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THE
UPPER CANADA JOURNAL
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JUNE, 1851.

ORIGINAL COMMUNICATIONS.

ART. XI.—*Report of Ophthalmic diseases.* By S. J. STRATFORD,
 M. R. C. S., England.

REPORT OF THE TORONTO DISPENSARY FOR DISEASES OF THE
 EYE, 1851.

Number of Patients under treatment, during the year ending the 1st June, 1851.....	149
Cured	108
Greatly relieved	20
Discharged incurable.....	10
Ceased to attend from some unknown cause	6
Remain under treatment	5
	149

The various diseases treated, bore the following proportion to the total number of cases presented at the Dispensary :

Simple inflammation of the conjunctiva	11
Purulent ophthalmia	6
Gonorrhœal ophthalmia	16
Purulent ophthalmia*of infants	3
Pustular ophthalmia	10
Scrofulous ophthalmia.....	12
Tumours of the lids	3
Granulated conjunctiva	27
Hordeolum.....	3
Foreign body in cornea.....	1
Acute corneitis	9
Partial dilatation of the pupil	1
Carried forward	101

Brought forward	101
Acute iritis	9
Amaurosis	9
Muscae volitantes	3
Cataract	7
Inversion of the eyelids	3
Eversion of the eyelids.....	1
Fungus hæmatodes of the eye.....	2
Ephiphora	4
Stillicidium lachrymarum.....	2
Acute inflammation of the lachrymal duct.....	2
Chronic do. do.	3
Obstruction of the nasal ducts	2

Simple Conjunctival Inflammation.

Of the eleven cases of catarrhal ophthalmia, three occurred during the month of November, and eight in February, March, and April,—during which months the east wind prevailed in a remarkable degree, being generally north-easterly, while it was also for the most part dry and dusty. The influence of cold upon the constitution appeared generally as the exciting cause; but that the simple influence of cold upon the body is likely to produce the disease, without a necessary condition of the system, is contrary to medical observation. The nature of this condition is at present hid in much obscurity; but I believe it will hereafter be found to be greatly dependent upon the positive state of the blood, at the period the body is submitted to the influence of cold. When the blood is loaded with the effete, and useless material of the constitution, that should be removed by the excretions, then is the individual more susceptible to the influence; and it is a curious fact, that the speedy solution of the catarrhal disease, goes hand in hand with the liberation of the excrementitious matter by the proper emunctories of the body. For example: the urine is always found loaded, and the stools dark coloured and biliary before the inflammatory action subsides, while the check upon the excrementitious operations of the skin, has been a subject of popular observation in all ages. During the early part of the year, the influenza also occurred pretty generally in Toronto, and no doubt, had some influence in the production of the ophthalmic disease. The immediate cause of the complaint appeared to be dependent upon intemperance in four individuals, who had been exposed for a considerable time to the night air. Two were washer-women, who had been working hard in rooms heated by a stove; while one had walked a considerable distance in the rain, and got completely wet.

The symptoms presented by the individuals labouring under the complaint, were more or less redness of the conjunctival mem-

brane, where it covers the lids or is reflected over the sclerotic coat, while the corneal portion did not appear perceptibly to participate in that condition. This redness evidently depended upon the entrance and circulation of the red corpuscles of the blood in the minute vessels of the membrane, in which previously only a transparent or colourless globule had circulated. This change is so obvious to the senses, that it constitutes one of the most favourable positions in which the various results of inflammatory action may be presented to the observation of the student. This redness was of a bright scarlet colour, the vessels large and evidently superficial with regard to the sclerotic coat, moveable upon it, and when not very intense and that coat was implicated in the complaint, its minute pink vessels might be seen shining through the conjunctiva, presenting a very marked contrast. This redness of the conjunctival membrane was, in the first commencement of the complaint, irregular in intensity, shewing that some fasciculi of its vessels were more filled or congested than others; but as the disease proceeded, the redness became general throughout the membrane, but this was always more marked at the circumference, and diminished as the vessels proceeded toward the cornea. In one case, small spots of extravasated blood were observed effused into the areolar tissue, in others more or less effusion of a thin serous fluid was seen distending the structure of the membrane, and giving it a thickened appearance.

The pain for the most part was of a smarting character, not very severe, and generally confined to the inflamed structure. In two cases however, which seemed to be connected with influenza, the pain was more extended, implicating the head and throat, shewing a participation of the complaint in the mucous membrane of the frontal sinus, the fauces, and trachea. There was not much intolerance of light, save in the two cases above mentioned.

