

“This theory seems conformable both to experiment and to clinical facts. Bernard found that by puncturing a certain spot in the floor of the fourth ventricle, an augmented secretion could be produced of a watery urine, containing neither sugar nor albumen. A large proportion of the cases of diabetes insipidus followed injuries to the nervous centres, or were evidently dependent on some derangement of the nervous system. In the case examined by myself, palpable disease of the brain was found after death, while the kidneys were healthy. In other cases, it is probable that the sympathetic in the abdomen was the point originally injured. Among such may be classed those arising from drinking cold fluids while heated, and perhaps also those following alcoholic excesses. Another feature of the disease, favourable to the theory of its nervous origin, is its occasional sudden onset after events which do not directly implicate the urinary organs; and its equally sudden subsidence when a strong impression is made on the system by an intercurrent inflammation. The total and unexpected disappearance of the disease, after continuing many months or years, is more in accordance with the habit of neuroses or nervous diseases than of any other maladies.”

There is a most interesting chapter on chylous urine. This singular disease is peculiar to the tropics, although cases have been noted by European practitioners, but the individuals were either colonists or had resided for some period in tropical climates.

Dr. Roberts throws out a conjecture that it may be of parasitic origin. He says:—

“The prevalence of the disorder in certain countries, and the close connection which Rayer showed to exist between it and the endemic hæmaturia of the same countries, leads conjecture a step farther. It has been recently demonstrated by Griesinger that the endemic hæmaturia of Egypt owes its origin to the ravages of a minute parasite—the *Bilharzia hæmatobia*—which lodges its ova in the mucous membrane of the

urinary passages. A similar demonstration has been made by Dr. Harley with respect to the endemic hæmaturia of the Cape of Good Hope; and we may infer a similar origin to the endemic hæmaturia of the Mauritius, Brazil, and other countries. On these grounds, it may be conjectured that chylous urine owes its origin, in like manner, to the destructive operations of some parasite whose seat of election is the lymphatic system of the urinary passages, and that in the course of the development of its ova a communication is opened between the lymphatic channels and the urinary passages. At any rate, it is worth investigating whether parasitic ova may not be discovered occasionally in the deposit of chylous urine."

The treatment of this affection is very unsatisfactory, as it generally resists treatment, coming apparently without any recognised cause, and disappearing frequently without any remedy. There is mentioned a case by "Dr. Bunyan, of George Town, British Guiana, (*Lancet*, 1846, I, 95), who relates a very interesting case, in which the disease had lasted ten months. Various remedies were tried without success. On the advice of an old negress, the patient took a decoction of mangrove bark (*Rhizophora racemosa*), in ounce doses, four times a day. In seven days, he was so greatly improved that he discontinued the medicine for two days, when the symptoms returned. The medicine was resumed in increased quantity, and continued for several days, until all the symptoms had entirely disappeared. Afterwards he suffered two returns of the disorder, which were immediately cut short by the use of the mangrove bark."

The third part of this work is devoted to organic diseases of the kidneys; space will not permit our giving more than a passing notice, to the many excellent chapters in this division of the work. There are two chapters on Bright's disease, in his remarks on uremia the author quotes the observations of Oppler, Perls, Zalesky and others, which tend to shew that urea, if found in the blood at all, is so, after having been re-absorbed from the urinary channels; they infer that urea and urec acid, are formed in the kidney, and furthermore they seem to indicate that uremic manifestations depend essentially on the accumulation of creatine creatinine and other extractives, which in a later stage are converted into urea and uric acid.

The other chapters in this division are on suppuration in the kidney; renal embolism; pyelitis and pyonephrosis; concretions in the kidney; hydronephrosis; cysts and cystic disease of the kidney; cancer and tubercle; benign growths, and also entozoa in the kidney. The last chapter is on anomalies of position, form, and number of the kidneys.

In conclusion we cannot but highly recommend this work as of great value to the practitioner ; it supplies a want long felt, and will be of the greatest use to the physician in enabling him to perform a duty which is incumbent on us all, viz., to inquire into the condition of the urinary secretion in a large proportion of the cases which come under our observation. The work is neatly got up, printed on good paper, and the illustrations clear and distinct. To be had of Dawson Bros., Great St. James Street.

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*Lectures on the Diseases of Infancy and Childhood.* By CHARLES WEST, M.D., Fellow of the Royal College of Physicians, London, Physician to the Hospital for Sick Children. Fourth American from the fifth revised and enlarged English Edition. Philadelphia : Henry C. Lea. 1866. Montreal : Dawson Brothers.

THIS work has been so long before the profession, and has obtained such a prominent position as a standard work upon the very important subject of the Diseases of Children, that it is useless for us to enter upon any lengthened remarks. The best test of its value, is the fact that there are few physicians who do not possess it in their libraries, and there are not many books called more into requisition. Since its first appearance in 1848, it has run through four large editions in England, and three in America. It has also been translated into almost every European language. Dr. West is a most accurate observer, and the great opportunities, which he has possessed as physician to the Hospital for Sick Children in Great Ormond street, have certainly been improved—the profession at large reaping the benefits of his exertions. Diseases of children are peculiarly trying to the physician ; no class of affections more so. The little sufferer is unable to tell his ailments, the symptoms alone being made out by careful observation—hence the value of a plain, practical work to the mass of our profession, from the pen of so practical and laborious a man in this special department as Dr. West. The present edition embodies the result of 1200 recorded cases, and nearly 400 post mortems, collected from between 30,000 and 40,000 children, who, during the past twenty-six years, have passed through his hands, either in public or private practice. In once more strongly recommending this work to all our readers, we must congratulate Dr. West upon his popularity as an author. Now that he is entering upon the scar and yellow leaf of life, it must be a satisfaction to him to find that his labours, hard and arduous as they must have been, are appreciated ; and that the profession gladly recognises itself his debtor, in a field so peculiarly difficult of elucidation, viz. : that of the diseases of infancy and childhood.

*The Physicians' Visiting list for 1867, Lindsay & Blakiston, Philadelphia.*

THIS very useful memorandum book for physicians has been kindly forwarded to us by the publishers. We can very strongly recommend it to the profession, as embracing almost everything which can really be desired in a book of its character. By the way, we would feel obliged if in future the publisher would forward us a copy for 50 instead of 25 patients. Messrs. Dawson Brothers have the visiting lists for sale. By their use we are sure the physician will save at least their cost every day.

## PERISCOPIC DEPARTMENT.

### Surgery.

#### SUPRA-PUBIC OPERATION FOR STONE IN THE BLADDER OF A GIRL SEVEN YEARS OF AGE.

By W. F. WESTMORELAND, M. D., Professor of Surgery in the Atlanta Medical College.

In march, 1862, I was requested by Mr. G—— to visit his daughter, seven years of age, who, he said, had for several years suffered from stone in the bladder. Upon my arrival, I found my little patient poorly developed for her age—delicate and considerably emaciated from long continued suffering. From the history of the case, as given by the mother, I learned that she had suffered for three or four years from the ordinary symptoms of stone in the bladder; and that, for three years previous to my visit, her sufferings had been intense, and was evidently telling upon her constitution.

Upon examination with the sound, a stone of considerable size was readily detected. It was evident that the immediate removal of the calculus was the only means of relieving the sufferings and prolonging the life of the patient.

The propriety of an immediate operation decided upon, the question presented itself as to the best method of removing the stone. The dilatation of the urethra, either with or without the longitudinal section of this canal, as recommended, in the adult female, by several surgeons for the removal of stone through this natural opening from the bladder, was rejected as impracticable in one so young; that if it was possible, it would almost certainly entail that terrible condition, permanent incontinence of urine. "Vaginal Lithotomy"—which in the adult may be performed



with less risk, perhaps, to life than any other operation for stone in the bladder in the female—was regarded as impracticable in one so young and poorly developed as our little patient, requiring a length of time to dilate the vaginal canal—entailing an amount of suffering and irritation, which, in her condition, she was poorly able to bear: and at last, if successful in removing the stone by this procedure, a vesico-vaginal fistula being almost the invariable result, would require a second operation, which, in a subject only seven years old, would be attended with many difficulties.

Lithotripsy, the method, perhaps, the most frequently resorted to for the removal of stone from the female bladder, was regarded as difficult and hazardous. In addition to the tender age of the patient, from long continued irritation, the urethra and adjacent tissues were considerably indurated, and this canal consequently constricted. The bladder, too, was so excessively irritable that it was found impossible to have retained in this viscus the least quantity of water, so that if we could have succeeded in overcoming the first difficulty, and introduced the lithotrite into the bladder, we would have experienced perhaps, a greater difficulty in attempting to grasp the stone in the flaccid condition of the organ, and more danger still by lacerating and contusing the mucous membrane with the instrument, if we had attempted to crush it.

In consultation with Drs. H. W. Brown and N. D'Alvigny, the *suprapubic* or *high* operation was determined upon. In a few days after my first visit, assisted by the above mentioned gentlemen, the following operation was performed.

An incision two inches and a half or three inches long was made through the skin and cellular tissue commencing above and following the *linea alba*, and terminating at the symphysis; a partial section of the abdominal parietes was next made. As it was impossible, from the irritable condition of the bladder, to distend it with fluids, and from the irritable and small size of the urethra, to introduce the sound of M. Come, an ordinary metallic bougie was now introduced and the contracted bladder forced above the symphysis pubis by the instrument. A careful dissection was now made until the bladder was reached; by means of two tenaculums inserted in the walls of the bladder, the fourth of an inch apart, the organ was fully under the control of the assistant who held the two hooks. The walls of the bladder were now punctured between the two tenaculums, and the incision made sufficiently large to introduce the forceps.

A stone an inch by three-quarters of an inch in diameter was, without difficulty, removed with the forceps.

A small silver catheter was now introduced into the urethra and confined in the bladder. For the first eight or ten days there was considerable febrile excitement. I found great difficulty, after the first twenty-four hours, in retaining a catheter in the bladder—the presence of the instrument causing great uneasiness.