A sensation of dryness, stiffness, and as it were the presence of a foreign body between the lids, was always complained of, especially at the onset of the disease; but after a time the lachrymal secretion became more profuse, when some of these symptoms ceased. The secretion of mucus was at first thin, but afterwards became more thick and glutinous, and in the most severe cases assumed the character of pus.

In the two cases mentioned above, as being connected with influenza, there was catarrhal fever, frequent chills, heat of skin, disordered stomach, and foul tongue; but these symptoms I apprehend were more dependent upon the influence of the epidemic than upon the ophthalmic complaints.

The treatment consisted, in the first place, in the employment of general and topical blood-letting, according to the intensity of the inflammatory action and tone of the constitution; active purgatives, such as *radomel* and *jalap*, followed by *salts* and *tartarized*

antimony. The use of warm fomentations to the eyes, and blisters to the nape of the neck or behind the ears. These were continued until the acute inflammatory action had subsided, after which stimulating and astringent applications were applied, such as the *vinum opii* or the solution of the nitrate of silver. I have occasionally employed the powerful astringents in the very commencement of this complaint, as recommended by Mr. Melen and Mr. Guthrie, but think that their use is to be deprecated until the acute stage has subsided, when they are remarkably beneficial.

Purulent Ophthalmia.

Of the six cases of purulent ophthalmia, all occurred during the months of August and September; four were sent from the country, and had resided in marked malarious districts, while the others were inhabitants of low miserable hovels in this city.

The symptoms of the disease, when seen in the earliest stages, were to all appearance identical with the complaint above described; but as it progressed (which it often did with great rapidity) the conjunctival membrane was marked by high vascular action, bright redness, great tumefaction, and profuse discharge. The chemosis which was caused by the swelling of the membrane, was in some cases so great as almost to overlap and cover the cornea. The eyelids were also greatly swelled, being filled with a serous fluid, rendering it difficult to uncover the globe. The lachrymation was great, and was soon accompanied by an abundant purulent discharge, that was forced between the lids at every attempt to uncover the globe, and often ran down the face in streams. The cornea which in the commencement was seen bright and clear, although surrounded by a ridge of elevated conjunctiva, by degrees became dim, and after a time perfectly white, showing that inflammatory action had implicated its structure, and that lymph was deposited in its substance; in one of the cases sloughing took place to a considerable extent, so that an evacuation of the humours of the eye was the consequence. In another case a small ulcer was observed, which having penetrated into the anterior chamber, permitted the escape of the aqueous humour, and the iris falling forward, was afterwards seen adhering to the cornea. As is obvious from the above examples, the inflammatory disease implicated other textures of the eye, besides the conjunctiva, and according to its extent, produced more or less derangement of the several structures, and in two cases produced total destruction of the eye. The pain from the first was severe; but as the disease spread to the other textures of the globe, it became excruciating, often attended with exacerbations, which were generally most severe at night, comprehending not only a pain in the eyeball itself, but attended with a fulness and throbbing of the brow and temple, and not unfrequently with general headache and fever.

In none of these cases did the ophthalmia seem to proceed from contagion, but appeared to arise sporadically, from the state of the weather, and the local peculiarities of the atmosphere.

In all these cases free depletion was immediately practised, and blood was allowed to flow until syncope was induced. On examination of the eye after the bleeding, the deep red tint of the conjunctiva was changed to a paler hue, the lids were less swelled and distended, and the pain and uneasiness was greatly diminished; in but one case was it necessary to repeat the bleeding, in consequence of a return in the severity of the disease. Active purgatives, such as salts and tartarized antimony, were freely administered; considerable advantage seemed to be obtained by the nauseating effect the antimony produced, which evidently held the ground that had been gained by the previous venæsection. When the deeper tissues of the eye were evidently influenced in the disease, calomel and opium was exhibited with marked effect; and in these cases the pain in the brow only subsided upon the constitution feeling the influence of the remedy.

The local applications to the eyes consisted, in the first place, in the frequent ablution of the part with lukewarm water, in those cases in which it seemed to sooth the pain and afford a feeling of comfort to the patient, it should be often repeated. In many of these cases, however, I have found the local application of cold water freely applied to the eyes produce great relief. I have never had an opportunity of using the douche as recommended by Dr. Gerick, but I am convinced from the experience I have had of it in other complaints, that it is a powerful antipllogistic remedy, and deserves a trial in such cases.

As soon as the active inflammatory symptoms had began to subside, as was known by the diminution of pain, the feeling of distension, and the distinct appearance of the purulent discharge, an injection between the inflamed lids of a solution of alum (four grains to the ounce of water) was often repeated; and after several trials, if this was found to be borne with advantage, a weak solution of the nitrate of silver (two grains to the ounce) was used, and this was gradually increased in strength to ten or twelve grains as the discharge diminished, and the swelling and thickening of the lids subsided. Under this treatment the chronic inflammation of the conjunctiva soon subsided, and in most cases the opacity of the cornea was easily removed, and the cornea restored to its wonted transparency, perfect vision being the result; but in some cases, it must be confessed, the success was not so complete, for more or less opacity remained in consequence of the lymph deposited in the structure of the cornea.

It is curious to observe these different results, and difficult to explain them. A knowledge of the minute structure of the part may, perhaps, assist our judgment.

From the observations of physiologists, the cornea is shown to consist of different structures: first, on the outer side, the conjunctival layer of epithelium and its basement membrane; next, the proper structure of the cornea; then, the elastic lamina of the membrane of the aqueous humour, with its proper epithelium. The proper structure of the cornea is a fibrous structure, the layers following the curvature of the cornea, constituting a series of more than sixty lamellæ, which lie in superimposed planes, for the most part parallel, but crossed by others at an angle: the resulting interspace opens on all sides, and forms tubular spaces, which are moistened with a minute quantity of transparent fluid, which tends to preserve the transparency of the fibres,—the *tout ensemble* affording a density of structure, and giving a peculiar translucence to the part, which constitutes its most admirable characteristic.

These different structures of the cornea are evidently nourished by two sets of vessels, a superficial and a deep. The arterial trunks of the first set evidently belong to the conjunctiva; these are prolonged a short distance upon the margin of the cornea, and inosculate with each other, during health carrying but a transparent fluid, to supply the basement membranes of the epithelium;—while the deeper set of vessels which nourish the proper substance of the cornea, are derived from the ciliary arteries, and terminate in loops of veins in the sclerotic coat, after the manner of cartilage. From these radiate minute transparent vessels that proceed to the tubular structure of the cornea, conveying a fluid of such little density, that the transparency of the part is perfectly preserved.

When under disease, these facts become abundantly evident. Great numbers of these minute vessels, then distended, carry the red globules of the blood, and as may be seen, clearly mark the two distinct sets of vessels. Red vessels are now seen traversing the conjunctival layer, appearing like the radii of a circle, extending nearly to the centre of the cornea, while the pink tint of the sclerotic texture, in true inflammation of the cornea, gives an imperfect demonstration of the deeper set of vessels.

The vessels of the conjunctiva covering the cornea may be long distended with red blood without producing any permanently bad effects, dependent, in all probability, on the facility of distention in the part; so that a deposit of lymph into the structure of the cornea, would seem unfrequently to be connected with the disease. Not so the minute vessels of the cornea proper; for it seldom happens that they become affected without the cornea appearing more or less opaque; coagulable lymph being carried into its structure, and perhaps deposited in the tubular spaces. In many cases, as I have before remarked, this appears to be quickly removed by the absorbent functions of the minute transparent vessels; while in other cases, we must presume that the lymph has become organized as in other textures of the body; or it may have

become hardened and sacculated in the tubular spaces; and although a foreign body, is permitted to remain uninfluenced by the circulatory apparatus, would seem to have assumed a tolerance similar to that which obtains in the case of shot and grains of powder, or other foreign bodies, which often remain quiescent in the animal economy for some time. Many cases of permanent opacity of the cornea must, I think, be thus accounted for, as we often see an opaque spot completely surrounded by transparent cornea. Here we should be able to see vessels carrying a fluid of sufficient density to preserve the character of the opaque spot; for, was this deposit under the influence of the circulation, coagulable lymph must still be conveyed to the diseased structure; or was it but the transparent fluid of health, it must be obvious that the dense matter once removed, and not renewed, the part would eventually become transparent: showing that, in some cases at least, this opaque matter is beyond the action of the absorbent vessels, and must remain an inorganic deposit,—explaining the reason why it is perfectly uninfluenced by any remedial means.

The case of painful ophthalmia, in which sloughing of the cornea occurred, was an inhabitant of this city, of a leucophlegmatic debilitated constitution (not long out from Ireland), evidently suffering from the effects of poor, unhealthy diet, and vitiated atmospheric influence. Here, a free administration of bark, and a generous diet, combined with the local employment of astringents, soon arrested the sloughing, and encouraged the rapid cicatrization of the wound.

To be continued.

ART. XII.—*A Case of stricture of the Urethra, treated by external incision.* By EDWARD M. HODDER, M.C., M.R.C.S., Eng.

THE rash or unnecessary use of the knife in surgery, can never be too highly deprecated; nevertheless, there are certain cases in which, by its timely use, diseases of many years' duration may be removed in a few moments, and the patient restored to perfect health, and to that position in society from which his sufferings had compelled him to withdraw.