On the twelfth day after the operation, the battle of Shiloh was fought, and I was immediately ordered to Corinth, Mississippi. Upon my return to Atlanta in June following, I was gratified to find my little patient entirely recovered.

Dr. D'Alvigny, in whose care the patient was left, informed me that she had considerable fever, with diarrhœa, for several days after I left; in every other particular she did well.

I last saw the patient two years after the operation, and she was then in the most perfect health.—*Atlanta Medical and Surgical Journal*.

#### A NEW REMEDY IN GONORRHŒA.

By J. S. PRETTYMAN, M.D., of Milford, Delaware.

In July, 1859, while narrowly observing the effects of oil of erigeron administered in a fearful hæmoptysis, I was led to suspect that it would prove a useful remedy in the treatment of gonorrhœa. Acting upon this presumption, I immediately commenced giving it to a patient then under my care, in whose case all the vaunted specifics had most signally failed. He improved at once, and was speedily cured. Since that date I have prescribed it in about fifty cases, with unvarying success. It arrests the discharge in about seventy-two hours, and effects a cure in from six to eight days. I do not recommend it as a specific in all cases, but design merely to bring it to the notice of the profession as an exceedingly valuable medicine in this disease. Of course all scientific medical practice is based upon the well-known pathological condition of the structure involved, and this is our unerring guide. When, in recent cases, the urethral inflammation is severe, my plan is to precede the remedy with a full dose of some active hydragogue. A good formula is: R.—Pulv. sennæ ʒij pulv. jalapæ ʒj; pulv. aromaticus gr. x. M. Add a gill of boiling water and a teaspoonful of sugar, and, when sufficiently cool, agitate and swallow at a dose. As soon as this operates, give ten drops of the oil on sugar, and three hours later a full dose of spts. æther. nit. in infus. althea, and so on, every three hours alternately, until the urethral irritation is allayed. Then leave off the latter, continue the oil until the cure is complete. If the case is not recent, or there is but little urethral irritation, the oil alone is sufficient.

I have used it also in combination with copaiba and other articles, and found such preparations to answer a good purpose, but no better than the oil alone.

The oil which I use is reputed to be that of the *Erigeron Canadense*; but I presume that from the *Philadelphicum* is equal, if not superior for this purpose.—*American Journal of the Medical Sciences*.

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#### A METHOD FOR REMOVING A FOREIGN PARTICLE FROM THE CORNEA.

By C. R. AGNEW, New York.

A. B., a machinist, while "driving home" with a hammer and chisel the packing of a pump, detached a bit of iron, which entered and imbedded itself in his right cornea, a little below its centre. I saw him for the first time on the 22d of the present month, *one* year after the occurrence of the accident. Immediately after the occurrence of the accident he sought advice, and had persistent but unsuccessful efforts made to remove the foreign particle. For twelve months the particle of iron lay in the cornea, keeping up a constant irritation. When the case came under my observation, I found that the particle of iron had perforated the cornea, tapped the aqueous chamber, and was resting with one end in the anterior chamber, and the other on a level with the external surface of the cornea. Iritis was rapidly coming on. I soon satisfied myself that any attempt to remove the particle of iron by simple manipulation from without would result in forcing it into the anterior chamber, and lead to loss of the eye by consecutive inflammation.

Accordingly I placed the patient under an anæsthetic, and proceeded to operate for the removal of the particle. I first held the eyelids apart by means of a spring, or wire speculum, then passed a Beer's knife through the cornea behind the foreign particle, and out again towards the nasal margin of the cornea, so as to present a retentive barrier behind the foreign particle.

An assistant now held the Beer's knife, while I gently dug out the particle from the depth of the corneal ulcer. A few drops of a solution of sulphate of atropine, two grains to the ounce of water, were now dropped into the eye, and a light compress wet with cold water applied. In two days all trace of the incision in the cornea had disappeared, and the small ulcer left by the removal of the foreign particle was kindly healing up.

The main points in the case are, that the foreign particle had penetrated and drained the anterior chamber; that it was lying in the corneal wound, and keeping up a violent irritation, threatening destructive in-

flammation; and so nicely balanced that the slightest effort made to remove it by manipulation from without would have tilted it into the anterior chamber, where it might have been lost, and thus have become the occasion of destructive irido-choroiditis.—*Medical Record, New York.*

#### ENTIRE DISLOCATION OF THE CLAVICLE.

ON January 26th, 1863, Dr. N. L. North of Brooklyn, New York, was called to see a boy of about fourteen years of age, who had been thrown backwards from a stool or slight eminence, upon which he had been placed, and came down striking with his whole weight upon the back of his left shoulder. Upon examination, Dr. North found the shoulder depressed and thrown forwards; the centre of the clavicle fallen in as if fractured, with an abrupt rounded prominence at the sterno-clavicular articulation, and a sharp prominent ridge on the top of the shoulder, standing three-fourths of an inch above the superior point of the acromion process, and running from that process towards the neck, for about an inch, then gradually tapering down to the usual form of the neck. The boy complained of a great amount of pain and considerable difficulty of breathing. Dr. North concluded from his examination of the case, that there was an entire dislocation of the clavicle without fracture, both ends, with of course the entire bone, having been forced out by the force of the blow or fall upon the shoulder, and then drawn half way over forwards and downwards by the large pectoral and deltoid muscles. The round prominence in front was caused by the turning of the sternal end of the bone, and the sharp ridge on the top of the shoulder was caused by the turning up of the trapezoid portion, while the depression in the centre was the effect of the turning down of the convexity at the middle portion of the clavicle. The shoulders having been forcibly thrown backwards, and retained in position with long strips of adhesive plaster applied in the form of the figure-of-eight bandage, compression with the right thumb and finger, backwards and downwards upon the trapezoid portion of the clavicle, and at the same time, with the thumb and finger of the left hand upon the sternal end of the bone, firm pressure was made upwards and backwards. Dr. North felt the ends of the bone return to their normal positions, the proper shape and symmetry of the parts being completely restored. He applied compresses successively to each end of the bone, retaining them by means of adhesive straps; and applied Day's "neck-yoke" apparatus for fractured clavicle. In the course of two weeks he commenced loosening the dressings, and at the end of three weeks he removed them altogether, and discharged the patient well.—*New York Medical Record.*

## TRANSFIXION OF THE BASE OF THE TONGUE BY A NEEDLE; DIAGNOSIS AND REMOVAL WITH THE AID OF THE LARYNGOSCOPE :

The following case, admitted into Westminster Hospital under Dr. Gibb, strikingly illustrates the valuable aid afforded by the laryngoscope in discovering foreign bodies lodged in the throat:—

“Mrs Annie D., aged seventy-six years, was admitted as an out-patient on May 19th, under Mr Power, with the impression that she had a pin in her throat. He transferred her to Dr. Gibb for examination by the laryngoscope. She stated that she resided at Dulwich with her daughter, and that two weeks ago she swallowed a pin with some pudding. She felt it prick the throat right across, followed by severe pain, particularly on the left side, and dysphagia. Every now and then she had a choking sensation, with a disposition to retch. On the 13th (Sunday) she became nearly frantic with suffering, and the next day she retched continuously for nearly an hour. She had lived upon slops since the accident, and could only get them down by sipping small quantities. Her sufferings had been so severe that she had become exceedingly weak and feeble, and she was nearly suffocated on her way to town.

“Nothing could be detected externally. The neck was thin and all the structures were easily distinguished. There was some tenderness across the hyoid bone especially on the left side, where indeed there was a little tumefaction. In that situation the neck had been much swollen shortly after the foreign body was lodged, but this had subsided to a great extent. The voice was quite natural.

“In the fauces nothing was seen with the unaided eye, but on the tongue being held out and the laryngeal mirror introduced, the black-point of a needle was seen emerging from the base of the tongue on its left side, near the lateral edge of the epiglottis, and occasionally coming in contact with it to the extent of about two lines. The needle had evidently penetrated the left side of the sac of the pharynx, transfixing the tongue's base in that situation, been driven through its structure, and emerged in the situation described.

“Any attempt at removal, without some guiding point, would have been futile. Dr. Gibb, therefore, made the patient protrude her tongue out of her mouth with firmness and resolution. He then introduced the mirror with his left hand, and with the right inserted a pair of curved forceps capable of holding the minutest body with unusual tenacity, and succeeded in getting hold of the point of the needle, which he pulled outwards towards the right side, and brought out of the mouth. On examination, it was found perfect, quite black, and an inch and a half long. All

symptoms of discomfort immediately subsided, and the patient left for her home, expressing herself in terms of gratitude and thankfulness for relief, after what she described as such 'horrid suffering and misery.'

"In some clinical remarks which Dr. Gibb offered upon this case, he observed that it might be taken as an invariable rule that pins were seldom discoloured, whereas needles were always black—an important point in the diagnosis when a portion only of the foreign body was seen with the laryngoscope. The patient's voice and breathing were natural; and although there were occasional attacks of dyspnoea and retching, yet beforehand it could be seen that the larynx was not in any way involved. The dyspnoea, and perhaps the retching, were due to the occasional contact with the edge of the epiglottis. He had recorded several cases in his own experience of the removal of pins and other substances, both from the larynx and fauces. In one case a pin had become lodged within the larynx of a gentleman, the head of which was situated in the hollow of the anterior angle of the thyroid cartilage. Symptoms of the most violent strangulation were present, and suffocation was imminent; until removal was accomplished, when they vanished, as it were, by magic. He doubted whether the patient in that instance would have been saved by even opening the trachea, unless the pin had been removed at the same time. In the generality of cases perfection of voice and breathing pointed to freedom of the larynx; but when the body could not be felt by the finger, and then removed, the employment of the laryngoscope afforded great assistance in diagnosis."—*Lancet*, June 30, 1866.