Professional opinion will often condemn a novel mode of treatment, or an operation, before a sufficient number of facts have been recorded whereon to base that opinion; it is with the view, therefore, of adding another to the already numerous cases published, of stricture of the urethra cured by an external incision, that I am induced to publish the following case:—

Henry M^rL., æt. 34, in the employment of the Board of Works, of temperate habits, had been the subject of stricture of the urethra for nine or ten years.

For the last two years the stricture has been perfectly *impermeable*, the various modes of treatment usually recommended having been tried without success, no instrument having been passed into the bladder.

He was sent from the country to be placed under my care, and in answer to several questions, gave the following history of his case:—

Between nine and ten years ago he contracted a virulent gonorrhœa, which lasted for a considerable time, and for which he employed several kinds of caustic and astringent injections. On the subsidence of this disease, he found some difficulty in making water, the stream being small and spiral, and a greater effort than usual being required to pass it.

In this condition he remained until two years ago, his general health continuing good; and the symptoms arising from the stricture, although steadily increasing, yet, amounting only to a serious inconvenience.

About this period he was subjected to much exposure and fatigue, and shortly afterwards he found that the urine no longer passed in a continuous stream, but *guttatim*.

He applied to a Practitioner in the neighbourhood for relief, but without obtaining any; numerous unsuccessful attempts being made to get an instrument beyond the stricture.

He next proceeded to New-York, and was there subjected to various modes of treatment; amongst others the caustic bougie was frequently made use of, but with no better result; and after remaining there for some weeks he returned to Canada.

His general health now began to suffer; he lost strength and flesh; his bladder was becoming irritable; and the frequent and long-continued efforts to void his urine deprived him of rest at night.

At the time he came under my care (May, 1843), he was in a wretched condition: he had been unable to follow his occupation for many months past; he was pale, thin, and dejected in spirits, irritable in temper, his appetite gone, his nights sleepless, in consequence of the incessant desire to urinate; a strong urinous smell was perceived, and the scrotum, upper portions of the thighs and adjacent parts, were excoriated from the constant dribbling away of his water.

On making an examination, I found that the stricture was situated about five inches from the orifice of the urethra (nearly an inch behind where the anterior portion of the scrotum joins the penis), and could be distinctly felt through the integuments covering it, like a piece of catgut or tightly twisted whip-cord. A patient and careful attempt to pass the smallest sized catheter or bougie entirely failed; not even the point entering the strictured portion in the slightest degree. The extent to which the urethra was contracted

being, at least, from $\frac{3}{4}$ of an inch to one inch, and so dense that it was doubtful whether a passage could be effected—notwithstanding Mr. Liston's assertion that the difficulty can always be overcome by "a man with hands to act and a head to guide them."

Having stated to my patient the difficulties which existed in his case, and mentioning the possibility of relieving him by cutting down upon the strictured part, should the ordinary means fail, I had great difficulty in persuading him to allow any other plan of treatment to be first attempted, as he became impatient for the operation: but his general health not being in a favourable condition for its performance, I advised him to postpone it until the state of his bowels and digestive organs had improved; so that whilst he was under constitutional treatment, I had an opportunity of trying to overcome the stricture by the most persevering, yet cautious, use of the catheter and bougie.

At the end of a fortnight, his health being somewhat improved, and the urethra remaining as *impermeable* as ever, I consented to operate; and the next day, assisted by my friend, Staff Surgeon Humfrey, it was done, in the following manner.

His nates being brought close to the edge of the bed, his legs were separated, and he was placed somewhat in the position for lithotomy; a grooved staff was then passed down to the stricture, and held in its position by Dr. Humfrey; a free incision, about two inches in extent, was made upon it, dividing the integuments covering the root of the penis and the upper part of the scrotum, and the urethra opened above the stricture. A small probe was now attempted to be passed through this part, but that proved to be impracticable: the dilated portion of the urethra behind the stricture was next opened without difficulty; a No. 7 catheter passed easily into the bladder and the urine was drawn off. An unsuccessful attempt was again made to pass a probe through the diseased portion from behind forwards; failing in this, there was no alternative but to divide the stricture with cautious touches of the knife; this was, in fact, the only difficult step in the operation; and the difficulty here arose from the more than gristly hardness of the part, the extreme contraction of the passage, and the yielding condition of the adjacent parts. It was, however, soon accomplished; when a large-sized catheter was easily passed into the bladder, the patient removed to bed, and the wound covered with the water dressing.

He bore the operation well, and not more than an ounce of blood was lost.