REMOVAL OF ENTIRE HUMERUS AND HEADS OF ULNA AND RADIUS  
AFTER GUN-SHOT INJURY. GOOD USE OF ARM  
BY AID OF AN APPARATUS.

BY JAMES B. CUTTER, M. D. (*American Journal of Medical Sciences*, Jan  
1865.)

A Minie ball passed through the shoulder joint, Nov. 27, 1863, fracturing the head and neck of the os humeri, which were removed, with three inches of the shaft, three days afterwards. Ten days subsequently an abscess formed at the elbow joint, which was opened and gave exit to a large quantity of pus. July 21, 1864, an operation was performed for the removal of entire bone, including the heads of ulna and radius. Continued the incision made in the first operation down the ulna line of the arm to the forearm; removed the bone with very little injury to the surrounding parts. No ligatures were required, as the bleeding was completely arrested by the use of cold water. It is proper to state

that the tubercle of the radius was left, leaving the insertion of the biceps muscle. The lips of the wound were brought together with silver sutures and adhesive plaster, and comfortably supported at a right angle with splints. Succeeded in getting union by first intention almost throughout the entire length of incision. Three weeks after operation, wound healed completely, and patient moving about.

The carpal, metacarpal, and digital muscles were left powerfully subservient to the will for grasping, holding and pulling, though there is some paresis of the extensor-carpi digitorum. The arm, forearm, and hand are daily regaining a healthy tone; biceps and deltoid muscles contract strongly, zigzag, for lack of fixedness; the entire arm and hand are somewhat atrophied. The arm is shortened one and a half inches, is extremely flexible and ungovernable.

Three months afterwards, Dr. E. D. Hudson, the othopraxist of New York, made and applied an apparatus, the incipient results of which were, arm and forearm supported, strong, and reliable; arm oscillates at the shoulder; forearm flexes at will, at a right angle with the arm; holds parcels in his hands, lifts a pail of water perpendicularly, pulls strongly on a horizontal line; with practice will regain a highly commendable and gratifying use of his arm and hand, and demonstrate the exceeding utility and propriety of the extreme exsection as a beneficial alteration for an amputation. Dr. Hudson writes under date of November 27, 1865, that he has "since improved and reapplied this apparatus, omitting the wristband, and substituting an elastic strap across the chest from the shoulder pad passing to a soft pad, placed beneath the axilla of the opposite arm; further, that the general principle remains the same; and he is improving in the use of his arm. He was in there a few days ago, took an arm-chair and swung it at an elevation of  $45^{\circ}$ —almost at a right angle with his body."

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#### AMPUTATION THROUGH THE KNEE JOINT.

There seems to be a growing impression in favor of this operation in Great Britain, and of late years it has been quite frequently performed; four times by Mr. Lane, twice by Mr. Coulson, once by Mr. Spencer Smith, once by Mr. James Lane, once by Mr. Pollock, three times by Sir W. Fergusson. The following cases of Mr. Pollock, Mr. T. Holmes, and Mr. Cooper Forster, are recorded in the London Lancet, January 13, 1866.

Mr. Pollock amputated through the knee-joint at St. George's Hospital, August 3rd, 1865, in a woman *æt.* 55, for a large ulcer of the leg from

which she was evidently sinking from exhaustion, by double flap, the anterior being somewhat the larger. Patient hardly rallied. On the 6th, anterior flap looked dark colored, and was about to slough, when she sank and died.

Mr. Timothy Holmes, at the same hospital, exarticulated the leg of a boy *æt.* 12, September 14th, 1865, for disease of knee joint. A semilunar cut across and below the patella was made, and it was removed. Mr. H.'s purpose was to excise, if the case seemed suitable, but the shaft of the tibia was found extensively diseased. A catlin was substituted for the bistoury, and this was passed transversely between the femur and tibia, was made to cut its way downwards and backwards, forming a posterior flap of the tissues of the calf. A shorter anterior flap was provided by the tissues in which the patella had rested. October 8th, discharged well.

Mr. Cooper Forster's operation at Guy's Hospital was done October 10th, 1865, for a recent compound comminuted fracture of tibia and fibula of the right leg, just below the knee, in a healthy laborer. A circular cut was made around the leg, two inches below the knee, the skin and superficial layers of fat were cut through and dissected back. The tendons of the hamstring muscles were then divided about opposite the middle of the joint, the ligaments cut and the leg freed from the trunk. The patella was dissected out. Discharged November 18th, 1865.

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## Medicine.

TONSILLITIS. APHTHOUS AND OEDEMATOUS VARIETIES; CAUSTIC; INCISION.

This very common affection may be found worthy of brief commentary, and one of its forms is well illustrated by a case recently treated in Dr. Lyons' Clinique, Richmond Hospital, Dublin.

The patient, a young man, aged about 20, was admitted labouring under considerable dyspnoea, extreme dysphagia, and with a marked amount of pyrexial excitement. He stated that he had not previously laboured under sore throat, and had been attacked a few days previously with rigors, pain in the neck, difficulty of swallowing, pain shooting up to the right ear, and all the usual symptoms which attend the invasion of tonsillitis.

On inspection there was visible swelling externally on the left side, great distress in breathing and on attempts to swallow, and all the evidences of much febrile disturbance of the system.



On opening the mouth, which was accomplished not without difficulty, the left tonsil was found to be enormously engorged, projecting far beyond the mesian line, and carrying the uvula before it. It was also enlarged in a direction forwards, and had thrust the left anterior half-arch of the palate, part of velum palati and contiguous tissues, far forward into the month, causing very remarkable swelling of the parts involved, which were thrust forward so as to reach the level of the front molar teeth. The mucous membrane of the palate and inflamed parts was of a deep claret colour, and all the symptoms and appearances indicated the rapid advance of a high degree of erysipelatus inflammation. It might have been for some moments a question of grave debate as to what steps could be best taken for immediate relief of the urgent symptoms which were presented in this case; but relying on his former experience in circumstances very similar, Dr. Lyons at once proceeded by means of an ordinary gum-lancet, or, as he prefers to call it, "*his favourite tonsillotome*," to make a few bold free incisions through the swollen organ by gently raking the instrument two or three times in a parallel direction from behind forwards, and to the depth of about one-sixteenth to one-eighth of an inch through the tissue of the gland. The result of this procedure is invariably to give exit to a considerable quantity of blood, and to allow the escape of the serum, the infiltration of which had caused the principal amount of the swelling which had produced so much distress, dyspnoea, and dysphagia. After the free incision just mentioned, the patient was directed to freely gargle the throat with warm water. The result was, that in a brief period, partly from the escape of blood, and more particularly by the free exit of the serous fluid infiltrated into the tissues of the gland, marked subsidence of the swelling took place, and therewith relief was procured to all the principal sources of distress of which the patient complained. Convalescence was rapidly established in this case.

In commenting on the features of this particular case, Dr. Lyons took occasion to draw the attention of the class to the distinction which he believes to be so markedly observable between the two forms of tonsillitis which so very commonly come under the notice of the practising physician and surgeon—viz. :—

*Aphthous Tonsillitis.*—This term Dr. Lyons thinks may be applied very appropriately to one of the two common forms of tonsillitis. In this variety of the affection the tonsil is but little swollen; it is red, irritated, patchy in appearance, and here and there covered with buff-coloured spots or specks of yellowish or aphthous matter—a low form of exudative material. This affection is attended with smart sensation of pain and distress on swallowing, often with sharp fever and marked evidence of a

well-developed pyrexial state, including hot skin, quick pulse, thirst, foul tongue, and ultimately copious deposit of urates.

In this form of the affection Dr. Lyons' experience agrees with that of all observers, that the local application of solutions of the nitrate of silver, varying in strength according to the urgency of the case, acts as a sovereign, and quite a specific, remedy. He is satisfied, however, that the singular and almost magic efficacy of the local application in this particular form of the affection has been a source of grave error in another somewhat allied, but in the main wholly different, pathological condition of the tonsil. Dr. Lyons sums up his views by stating that *while Nitrate of Silver is the sovereign remedy for one—the aphthous variety of tonsillitis—it is not alone ineffective, but highly injurious, in that variety in which œdematous infiltration of the organ demands free incision by the gum-lancet as its natural and only efficient mode of relief.*

When the œdematous variety of tonsillitis is once established, the application of caustics in any form, solid or fluid, can, in Dr. Lyons' view, have only the effect of converting a simple œdematous infiltration into an inflammation in which lymph is exuded, and the tissues of the organ become for the time much more intensely inflamed, possibly enlarged, and certainly permanently condensed.

To the enlarged œdematous tonsil the application of caustic gives no relief, but perhaps the contrary, and this is especially seen when both tonsils are enlarged, project towards each other, and perhaps touch, and deglutition and in some cases ordinary respiration is performed with infinite difficulty. To apply caustic, under these circumstances, is but to aggravate the already excessive sufferings of the patient, while leeches, mustard poultices, and blisters are equally ineffective as means of relief to a condition which to the patient seems to threaten immediate suffocation, a result possible, though fortunately rare.

It is in circumstances like those here detailed that the practice of incision of the tonsils, according to Dr. Lyons' views, offers such advantages. Free exit is at once given to a certain amount of blood, free exit is allowed to the imprisoned serum; rapid subsidence of the swollen organs takes place, and deglutition and respiration are performed without difficulty, to the infinite relief of the patient, who has been momentarily fearing suffocation.

As to any possible danger from the operation of incision, it must be remembered, says Dr. Lyons, that, however closely approximate to those important vessels (internal and external carotid and maxillary artery) may be the tonsil in its normal condition as a much flattened organ, it is when enlarged separated from these vessels by the whole thickness of its

own inflamed and infiltrated substance, often reaching the size of a large walnut. Dr. Lyons directs the operation to be performed by carefully raking the gum-lancet (the only suitable instrument for the purpose) from behind forwards; it incises the organ (now perhaps an inch in thickness) to the depth of one-eighth at most of an inch, and exit is given to blood and serum.

If performed sufficiently early, the occurrence of abscess in the tonsil may, in his opinion, be obviated in the great majority of cases, while another and equally important object is accomplished by saving the patient from that condition of chronically enlarged and hardened tonsil, so liable at subsequent periods to attacks of inflammation on the slightest occasion of cold, and which is too often the result of caustic misapplied.

In conclusion, Dr. Lyons observed that the case under consideration well illustrated the other marked features of this somewhat singular malady, in which, with a comparatively slight amount of local disease, marked general pyrexia was so commonly associated, as evidenced by heat of skin, accelerated pulse, nervous derangement, occasional sleeplessness and wandering, and in nearly all cases marked lysis of the diseased state by a free deposit of urates, accompanied by a marked odour of the sweat and breath, with an amount of debility consequent on the disease, which nothing could explain short of a pyrexial act of the system of considerable intensity, and attended by tissue-metamorphosis and waste excretion of no small extent.—*Medical Press and Circular.*

#### NOTES ON THE TREATMENT OF 123 CASES OF CHOLERA IN THE LIVERPOOL PARISH INFIRMARY, JULY AND AUGUST, 1866.

By J. WILSON McCLOY, M.D., &c., Resident Medical Officer at the Liverpool Parish Infirmary.

The following brief record of the treatment adopted in 123 cases of cholera which have occurred in, or been brought to, this institution during the present epidemic, may not prove uninteresting to the profession. "It must be confessed that the means employed were sufficiently various in their nature; and the narrative of their effects may be useful, by inducing caution in the employment of those which have been found inefficient and injurious." I can conscientiously say that each particular mode of treatment received a fair and impartial trial. I shall hereafter have occasion to contrast the relative severity of the cases treated by each method.

The first cases (two) were brought to this hospital on the 10th of July. Both were in the evacuation stage, and were treated with astringents, stimulants, and ice-water. The astringent used was a mixture con-

taining spirits of chloroform, Battley's sedative solution, creasote, and compound chalk mixture. The stimulant was brandy, freely and frequently administered. Ice-water was given *ad libitum*. The symptoms of collapse rapidly set in, and both cases proved fatal: one in twelve, and the other in six, hours after admission.

On the 12th of July the disease unfortunately made its appearance in the foundling department of the institution. This was one of those sporadic, or, at least, unaccountable cases which we occasionally meet with. A nurse in one of the foundling wards, who had not for months been out or in communication with any one from without, was suddenly and unaccountably seized with violent vomiting, painless, profuse purging, and violent cramps in the extremities. The case was considered one of cholera. The woman was removed at once, the place thoroughly disinfected, the bedding, &c., burnt, and the children transferred to a separate ward. This woman was treated in a similar way to the former cases, and with the same result, death occurring in twelve hours after admission.

The same night two of the children to whom this woman was nurse, and who slept with her, were seized with choleraic symptoms. They were treated with camphor, according to the "Rubini" plan. Both cases proved fatal: one in six, and the other in eleven, hours.

The following morning four other children, also charges of this woman, were seized. The camphor treatment was adopted, and three cases proved fatal.

From this time till the 26th of July there were 56 entries. Of these, 5 were moribund on admission—dying in from two to seven hours. We have then a total of 51 cases treated up to the 26th ult. Of these 19 were by camphor, 7 by ice, and 25 by what I shall call the "mixed plan." The following are the results:—

Cases.	Mode of treatment adopted.	Deaths
5	(Moribund on admission)	5
19	Camphor ("Rubini" plan)	13
7	Ice to spine, and ice-water	7
25	Mixed treatment	13
<hr/> 56		<hr/> 38

Only seven of these fifty-one cases were in the stage of collapse, the rest were in the evacuation stage. In estimating the value of the camphor treatment it is only fair to state that it was principally pursued amongst a most unfavourable class of patients. I allude to those puny, rough-skinned, pot-bellied, emaciated children, so common in the lower ranks of life, and in the foundling department of work-house infirmaries. Ice to the spine, either alone or alternated with hot-water bags, was mis-

erably unsuccessful. The application did not seem to have the slightest effect in producing reaction where there was any considerable collapse. While the ice-bags to the spine were borne without complaining, a similar application of water at 120° Fahr, caused the greatest pain. The mixed treatment included the use of astringents, sedatives, stimulants, ice, ice-water, the hypodermic use of morphia, hydrocyanic acid, strychnine and camphor, dry heat sinapisms, stupes, &c. The astringent mixture, which was the same as that used in the first cases, speedily arrested the vomiting and purging; but this was not followed by any general improvement. Dry heat and sinapisms proved beneficial. Brandy and ice-water were administered freely.

On the evening of the 26th the castor-oil treatment was first ventured on as a sort of forlorn hope. The following is the history of the first case in which it was used:—

Ellen M——, aged 36, admitted at twenty minutes to seven p.m. Has been ill with diarrhoea for a day and a half. Was treated with astringents and stimulants. Previously a healthy woman. When admitted she seemed in a semi-narcotized condition, from which she was with difficulty roused. Features pinched; expression anxious and fearful; feet and legs blue and icy cold; arms cold and fingers corrugated; forehead covered with a clammy perspiration; eyes sunken and surrounded with a livid ring; voice husky; tongue, lips, and breath very cold; pulse absent in radial, and but very feebly perceptible in brachial artery; neither purging, vomiting, nor cramps; small intestines distended. Ordered sinapisms to stomach and abdomen, and hot bottles to feet and legs. To have an ounce of castor-oil and two drachms of tincture of hyoscyamus at once. Small quantities of water at temperature of room. At a quarter to seven the oil was rejected. To be repeated. Ten minutes past seven; oil retained; to be repeated. A pint of salt and water, at 120° F., to be thrown into the rectum. Half past eight; Purged freely. To have half an ounce of castor-oil. Twenty minutes past ten p.m.: oil retained, Seemed more lively: pulse imperceptible in radial.

July 27th: Quarter past twelve a.m.: Purged twice in last hour; evacuated matter horribly offensive and of an ash-brown colour. She is much warmer and more natural in appearance; pulse feebly perceptible. Oil to be repeated. Ten minutes past three: much better; vomited once and purged twice in the last two hours; forehead warm; pulse distinct in radial: great thirst. To have water *ad lib.* Forty minutes past eight: improving rapidly; pulse moderately good; has been purged once; matter still very offensive; feet and legs warm and natural in colour. To have two drachms of castor-oil. Twenty minutes past eleven: still

doing well; pulse fair. To have small quantities of arrowroot and salt beef tea. Six p.m.: still doing well; has been sitting up in bed in the absence of the nurse.

28th: Greatly improved. Ordered gruel and additional beef-tea, purged once during the night; evacuation more healthy in appearance.

29th: Bowels acted once last night; complains greatly of hunger. To have three grains of sulphate quina three times a day.

30th: Convalescent. Ordered mutton chop.

31st: Going on admirably. Bowels acted once to-day.

August 2nd: To have half an ounce of castor-oil.

4th: Discharged cured.

This was undoubtedly one of the worst cases admitted into this hospital. The recovery was looked upon as miraculous. I could give, did I not fear occupying too much space, ten or twelve other cases quite as bad as this which eventually recovered under the eliminative treatment.

Since the 26th July there have been 67 cases. Of these, 11 were moribund, dying in from ten minutes to eight hours subsequent to admission. This leaves 56 cases, which were thus treated:—

Cases.	Mode of treatment adopted.	Deaths.
11	(Moribund on admission) . . . . .	11
2	Internal administration of strychnine . . . . .	2
4	Astringent and Stimulant . . . . .	4
50	Eliminative . . . . .	17
<hr/> 67		<hr/> 34

The two cases in which strychnine was admitted were just in the transition stage between evacuation and collapse. The dose was one-thirtieth of a grain every fifteen minutes, with permanganate of potash and carbonate of soda. The astringent and stimulant treatment was that previously noticed. In the remaining fifty cases I was kindly permitted by Dr. Gee, physician to the hospital, to use castor-oil. With the results I have every reason to be perfectly satisfied. Of these fifty cases, only ten were in the stage of evacuation; and of the remaining forty, nineteen were in a state of the most extreme collapse. I observe in the *Pall-Mall Gazette* of Aug. 4th, a statement to the following effect: "The cholera at Liverpool is evidently subsiding, and, as usually happens in such a time, the larger proportion of recoveries is attributed to the mode of treatment, castor-oil having been substituted for camphor and ice." Now, exactly the opposite of this is the case. *The disease is not subsiding; choleraic diarrhæa is increasing rapidly, and the cholera type is more*

*severe.\** It cannot be said that the cases treated on the eliminative plan were milder in character than those treated by camphor, astringents, or ice, for, so far from this being the case, I can most unhesitatingly affirm that they were not only *more severe in character*, but were not, as a rule, prescribed for until collapse had for some time set in. Of the seventeen deaths, two occurred from pneumonia during convalescence; two were cases which had been discharged cured, and were suddenly seized with a relapse; and nine were cases in which there was no radial pulsation, and in which neither emesis nor purgation could be produced.

Eight post mortem examinations were made, and as I consider the results important, I may be excused for giving the particulars of one case in detail.