He slept well that night; his general health began rapidly to improve; the catheter was removed at the end of the third day, cleaned, and easily re-introduced. The wound was healthy, and at the end of three weeks it was *entirely healed*. A No. 9 catheter

passed with the greatest ease into the bladder, and, as a precaution-measure, he was directed to pass it every morning, and allow it to remain in the passage for a few minutes. Eight years have elapsed since the operation; he is now in the enjoyment of robust health, the father of a family, and the urethra as free from contraction as it ever was.

The foregoing case will probably be read with interest at the present time, in consequence of the warm discussion which is going on between some of the leading Surgeons in Great Britain, respecting the mode of treatment that should be adopted in those long standing and intractable cases of stricture, formerly called "impermeable," but now surnamed "impassable."

Professor Syme, of Edinburgh, strongly advocates the cure of stricture by external incision, giving as his reasons, that the operation is unattended by any danger; that strictures of the utmost obstinacy may be, thus, speedily removed, and that the relief afforded is more permanent than that which is obtained in any other way; and in proof thereof, states, that he has operated on thirty-eight cases "without any fatal result." At the same time, he somewhat boastingly denies the impermeability of the urethra in any case, and considers as an unwarrantable proceeding the division of a stricture at the point of the catheter.

On the other hand, Professors Fergusson and Lizars denounce, as unjustifiable, the cutting of any patient for stricture when an instrument can be already passed into the bladder, unless the patient be either in danger, or urgently demands the operation himself. In speaking of this subject, Mr. Fergusson, after stating the opportunities he has had of observing with accuracy and care the effects of the treatment of stricture by perineal section, says, "We are now fully impressed with the conviction that neither the one doctrine, that strictures ought never to be cut, nor the other, that perineal section is frequently necessary, and should be unsparingly carried into practice,—is either correct or safe to act upon. We have seen several cases in which the patient was brought into such a state of misery and danger, and the difficulties in the ordinary treatment were such, that it was found absolutely necessary to resort to the perineal section; and the operation has been followed by such excellent results, that any Surgeon who could call such practice unwarrantable would either show great prejudice or want of experience.

"On the other hand, again, we have seen death resulting from the division of the urethra, even in cases where there has been but little difficulty in the operation; and this has happened in instances where it was by no means absolutely necessary to perform perineal section. In one case death resulted ten days after the operation had been performed, when even a moderate sized catheter could

be passed into the bladder,—an unconquerable argument against the performance of perineal section in cases where the catheter can be previously passed into the bladder, as recommended by Mr. Syme.”

Mr. Ferguson further remarks: “We are of opinion that, in no instance whatever should the operation of perineal section be performed, unless the most careful attempts have been previously made to introduce the catheter, or unless the patient be either in danger, or is particularly anxious to undergo it.”

ART. XIII.—*Observations on the pretended prevention of irregularity of the Teeth.* By J. B. JONES, Toronto.

THE directions given by various writers upon Dental Surgery, and adopted by many practitioners have, as I observed in my introductory letter, for a long time formed the foundation of a system of treatment of children's mouths during the second dentition.—When we see the injurious consequences, which in a great majority of cases do, and must result from these practices, we are bound to examine them with strict attention, as well with regard to the frequently imaginary evils which they pretend to obviate, as to their efficacy in producing the effect intended, and not less to the mischief occurring from their employment.

The following gives in detail the basis of practice laid down by Mr. Fox:—

“To assist the permanent teeth in acquiring the proper direction, the mouth should be frequently examined, that operations may be performed at the time required, for it is not enough to remove an obstructing tooth, when the new one is observed to be coming through irregularly, because then it always requires considerable time to bring it into its place, and still the irregularity may remain unaltered.” Thus far, Mr. Fox's observations are useful when acted upon with discretion, but the following passages afterwards occur:—“Sometimes the absorption of the fangs of the temporary teeth goes on so slowly that they do not get loose previously to the passing of the new tooth through the gums behind them; if then the permanent molares have been cut for some time, and there be a fulness of the gums behind the temporary incisors, it will be expedient that the two central incisors be extracted immediately, although not yet loosed. It will soon be seen as the new teeth arise, whether they have sufficient room; if not, it will be necessary to remove the temporary lateral incisors.”*

* “When the incisors of the upper jaw come out irregularly, particularly when they are behind their temporary antecedents, these must be removed to make room, and even when the deviation extends only to the central incisors, the four temporaries require removal.”—*Goddard on the Teeth.*