*Case 1.*—Maria W——, aged 40, admitted July 31st, at thirty-five minutes past twelve a.m. Has been ill for twelve hours; was seized suddenly with vomiting and purging. On admission was in a state of the most extreme collapse; algid symptoms very intense; temperature in axilla  $96^{\circ}$ ; almost complete aphonia; pulse feeble and faintly perceptible in brachial artery; great thirst; upper extremities covered with cold, clammy perspiration. To have hot bottles to feet and body, and sinapisms to abdomen and calves. Ordered three drachms of castor-oil, two drachms of syrup of lemon, and fifteen minims of chloric ether every hour; hot solutions of muriate of soda and chlorate of potash to be thrown into rectum every hour.—Two a.m.: oil retained; neither purging nor vomiting has taken place.—Half past three: oil still retained; not purged. Three minims of croton-oil rubbed on tongue; friction with croton-oil over abdomen.—Five: injections returned; no improvement. To continue with oil.—Half past ten: no improvement; no purgation.—Twenty minutes past twelve p.m.: no improvement. Seen by Dr. Mappother of Dublin.—Twenty-five minutes past two: on improvement; no purging. Intestines stimulated by galvanism, which produced slight vomiting and purging.—Five: no improvement; no purgation.—Ten: has been continuing in the same state; power of deglutition lost.—Half past eleven: venesection resorted to; blood refused to flow. Heart stimulated by galvanism, when a few drops of tarry-looking fluid exuded from right arm.—Forty-five minutes past eleven; died.

*Autopsy eight hours after death.*—Vessels of the right side of the heart and pulmonary artery distended with dark blood; left side nearly empty, containing only a few coagula. The lungs on their peripheral portion were pale and exsanguineous; from the central portions a small quantity of thick, dark blood exuded on section. Hepatic veins and capillaries of

\* A reference to the reports of the Medical Health Officer will settle this point.

vena porta full. Gall-bladder enormously distended. Duodenum almost empty. Stomach contained a large quantity of castor-oil; mucous membrane presented towards pyloric end œdematous patches. Peyer's and the solitary glands greatly enlarged, presenting a salmon-roe appearance. Peritoneal coat of small intestines pale, except towards lower part of ileum, where it was of an olive-green colour; this part was full of a remarkably fetid fluid, having a resemblance to bad pea-soup; the mucous membrane of this part was softened and thickened. Colour pale on peritoneal and mucous surface and nearly empty. Kidneys and spleen natural. Vascularity of brain and meninges slightly increased; structure, so far as I could judge, normal. Arytenoid and epiglottidean muscles livid, and dotted with minute ashy specks.

*Case 2.*—A man, aged 50. Symptoms on admission similar to last, as were almost also the post-mortem appearances. In particular, the similarity in appearance of the small intestine and its contents was noticed. In four other cases I found almost identical appearances. This condition of intestine, when taken in conjunction with the fact that in none of these cases could purgation be produced, I consider of the greatest pathological significance.

*General remarks*—The method of administration of the castor-oil was, in the majority of cases, that advised by Dr. Johnson in his work on "Epidemic Diarrhœa and Cholera." I have found in nearly every instance a wonderful tolerance of this medicine. The most difficult point in the whole treatment of the disease I believe to be that connected with diet, more especially during the stage of convalescence. From want of proper attention to this point I believe four cases relapsed, two of which died, and two recovered under the castor-oil treatment. From having watched the effects of alcoholic stimulants in collapse, I am of opinion that they invariably diminish the force and frequency of the pulse, and augment the symptoms arising from pulmonary obstruction. Thermometry, so far as I could judge, afforded no measure of the intensity of the collapse. In every case the temperature of the body rose one or two degrees after death. The "rice-water" evacuation has not been at all a characteristic symptom. The discharges presented every variety in appearance, the peculiar character of the voice, the *facies cholericæ*, and the incessant thirst, have been the best marked and most characteristic signs. While in many cases the attack came on suddenly and unaccountably, in the majority there were "premonitory diarrhœa" and abdominal uneasiness. The cases have been of every degree of severity. The disease, as a rule, has only occurred in the low-lying districts, where the unhygienic conditions connected with food, filth, misery, overcrowding,



and intemperance, exist notoriously. *The eliminative treatment has been most successful.* It has been a success which those only who have seen and compared the relative severity of the cases can appreciate—a success which statistics cannot show.—*Lancet.*

Liverpool, August 6, 1866.

TUBERCULOSIS. AN ABSTRACT FROM VIRCHOW'S KRANKHAFTEN GESCHWÜLSTE.

By FRANCIS DELAFIELD, M.D., New York.

One of the greatest of living pathologists has definitely formulated his views concerning that most difficult subject—tuberculosis. No English translation of his work has yet appeared. This short sketch of his treatise may be of interest.

The lymphatic glands consist of cells, the so-called lymph cells, contained in a fine reticulum of connective tissue, and arranged in follicles divided by fibrous sheaths. These follicles may form large masses, as in the thymus, the tonsils, and in Peyer's patches; or they exist singly, as in the solitary intestinal glands, and the malpighian bodies of the spleen. The essential element is, in all cases, the cells.

There are two groups of tumors analogous in structure to these lymphatic glands. First, hyperplastic growths of already existing glands; second, heteroplastic growths of the elements of glands, where none such normally exist. To the second of these groups belong tubercles. There are two words which have been so loosely used in connection with tubercles, namely, scrofula and struma, that it is necessary, at the outset, to define them.

Scrofula is the literal Latin translation of the Greek *chocras*, which is found in Hippocrates. Both expressions signify a young pig (*scrofa*, *χοίρος*). The older writers derive the name from the fact that the swellings are as numerous as a sow's young; or that swine suffer from this disease; or that swine have necks containing many glands; or that an affected neck assumes the shape of a swine's. The Latin word, however, was little used by the ancients, and the expression "scrofula" has only been generally used since the time of Cullen and Hufeland.

The word struma is found in translations of Greek authors, and in Celsus, as a parallel expression to scrofula, often with exactly the same meaning. This original use of the two words as synonyms has been reproduced by modern English writers, who express by "strumous" what continental writers call "scrofulous," or "tuberculous." French wri-

ters use the word *struma* very little. German authors, on the other hand, express by *struma*, tumors connected with the thyroid gland, and by *scrofula*, tumors connected with the lymphatic glands. This use of the words will be here retained. *Scrofula*, however, is here used to express not a mere swelling of the lymphatic glands, but a peculiar condition of the constitution, which causes the lymphatic glands to be unusually vulnerable to any irritating cause, and indisposed to healthy reparative action. This condition can be explained in part by an unusually rich development of the lymphatic organization, in part by a weakness of particular parts or regions. This weakness is caused by a certain imperfection in the organization of the glands. Such a constitution may be hereditary, or may be produced by insufficient and bad nourishment, foul air, etc.

The word *tubercle* had originally nothing to do with any special process, but merely expressed the shape of some particular local growth, or was even used as a synonym for processes of the bones. So it was applied to tumors of the most diverse natures, syphilitic, cancerous, bony and fibrous, as a simple descriptive term. The word first began to be used in its modern sense at the end of the last and the beginning of the present century, at the time when more accurate anatomical investigations of lung diseases, especially by Baillic and Bayle, were undertaken.

Careful post mortem examinations of morbid lungs revealed a variety of conditions, which were called by various names: *tubercula*, *struma*, *scirrhoma*, *steatomata*. Two forms of phthisis were distinguished, one resulting from pneumonia and catarrh, the other from tubercles. The tubercles were considered to be diseased glands. Attention was called to the many points of resemblance between tubercles of the lungs and scrofulous glands, and hence was evolved the doctrine of the identity of scrofula and tuberculosis, a doctrine held by Von Swieten, Morgagni, Cullen, Portal, and Hufeland.

The exclusive examinations of the lungs, however, and the regarding them as a standard of tuberculosis, led to confusion. Laennec, especially, investigating as a specialist, and considering phthisis as a unity, confounded together a number of totally different conditions, and his great authority has influenced nearly all subsequent investigations. His followers held the cheesy material as the diagnostic sign of tubercles. Even those who, like Lebert, declared against the identity of scrofula and tubercles, considered the cheesy condition of a gland as a diagnostic sign of a tuberculous process. This cheesy material has been the source of numberless errors. It must be borne in mind that it is no specific material, but is simply dead tissue, and may be the last stage of various morbid proces-

ses: Any reasonings which regard this dead material as the essential part of tubercles must end in error. Thus, Broussais and Cruveilhier considered tubercles as the result of an inflammatory process, and originated the doctrine of tuberculous inflammation. It is absolutely necessary to hold fast the non-identity of the original processes, and to overlook the identity of the metamorphosis which the tissues can undergo. Then it becomes possible to make the essential distinction that tuberculosis, in opposition to scrofula, is the production of heteroplastic, lymphoid new growths in regions where they do not belong.

The true tubercle has no essential connection with inflammation. Whether its growth is, or is not, attended by inflammatory processes, its character remains the same. It is, however, undoubtedly of an irritative nature, and it is even right to speak of a tuberculous inflammation.

Though tubercles are to be considered as distinct from scrofula, it is necessary to admit their near relationship. Tuberculosis may even be regarded as a heteroplastic scrofula, for the frequent occurrence of both conditions in the same person is otherwise difficult to explain.

There have been various views in regard to the relation between tubercles and the products of inflammation. First, that tubercles are the irritating cause which produce the inflammation. Second, that both tubercles and inflammatory products are formed from a simultaneous exudation. Third, that tubercles are produced from the inflammatory products. The first and last of these views are founded on fact, and can be proved by observation. The second view, that of a tuberculous exudation, was originated by Magendie, and supported by Rokitansky and the Vienna school. They held that the specific material was exuded from a morbid blood, and cited the existence of the well known cheesy material in the alveoli of the lungs as proof. The result of their reasoning and mode of investigation was that the real tubercles of the lung were overlooked. And under the name of gray granulations, in the lung and arachnoid membrane, they have been described by Robin as something new and distinct.

It is in the lungs that the cheesy material has caused the greatest confusion of ideas. After a chronic pneumonia or bronchitis, the alveoli and small bronchi are left filled with the products of inflammation. These thicken, degenerate, and become cheesy; there results what has, since Laennec, been called "tubercular infiltration," but is really a cheesy hepatization. This cheesy material may be found in miliary form, in circumscribed deposits; or involving entire lobes. True tubercles of the lungs arise always in the walls of the air passages, and are not secreted in their cavities.

To avoid confusion, it must be remembered that tubercles exist in various stages of growth and decay, and vary somewhat in different organs. A description, therefore, true of one stage, may be quite false of the others.

The true tubercle is organized, if not vascular: that is, it is composed of living cells. It arises from connective tissue, bone, fat or marrow. It is, therefore, best studied in those parts which are composed of the simplest tissues, such as serous and false membranes; next, in glands with a well defined stroma, as the liver and kidney; with the greatest difficulty in organs, like the lung and brain, of a complex structure.

The young growth looks at first like fresh granulation tissue; it contains very soft, fragile cells and nuclei. These cells are the true tubercle corpuscle, which is not a mere nucleus nor a solid body. They resemble essentially the lymphatic gland cells, are round, and vary in size from a little smaller to three-fold that of a white blood corpuscle. The cell body is colorless, transparent, a little granular, and easily broken by pressure or the addition of water and reagents. The nuclei are small, homogeneous, shining, contain nucleoli, and number from one to twelve in a cell. Between these cells is a small, net-like arrangement of connective tissue fibres, and sometimes vessels. The latter are usually not new, but belong to the old vessels of the part.

Lebert's tubercle corpuscle is no original element, but a production formed from cheesy metamorphosis. It can be found not only in dead tubercles, but in pus, scrofulous glands, cheesy hepatization, and carcinoma, after they have undergone the cheesy transformation. It has, therefore, no diagnostic worth whatever.

The young tubercle is a true neoplasm—arises not from an exudation, but from proliferation of existing tissues, or from newly formed connective tissue.

The cellular arrangement of tubercles is repeated in all parts where they reach their acme. But in many regions the acme is never reached, especially in firm, fibrous tissues, and newly formed connective tissues. Here a large part of the tubercular tumor consists of thick connective tissue, whose cells are numerous and contain several nuclei, while only in the centre is a riper growth found. When such a tumor becomes older nothing will be found but a fatty, granular centre and a shell of connective tissue—no cells.

After the first development of tubercles their regular course is to the cheesy transformation, but fatty degeneration, with or without resolution, may also take place. This cheesy transformation begins at the oldest part of the deposit, generally the centre. After the cheesy stage

comes that of softening, which also first attacks the oldest portion. In tubercles growing on surfaces, however, the oldest portion is the middle of the surface, and not that of the entire growth. Those who suppose softening begins at the periphery have only observed conglomerate masses, or non-tubercular cheesy deposits. The softening is not the result of the tubercular mass causing inflammation and suppuration of the surrounding tissues. It is a purely chemical process, unconnected with suppuration. The debris of tissue, which form the cheesy mass, separate into smaller and smaller elements, and may even change to a fluid form.

If the softened tubercles are near the surface, as in mucous membranes, there follows ulceration. This takes place through the simple separation of the softened mass, without any suppuration. But as the softening is usually only partial, the bottom and walls of the ulcer are still formed of cheesy material, which gradually also softens and separates, until there is left an ulcer no longer tuberculous, though caused by tubercles. Not until it has thus become a simple ulcer does it secrete pus. These ulcers can be best studied in the bladder. After the separation of the tuberculous matter, the ulcer may cicatrize, but this is seldom the case. More often new growths form around and under the ulcer, and the morbid process is constantly beginning afresh. The so-called infiltration is formed when a number of deposits are situated near each other. Through their confluence is formed a continuous, homogeneous, cheesy conglomerate. In mucous and serous membranes, through such a confluence of miliary tubercles results a thick, yellowish white, dry, layer, which covers the entire surface, like a diphtheritic membrane. If this takes place in the walls of a tube like the bronchi or ureters, it may even obliterate their canals; and if the mass afterward softens, it will appear like an exudation in the cavity of the tubes.

Large tubercular masses are best studied in the brain and spinal cord. There it can be seen that the mass is formed of lamellæ, and that the growth takes place by the apposition of new gray tubercles, and not of cheesy material.

In the lymphatic glands, there exists a tubercular growth arising from their connective tissue. The glands usually inflame and hypertrophy at the same time. The growth begins as small, grayish spots, in greater or less number, but does not always affect the entire gland. The gland tissue proper becomes soft, reddish gray, and succulent. The gray spots become larger, firmer, harder—and, finally, cheesy. Afterwards the mass may soften. Tuberculosis of the glands is nearly always secondary to that of neighboring organs.

The spleen is one of the favorite seats of tuberculosis. On the other hand the tonsils, the salivary glands, the pancreas, the muscular system, ~~excepting the heart, the thyroid gland, the mammary glands, and the ovaries,~~ show an unaccountable indisposition to take on his process.

The testicles are strongly predisposed to tubercle. The existence of syphilitic growths and of chronic inflammatory processes renders their diagnosis obscure. The anatomical diagnosis of the inflammatory process is not difficult. The gummy tumors are to be distinguished by their situation in the body of the testicle near to the tunica albuginea, while tubercles usually begin in the epididymis. The tubercles always arise from the connective tissue, and never the epithelium.

In bones, tuberculosis usually arises from the marrow, especially in the spongy bones. The vertebræ and the ends of the long bones are its favorite seat. The process usually takes the form of an osteomyelitis tuberculosa, though in young children a simple formation of tubercles occurs. The yellow marrow first becomes red, then are formed small, grayish granulations, at first scattered, later, grouped together. The surrounding marrow is hyperæmic. Later, these granulations become cheesy, run together, and there result opaque, yellow masses, which contain the detritus of the surrounding tissues. These partly cellular, partly dead masses fill the medullary cavities. At the same time the bones thicken. After a certain time the bone tissue itself is affected, and this may take place in two ways. First the bone tissue changes into soft granulation tissue, in which miliary tubercles grow; or, secondly, the bone surrounding the cheesy masses necroses, especially in the spongy bones. There results a form of caries. Around such dead portions of bone arises a secondary inflammation and suppuration; hence are formed abscesses, which seek the surface by fistulous openings.

In Pott's disease of the spine, the causes may be either such a tubercular process, or more often a true inflammation and suppuration of the bone—osteomyelitis scrofulosa.

If we now consider tuberculosis as a whole, we will notice two characteristics: its heteroplastic formation, and its inclination to multiple eruptions. Both these qualities seem to imply a dyscrasic cause, and the doctrine of a tubercular dyscrasia, or diathesis, has been widely taught and believed. Hence, also, arose the question as to the exclusion and combination of tubercles with other diseases. It may be safely asserted that there is no exclusion of tubercle against other diseases, only against certain organs and tissues. But it never forms part of a mixed tumor. This question loses its interest when tubercle is considered, not as an exudation, but as a new growth.

But now we must ask, whence and how does this growth arise?

It can be definitely stated that connective tissue and its allies are always the matrix. The attempts at determining the cause of the new growth by experiments on animals have proved very unsatisfactory. It is doubtful if true tubercles even exists in them. No one has yet succeeded in forming tubercles by experiment.

There is certainly a local vulnerability and a local immunity of organs. In general, organs normally containing lymphatic elements are those most predisposed to the disease, but there are exceptions which cannot be explained. Also there is a vulnerability and immunity of individuals.

Tubercles are a disease of extra-uterine life; they are hereditary, but not congenital—hereditary not as a disease, but as a disposition. It is probable that not only tubercles, but also syphilis, scrofula and other diseases of parents may cause a predisposition in their children.

The tissues are the carriers of this predisposition, and the younger they are so much more easily is their disposition excited. A disposition to tuberculosis indicates always a disposition to inflammation. Childhood and youth are especially prone to the disease. The fact that in the same family one child is attacked by tubercular arachnitis, another by tubercular osteomyelitis, a third by tubercular laryngitis, does not prove the existence of a dyscrasia, which breaks out now in one organ, now in another. It rather shows that different exciting causes affect different regions, all having the same predisposition. The predisposition is not only hereditary, but is produced by all causes which debilitate the general system.

Tubercle resembles malignant growths, in that it infects neighboring tissues. Thus, in mucous membranes and in other organs, the original growth causes the formation of new growths in its neighborhood. There is also found a secondary tuberculosis, of the glands, as in the mesenteric glands after intestinal tuberculosis, and in the bronchial glands after tubercular bronchitis. Metastases in distant organs also are produced.

The contagiousness of tubercles or their inoculability has not yet been demonstrated.

It seems probable that tubercles may be at times epidemic. It may be that, as with plants, so with tumors, certain seasons of the year produce an increased growth. These questions require further study.

The indications of treatment are: When possible, extirpate the tuberculous mass early, as in the testicle, the glands, the bones, and joints. When this is not possible, we must, first, fight against the predisposition by every means which will improve the general health; and, secondly,

carefully avoid all irritating causes, for a slight catarrh or inflammation of no moment in a healthy constitution, in one disposed to tubercles brings a new growth in its train.—*New York Medical Journal*.

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### BROMIDE OF POTASSIUM IN THE TREATMENT OF ACUTE GONORRHŒA.

By WM. H. WHITE, M. D.

Nocturnal erections, with severe and frequent attacks of chordee, are the most annoying and distressing symptoms of this disease or of urethritis. Indeed, it is the principal difficulty—preventing sleep, and often exciting the most horrid alarm and forebodings, requiring repeated applications of cold, and the use of opiates to allay the intense pain and mental suffering. The state of morbid excitement is a reflex nervous action, produced by the irritating nature of the gonorrhœal virus, and consequent inflammation of the mucus membrane of the urethra. Where the inflammation is beyond the secreting point, then it is that these painful erections are the most troublesome. Very seldom is the patient startled, or given any undue alarm or pain, soon after a copious discharge has made its appearance.