The observations on all other teeth are a mere repetition of these directions, and will not therefore require quotation. It would, indeed be well, if in the regulation of the teeth, the directions of nature were attended to, instead of those based on the pecuniary interest of the Dentist, (as is too frequently the practice). In this, as well as in all other cases, where medical treatment is required, it should not be forgotten, that the legitimate object of the surgeon is confined to the adoption of remedies for diseases, or the proper direction of the natural functions, when deranged; and can it for a moment be doubted, that nature has exercised her wonted aid in providing for organs of such paramount importance to that main source of health, strength, and comfort—digestion? Can it, I say, for a moment be supposed, that she has been so negligent in the structure of the human teeth exclusively—that they should be constantly in need of such harsh and unnatural interference? I have seen instances where six or eight teeth have been brutally lugged out, and I will venture to assert, without the necessity of removing one. I do not dare to venture words in expression of the indignation I feel at such infamous quackery, such barbarous brutality; besides the unnecessary infliction of such a fearful amount of pain—the shock to the whole nervous system is probably never forgotten by the poor little sufferer, and causes a lasting dread of the very thought even of having necessary operations performed however simple; and when we consider that all this is inflicted on pretence of preventing an evil, which, in most cases, there is not the slightest reason to apprehend, (and in those few instances wherein it might occur, it can be detected in time to prevent any permanent malformation)—it is certainly enough to excite just reproach. I hope at least it will stimulate the attention of medical gentlemen attendant upon families, and cause suitable precautions to be taken by the credulous parent or other guardian. But there are other equally important reasons why the first teeth should not be too early removed; it should always be borne in mind, that the connexion between the temporary tooth and the succeeding permanent one, continue to exist by means of a fibrous or ligamentous cord, extending from the sack of the latter to the neck of the former, which of course must be broken if the deciduous tooth be removed before the sack is absorbed. Until, therefore, the secretions of the enamel are perfected, (which is not the case until a very short time before the edge of the permanent tooth passes through the gum), the premature extraction of the temporary teeth must unquestionably interfere with the health and uniformity of this substance.*

* Allowing children to bite hard substances before the completion of the second dentition, is equally injurious to the future appearance and durability of the permanent teeth, in so much that if the fibrous cord is not dissevered, it becomes compressed and deformed, which must obstruct the secretions of the enamel, and thus either deprive the teeth of that substance altogether, or cause it to be deposited irregularly, forming what is usually called Honeycomb teeth.

There is yet remaining to be shewn, arising from this empirical practice, a still greater evil, which seems to have been most neglectfully overlooked, though of the greatest consequence, and should be constantly borne in mind by every practitioner who has the care of the second dentition, and never lost sight of by the parent. The first teeth, so long as they remain in the socket, tend to preserve the proper arch of the jaw, and prevent its contraction.

It would appear that the dentist has quite forgotten that while every other part of the body is undergoing alteration in form and size, the alveolæ and maxillary bones are partaking of the same influence of nature, and by the time the milk teeth become loosened, the adult teeth are ready to fall into their places, assisted by the natural expansion of the jaw, and thus the correct form is preserved; but on the other hand, if the first teeth are extracted long before the second are ready to take up their relative position, the jaw in most cases will contract; but in every case where several of the permanent teeth have come through, they will approximate, and where the objectionable practice of premature extraction has been resorted to, it has evidently added still further impediment to their assuming their proper range. Thus, the very operation which professes to prevent irregularity is the cause of establishing it permanently, and that in its very worst form. Those I am about to mention will serve as an illustration of what I have just described.

The first I shall notice is that of a young lady in this city, Miss G. aged twelve years, who called to consult me concerning a diseased lower molar tooth; she directed my attention to the upper cuspidati, the one on the right side projecting in front of the lateral and bicuspid; these teeth had met in an angular direction at the points, entirely precluding the possibility of the misplaced tooth ever gaining its proper position; the only remedy left being to extract the bicuspid. I enquired as to the treatment that had been used, and ascertained that the first cuspidatus had been extracted four years before, and that the permanent tooth did not pass through the gum for at least a year after, although it was easy to trace its projection,* in consequence of which the first canine tooth had been extracted, the corresponding tooth on the opposite side which had been left to nature's own guidance was perfectly in its place. The second case is that of a boy eight year's of age, who was taken to a dentist by his mother, in consequence of the two superior central permanent incisors coming through the gums in an angular direction, that is, with the front edge projecting outward and the lateral inward. This is in fact the natural position of those teeth before they pass through the gum; they always make their appearance more or less in that direction, assisting, as they assume their ultimate position, in expanding the maxillary arch. Nature seems to

* This is the way the two cuspidati make their appearance in their regular progress to their proper destination.

have given the teeth this property, but the Dentist not taking this into consideration, proceeded at once to extract the temporary lateral incisors. The consequence is, that the front teeth have come so far quite straight, but have grown hard or close upon the temporary canines, and left no space whatever for the permanent lateral incisors. Surely it does not require any very great acumen to discover that it is inconsistent with common sense to force one tooth in the place where another is coming in the regular course of nature; the very act of doing so gives the forthcoming tooth a wrong direction, and this, forsooth, is what is called "regulating children's teeth." I cannot believe that any practitioner can be so egregiously ignorant as to err so palpably; where such an operation is performed, it can only be done from mercenary motives. What the result of this case may be I cannot pretend to say; it would be very injudicious to remove the canines; they are in fact the main support of the form of the maxillary arch, and are not changed until the permanent bicuspidæ have taken the place of the temporary molares.