The *bromide of potassium* possesses peculiar anesthetic properties, especially in controlling reflex nervous action, and in producing local anesthesia. It has been successfully employed in the treatment of spermatorrhœa, and for allaying or destroying the desire of the masturbationist for self-pollution, subduing sexual desire, soon relieving, and, in time, entirely removing the troublesome disorder of nymphomania, by the complete suspension of the former uncontrollable passion, and in producing local anesthesia of the fauces—sufficiently so, to allow the laryngoscope to be used without exciting a tickling sensation or nausea.

Prof. Bache quotes a number of European authorities in his latest edition of the United State dispensary, all of whom indorse its antiaphrodisiac properties, and its powerful effects in controlling local irritability, applicability to the speedy relief and successful treatment of inflammatory and irritable condition of the genito-urinary organs.

Stillé says, “men of vigorous constitutions, accustomed to daily erections of the penis, found that they ceased while taking the medicine, and for several days, even, after its use had been discontinued.”

In the experiments made by Horing and Glover, upon dogs confined in an atmosphere filled with vapour of this substance, profuse secretion from the eyes, nostrils and fauces was excited, and when carried to poisoning, nausea, vomiting, exhaustion and death. To a certain extent,



this same effect is noticeable in patients while under its influence, to which, no doubt, in a measure, is due its pleasant action over nocturnal erections, by keeping the mucous membrane softened, actively secreting and discharging. It also increases the flow, quantity, and probably augments the watery element of the urine, and consequently reduces its fiery nature. The dose required to produce a proper physiological operation displays no effect inconsistent with the end desired in the treatment of gonorrhœa. Its action being exceedingly happy in slowly, but surely overcoming exalted susceptibility of the nervous centers, and more especially where there is a susceptibility to a reflex action; therefore, its peculiar adaptation to the morbiç action caused by this disease. This palliative influence is evidently owing to its positive anesthetic, indirect narcotic power, and direct sedative action. In all probability, it is in this manner that it becomes so useful an adjuvant in the treatment of all stages of this disease. While it overcomes the pain and anxiety, with the addition of sleep, it will not alone eradicate the complaint, and must not, and cannot be entirely depended upon, any more than could opiates, or the anesthesia from chloroform. For the time, relief is obtained, but the disease and its causes continue. Where a case is presented in first developement, I would suggest its use in doses from five to eight grains three to six times during the succeeding twenty-four hours, dependent upon the constitution, low, medium or high grade of inflammatory condition, with saline cathartics to an extent sufficient to freely move the bowels, with rest and cooling application to the parts, and low diet. When the heat, acute pain and excitability is reduced, then it should be continued with some of the stimulating diuretics, with occasional mild astringent injections. The following I used with most satisfactory results; or in the same proportions where there was no symptom absolutely forbidding their immediate or continued use.

Bromide of potassium, three drachms; aqua pura, spts. lavender, co. a a, one half ounce; bal. copaiba, fluid ext. buchu, sweet spts. nitre, a a, one ounce.

A teaspoonful five or six times daily, with an occasional mild injection of nit. ag; act. plumbi; reduced tinct. of kino, tinct. catechu, etc.—*Memphis Med. Surg. Monthly.*

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#### CASE OF HÆMORRHAGE FROM THE RECTUM.

By GEORGE W. BALFOUR, M.D., F.R.C.P.E.

ON the 17th of March last, I was requested to see a young man, aged 21, formerly robust and healthy, never having had a day's illness, but now feeble, anæmic, and confined to bed from pure debility. He stated

that he had just returned from London, having been unable to keep his situation there from continually increasing weakness, that for six months past he had lost blood daily at stool, and this drain was, so far as he knew, the sole cause of his debility. I ascertained that he had only one stool every day, in the morning, but that after it a quantity of bright red blood, amounting usually to about two ounces, escaped, and coagulated in the pan; the stool was rather small for a man of his build. He had no piles, either external or internal, and there was apparently nothing to account for this debilitating hæmorrhage. I requested my friend Mr. Annandale to see him with me on the 23rd; he made a most careful examination of the rectum, but could discover nothing wrong, either internally or externally, except a slight natural—by no means spasmodic—stricture of the sphincter. Recalling to my mind the interesting observations made by Mr. Syme on hæmorrhage from the rectum in his "Clinical Observations on Surgery," Edin., 1861, and in particular the remarks he has made at p. 85 upon this apparently natural peculiarity as one cause of such hæmorrhage, Mr. Annandale proposed to divide with a bistoury the mucous membrane of the bowel, with a few of the internal fibres of the sphincter; this was accordingly done at once, and a piece of lint put between the lips of the wound. My patient's bowels were moved the next day without medicine, and—with the exception of a streak or two from the wound—without hæmorrhage for the first time for six months. In the course of a few days the little wound was entirely healed, and a satisfactory stool continued to be passed without any blood till the 13th April, when a teacupful of blood was passed immediately after his stool. On the 14th a similar quantity of blood was passed in a similar manner, and I asked Mr. Annandale to see him with me next day. On the 15th a mere trace of blood was passed along with the stool, and on a careful examination by Mr. Annandale the incision was found perfectly healed, and everything else normal. Mr. Annandale then informed me that Mr. Syme had occasionally observed a slight recurrence of the hæmorrhage at irregular intervals after the performance of this operation in similar cases, these hæmorrhages, however, having no detrimental influence on the ultimate success of the operation, and he suggested that such might be the case in regard to this patient. I am glad to say that this has been the actual result, and that my patient has, up to this date (June 12), had no recurrence of hæmorrhage, that his health is now completely restored, and that he is prepared to return to business, with his strength perfectly renovated.

No explanation has been ever attempted to be given of this remarkable peculiarity, this curious dependence of hæmorrhage upon a conformation

so slightly abnormal. It is difficult, indeed, to see how this remarkable phenomenon could be explained, and it is indeed fortunate for our patients that no explanation is required. The practical sagacity of Mr. Syme has empirically solved the difficulty, and placed in our hands a remedy at once simple, easily applicable, and successful, and I have much pleasure in recording, for the benefit of other sufferers, so remarkable and successful an instance of such a simple cure for an affection so debilitating, and so certain, if unrelieved, of proving ultimately fatal.

18, Lynedoch-place, Edinburgh.

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## Midwifery and Diseases of Women and Children.

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Dr. William Kennedy, of New Orleans, reports the following extraordinary case in the Southern Journal, expresses the opinion that the foetus could not have been more than one hundred and forty to one hundred and forty-five days old at birth.

### EARLY VIABILITY OF THE FŒTUS—EXTRAORDINARY CASE.

In 1845, Mrs. A. B., primipara, suffered, as she thought, during one whole night with colic. I saw her next morning, when I recognized that she was in labor, which had progressed so far that I made no attempt to arrest it. Within a half hour after my arrival she gave birth to a foetus: it was not more than eight inches long, and was as red as a piece of raw beef. True dermoid tissue could not be said to be organized, its general investiture being so delicate a membrane, as it were, that the eye could look through it on the tissues beneath. The eyes were still closed; there were no traces of cilia or supercilia; its chest was about two inches broad; the arms and legs were very slender, and the toes and fingers devoid of any traces of nails. The head was about the size of a small orange. The respiration was so feeble as scarcely to be perceptible, and not a sound was uttered after birth. I was almost afraid to handle it, as I could not divest myself of the idea that the slightest pressure of the fingers would thrust them into the soft, red, jelly-like mass before me. When I raised it from the couch, and laid it in the length of my left hand, the head lay on the convexity of my flexed fingers, the chest and breech in the palm and the feet reached almost an inch beyond the wrist.

I wrapped it carefully in batting, and carefully attended to maintaining a proper surrounding temperature. It was fed drop by drop with sugar and water every four or five minutes; and later, when the mother could

supply it with milk, half a teaspoonful was given every half hour or hour. Within three weeks afterward it had a mild attack of trismus. During treatment I gave it frequent baths in a tumbler. The period of infancy was one of the most stormy I ever saw. Hydrocephalus, cholera-infantum, measles, diarrhoea, are some of the many affections it suffered from during that time up to three or four years of age. When last I saw him he was a fine healthy boy of twelve years, and gave promise of a vigorous manhood.

I should have been pleased to have furnished a more accurate account of this case. The importance of the subject demands it. But my note book, carefully preserved during many years of arduous practice, and which I hoped in my declining days, to make useful to my brethren, through the medium of the press, has, like my library and every vestige of household material, passed from my possession under the ruthless hand of destructive war.

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## Chemistry and Medical Jurisprudence.

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### THE DETECTION OF BLOOD-STAINS BY THE MICRO-SPECTROSCOPE.

THE trial of Robert Coe for the murder of John Davies, at Aberdare, is remarkable, says the *Pharmaceutical Journal*, as the first case in which the micro-spectroscope has been employed to furnish evidence of the presence of blood-stains. The following is Dr. Herapath's evidence:—

Dr. Bird Herapath sworn: "I am a fellow of the Royal Societies of London and Edinburgh. I practise as an analytical chemist and also physician. The hatchet produced was given me by Mr. Wrenn, and I carefully examined it. On the metallic portion I did not find any marks upon which I could rely. I removed the handle and experimented on thin slices of wood which I took from underneath the metallic ring. I examined those sections with a microscope, and found the majority of the stains were due to oxide of iron; some of them showed clotted blood; in some cases the woody portions had been infiltrated with the colouring matter of blood changed by the action of water. On some of the sections of the handle I found globules of blood, and by the micrometer I measured the size of those globules. I placed a section of the handle in a glass cell in which there was a fluid medium, and the blood-globules floated off into the cell, and by the measurement of these I could determine the size of the globules therein contained. These globules were exactly the same size as some globules from dried human blood which I purposely pro-

cured, and tested with the same apparatus in the same way. Finding this evidence of blood to be small, I obtained more numerous sections of the coloured surface of the handle of the hatchet, immersed them in distilled water, and obtained thereby a slightly coloured solution, which after filtering was ready for chemical tests, and for optical examination by the micro-spectroscope. I subjected this fluid to the action of light, and it held undoubtedly the properties peculiar to a solution of blood. When a solution of blood was examined in this instrument (instrument here produced) the fluid absorbed some of the rays of light, and thus altered the spectrum or rainbow. Within the green, and on the border of the yellow rays two dark absorption bands were produced by the blood fluid. Only one other substance would produce two dark bands—that is cochineal dissolved in ammonia, but the position of the two bands was different. The spectroscopist alone would not enable me to *readily* distinguish between the two, but combined with chemical examination it would satisfactorily do so. From this optical test I was satisfied that the sections of the hatchet had been stained with blood, and by chemical analysis I also demonstrated it was blood. The combination of the three tests showed that the substance on the hatchet must have been blood."