I could bring forward many such cases, but the foregoing are sufficient to show the egregious absurdity of extracting teeth prematurely. I contend that where nature requires assistance, art should await and watch its progress, and that there is infinitely more mischief done by tampering injudiciously with the mouth than by leaving it alone altogether. In almost every case there will be sufficient time to regulate any derangement after the second dentition is completed.

The subject of my next chapter will be the mechanical principles involved in this empirical practice; but before concluding this, I will give a little advice to persons having the care of children in the nursery: An opinion may with tolerable certainty be arrived at as to the future formation of the mouth and teeth from the following observations at the time the second dentition commences:—

1st—If the jaw be well formed and semi-circular rather than elliptical.

2nd—If the temporary teeth separate from each other, as this indicates a disposition of the jaw to expand.

3rd—If the first permanent grinding teeth appear to be well shaped, and of moderate size (these teeth which are at the extremities of each jaw, are generally cut at the age of from six to eight years).

4th—If there be no considerable enlargement of the gums (always allowing for a necessary fulness for the second teeth then rapidly forming,) this is a never failing proof that the second set is taking up the places of the first.

5th—If the parents and family, especially those whom the children most resemble, have well formed mouths and regular teeth, &c.

ART. XIV.—“*The Law respecting the office of Coroner,*” or so much thereof as is practically useful for the guidance of Medical men and Coroners. By ALEX’R KEEFER, Esq., Barrister, &c., Osgoode Hall, Toronto.

DURING the last session of our Provincial Legislature, a Bill was introduced by the Hon. J. Hillyard Cameron, and became law, under the title of “An Act to amend the law respecting the office of Coroner,” which has so direct a bearing upon both the *Medical* and *Legal* professions, as to require some lengthy extracts from its provisions.

After a few brief remarks upon the *office* of Coroner generally, it is proposed to enter into the consideration of the law as it *now stands*, under the operation of *that act*.

The office of Coroner is a very ancient one, at common law, being of equal antiquity with that of Sheriff, and appears to have been *first* instituted in connection with the latter, for the *preservation* of the *peace*, when, in England, the Earls gave up the wardships of the counties:

The qualification for the office, in *this Province*, apparently rests more upon *political* than other *capital*. In England, during the time of Blackstone, *lands* to the amount of twenty pounds *yearly value* were required, a sum which he conceived so grossly inadequate, that he complained “that the Coronership was in his time no longer undertaken by gentlemen of property; and that though, formerly, no Coroners would condescend to be paid for serving their country, yet, for many years, they only desired to be chosen for the sake of the perquisites.” It is a source of *gratification*, however, to us, to reflect, that this remark is not particularly applicable to the Coroners in *this Province* at the present day, who, generally speaking, are persons of *unquestionable respectability*, and their position in life such as to cast no discredit on their employment.

The Coroner is chosen for life, but may be removed upon being appointed Sheriff (an office incompatible with the other), or being incapacitated by years or sickness. By statute 25, Geo. III. C. 29., extortion, neglect, or misbehaviour are also made causes of removal.

The office and power of a Coroner are either *judicial* or *ministerial*, but principally *judicial*.

The statute 4, Edw. I., “*De officio Coronatoris*” makes these to consist, *first*, and principally, in inquiring, when any person is slain or dies suddenly, or in prison, concerning the *manner* of his death. When such a death happens, it is the Coroner’s duty, upon receiving notice of the fact, to issue a precept to a constable requiring him to return a competent number of jurors to appear

before him, at a stated place, to make an inquisition. This inquisition must be held before the Coroner as presiding officer. The jury (who *must* consist of *twelve* at the least) are to be sworn, and charged by the Coroner to inquire how the party came to his death. The inquisition must be held "*super visum corporis*," for if the body be not found, the Coroner cannot sit (unless by virtue of a special commission issued for the purpose). The inquest, by the common law, is required to be held at the very place where the death happened, though not necessarily at the same place where the body was viewed; or the jury might adjourn elsewhere if found more convenient. Upon this inquisition, the Coroner must hear such evidence as is *offered* either on the part of the Crown or the person suspected, and it is to be given upon *oath*.