Cross-examined: I should not like to say that the stains were those of human blood, but my opinion is that they were.

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#### NEW METHOD TO OBTAIN SULPHURETTED HYDROGEN.

THE *Scientific Review* states that sulphuretted hydrogen gas, which for experimental purposes is usually obtained by means of sulphuret of iron, may be procured more conveniently, and in a state of greater purity, by the use of sulphuret of calcium. The latter is formed very easily by mixing uncalcined powdered gypsum with one-fourth of its weight of calcined gypsum, and powdered pit coal equal to one-third of the whole of the gypsum used, and working up the mixture to a stiff dough with water; next forming it into pieces four inches long, two wide, and one and a half thick, sprinkling them with powdered coal, and drying them, then placing them with coke in a wind furnace, and keeping them at a very high temperature for two hours. When cold, they will be found externally to consist of oxysulphuret of calcium, but internally of pure peach-coloured sulphuret of calcium, which may be broken in pieces about the size of nuts, and preserved in well-stoppered glass bottles. If water is added to these, and then sulphuric acid in small quantities at a time, sulphuretted hydrogen is given off with great uniformity.—*The Chemist and Druggist*.

EMPLOYMENT OF HYDRATED SILICATE OF MAGNESIA AS A SUBSTITUTE FOR SUBNITRATE OF BISMUTH.

A distinguished physician of Laval, M. Garrand, struck with the high price of subnitrate of bismuth, its occasional inefficiency and its more rare disadvantages, which he attributed to the temptation afforded by the high price, to fraud and adulteration, conceived the idea of substituting for the salt of bismuth a somewhat analogous substance, as tasteless, insoluble, and very common in the district where M. Garrand resided, and which was then the seat of an epidemic of very refractory choleraic diarrhoea.

The substance is no other than the matter of which meerschaum pipes are made; in scientific language, it is the hydrated silicate of magnesia, probably a silicate of magnesia and lime, but has never yet been analyzed.

This substance is reduced to a fine powder, which is sold by M. Grassi at a centime the gramme—an enormous reduction from the price of the subnitrate. M. Trousseau has been in the habit of giving the powder prepared by M. Grassi exactly as he gave subnitrate of bismuth, in doses of four, eight, or ten grammes a day suspended in water; and the numerous cases of diarrhoea in which this new and very inoffensive medicine has been administered, have experienced a rapid diminution of the intestinal flux. Experience suggests that this powder, which acts without doubt as its analogue by its absorbent power, ought to replace it in all its uses— injections for rectum and urethra, &c. &c.—*Jour. of Pract. Med.*

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MEDICAL NEWS.

DR. OWEN REES has no faith in the treatment of diabetic patients by a restricted diet (*Lancet*). They do better, he says, on a natural diet. Saccharine and amylaceous food is as necessary to them as it is to the healthy. More than this, abstinence from these foods is injurious to the diabetic. The circulation of sugar in the blood does not produce bad symptoms. It is true that diabetics have lived many years, and comfortably, on restricted diet; but there is no proof that they had to thank the diet for this. "I have now," he adds, "had long experience in diabetes, and have resolved never again to countenance the strict dieting, which has been so vaunted as necessary to the well-being of diabetics."

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During the late German war, a Professor of Chemistry, desirous of preventing the inroads of the soldiers into his laboratory, managed so as to have an incessant supply of sulphuretted hydrogen gas issuing from its portal. It is said that the invaders forced the door no less than sixteen times, but the horrid fumes which issued effectually prevented all ingress and capture of the instruments and apparatus.

# Canada Medical Journal.

MONTREAL, SEPTEMBER, 1866.

## REPORT OF INSPECTORS OF PRISONS AND LUNATIC ASYLUMS.

We have received the report of the inspectors of Prisons, Asylums, &c., for the year 1865, and we must protest against the continued neglect of this section of the Province in the matter of an efficient asylum for the insane. On a recent occasion we visited the Asylum at St. Johns, and were much struck with the apparent success of the Superintendent, Dr. Howard, in making the most of the miserable accommodation afforded him. The cells are small, ill-ventilated, and in the winter season must be in a most unwholesome condition, Dr. Howard exhibits the greatest administrative ability, and we feel convinced that were his claims fully recognised, and an asylum worthy of the name placed at his disposal it would be second to none in the Province.

We have again and again written on the subject of the positive want of an asylum for this district; the urgent necessity is freely admitted by our executive, and why delay is still permitted in carrying out this requirement, we are unable to imagine.

We have on a former occasion written concerning the Beauport Lunatic Asylum, and we believe that our strictures did good. There was no desire on our part to get up an outcry against that institution or its enterprising proprietors. In the course of the past summer we visited that asylum, and certainly we were agreeably surprised at the extent of the buildings and grounds. Cleanliness reigned in every department; but then in an asylum for the insane, the utmost caution in this respect becomes a necessity, which cannot for one moment be relinquished. The associate dormitories are large and possess ample cubic space. The corridors, day rooms and refectories are all that can be desired; and in the rear of the building, there are large play grounds where all sorts of amusements abound. We are not in a fault-finding humour, but we do think it a pity that the new building was not placed on the top of the hill, about 60 or 80 yards in rear of its present site; but perhaps good and sufficient reasons exist why it was placed where it stands. As we before said, the

Beauport Lunatic Asylum is no longer what it was at the time of our controversy with Dr. Douglas; we observed in the old building some of the cells had been enlarged; we believe what formerly constituted two cells is at the present day one; with regard to the cells themselves, they open into corridors, receiving their light and air from the latter; this may be regarded, and is without question faulty in principle. The Inspectors in their report advise the establishment of insane Hospitals for the treatment of curable cases, and have other establishments for the maintenance and care of incurables. So long as these unfortunates are forced to undergo a certain probation of prison life before removal to an asylum, so long will the cases of incurables augment to an alarming degree. The disease insanity is at the outset amenable to treatment, with every hope of a successful issue. In proof we can adduce numerous instances, among the better class, where those thus afflicted have been sent without delay to asylums in the United States, and the most happy results followed judicious treatment and isolation. The necessity of guarding against the abuse of establishments of this character will be freely admitted, but the incarceration in an asylum, of an individual not really insane, is a result which we regard as extremely improbable; and we think that society is over-scrupulous in offering such opposition to the speedy care of those afflicted, without having gone through a certain routine to enable them to be legally sent to an institution for which they are alone fitted.

Under the heading Asylum Accommodation, we notice in the Inspectors' report, that they point out the urgent necessity of increased room, not in any one asylum, but in the system of asylum buildings.

"The Inspectors have frequently taken occasion, in former Reports, to point out the pressing need of increased accommodation for the insane in both Upper and Lower Canada. In their Report for 1864, they devoted a special memorandum to this very important topic. In reverting to the matter this year, the Inspectors have great pleasure in calling special attention to the remarks contained in the Report of the Superintendent of the Provincial Lunatic Asylum. Dr. Workman discusses this large and difficult question in all its bearings—social, medical and economic—with his accustomed force and practical ability.

"It may be remembered that in their Report for 1864, the Inspectors strongly recommended—

"1. The completion of the Provincial Lunatic Asylum at Toronto, by the construction of the wings, etc., as proposed in the original design.

"2. The completion of the Rockwood Asylum, with exception of certain wings not then commenced; and—



"3. The building of a new and large Asylum for the western portion of Lower Canada in place of the miserable temporary makeshift at St Johns.

"Were this amount of additional Asylum accommodation provided, it is believed, that if the proposed system of dealing with incurable lunatics could be brought at once into operation, and our present large Asylums at Toronto, Quebec, Kingston and Malden, reserved for curable cases exclusively, it would not be found necessary for the Government to expend any further public moneys on the construction of Asylums for many years to come. And it must be borne in mind, that of the three important works above recommended, the two former, the extension of the Toronto Asylum and the completion of the Asylum at Rockwood, are now in progress, and that both are likely, within the next two or three years, to be finished."

We do think that Lower Canada has much to complain of in this matter; although we abhor the subject of sectional difficulties, this marked difference is forced on our notice. In 1864 the Inspectors strongly recommend these alterations or additions to asylum accommodation, and in 1866 we find the first and second part of their recommendation, "are now in progress, and that both are likely within the next two or three years to be finished," but as to No. three, or where we poor Lower Canadians are concerned, what has been done? We presume we are so hopelessly insane, that there is no need affording us increased asylum accommodation, and hence the neglect of the executive as regards us. There is one point which we object to in the above quotation, and that is the recommendation of making Beauport Asylum an insane Hospital and building a large asylum in this section of the Lower Province for incurable lunatics.

The Inspectors have elsewhere declared that Beauport Asylum is a large boarding house, and in this we agree with them. There are many modern improvements in the construction of buildings, specially adapted for the treatment of insane curables, which this building does not possess and which it is impossible to adapt. If the Government are going to give us a *Lower Canada* Provincial Lunatic Asylum, we may at least hope that they will not build without taking advantage of the experience gained by those who have been connected with these establishments all their lives, and who have become fully alive to the faulty construction of nearly all our public buildings, intended for the relief of this afflicted class. Again, in building, we do trust that an "Insane Hospital," specially so intended, will be constructed, and not a large mass of stone or brick intended for the care of incurables.