By the statute passed in this Province, last session, it is enacted, that no inquest shall be holden until it shall be made to appear to the Coroner, that there is *reason to believe* that the deceased came to his death under *such* circumstances of violence or unfair means, or culpable or negligent conduct, *either of himself or others*, as require investigation, and not *through any mere accident or mischance*.

This act also provides, that, whenever it shall appear to the Coroner that the deceased was attended at his death, or during his last illness, by any legally qualified medical practitioner, he, the Coroner, may issue his order for the attendance of such practitioner as a witness at the inquest; and where the deceased was not so attended, the Coroner may issue an order for the attendance of any legally qualified medical practitioner, being at the time in *actual* practice in or near the place where the death happened. By it the Coroner may also direct the performance, by the medical witness or witnesses, of a *post mortem* examination, with or without an analysis of the contents of the stomach or intestines: Provided, however, that if any person shall state upon oath his *belief* that the death was caused, *partly or entirely*, by the improper or negligent treatment of any medical practitioner or other person, such medical practitioner or other person shall not be allowed to assist at the *post mortem* examination.

It is also enacted, that whenever it shall appear to the majority of the jury that the cause of death has not been satisfactorily explained by the witnesses, in the first instance, *they* may name to the Coroner, in *writing*, any other legally qualified medical practitioner or practitioners, and *require* him to issue his order (which order he is *compelled* to issue under a penalty of ten pounds) for their attendance as witnesses, and for the performance of a *post mortem* examination, whether one shall have been previously performed or not. And further, to cover disbursements and trouble, that such medical witnesses shall receive remuneration upon the

production of the Coroner's order on the Treasurer of the county, in their favour; and, on the other hand, shall forfeit ten pounds for every neglect to obey an order for their attendance.

The rate of remuneration to medical witnesses for services under the act, is,

For attendance, in obedience to an order from the Coroner, without a <i>post mortem</i> examination, - - - - -	} £1 5 0
For the same service, with a <i>post mortem</i> examination, without an analysis of the contents of the stomach, }	
For attendance, <i>post mortem</i> and analysis, - - - - -	5 0 0
Mileage (to be proved by the oath of the medical man), per mile, - - - - -	} 0 1 0

The act provides for holding an inquest in every case of death of a prisoner, or lunatic confined in any lunatic asylum, gaol, prison, house of correction, penitentiary, lock-up house, &c.; empowers Coroners to fine jurors for non-attendance, not exceeding twenty shillings, and makes provision to prevent the inquisition being quashed on account of certain *technical* defects enumerated in the statute.

The inquisition must be found with the concurrence of at least *twelve* of the jury. If any be found guilty by such inquisition of murder or other homicide, the Coroner is to commit them to prison for further trial; and in case of death by misadventure, must inquire whether any deodand hath accrued to the Queen by such death; and must certify the whole of this inquisition under his own seal, and the seals of the jurors, together with the evidence thereon, to the court of Oyer and Terminer, or the next assizes.

By a statute of this Province, 4 & 5 Vic. c. 24, § 4, every Coroner, upon any inquisition taken before him, whereby any person shall be indicted for manslaughter or murder, or as an accessory to murder before the fact, shall, in the presence of the party accused, if he can be apprehended, put in writing the evidence given to the jury before him, or as much thereof as shall be material, giving the party accused full opportunity of cross examination; and shall have authority to bind by recognizance all such persons as know or declare any thing material touching the said manslaughter or murder, or the said offence of being accessory to murder, to appear at the next court of Oyer and Terminer, or gaol delivery, or other court at which the trial is to be, then and there to prosecute or give evidence against the party charged: and every such Coroner shall certify and subscribe the same evidence, and all such recognizances, and also the inquisition before him taken, and shall deliver the same to the proper officer of the court in which the trial is to be, before, or at the opening of the court.

As to the Coroner's own remuneration upon inquests, it is in

general payable out of the county rate in the shape of fees upon each inquisition taken; the amount of fees is regulated by different statutes, chiefly by 25 Geo. II., c. 29.

Another branch of the Coroner's office is to inquire concerning shipwrecks, and certify whether wreck or not, and who is in possession of the goods. Concerning treasure trove, he is also to inquire who were the finders, and where it is, and whether any one be suspected of having found or concealed a treasure.*

The Coroner is also a conservator of the Queen's Peace, and becomes a Magistrate by virtue of his appointment, having power to cause felons to be apprehended, whether an inquisition be found against them or not.

The *ministerial* office of the Coroner is only as the Sheriff's *substitute* in executing process. For, when just exception can be taken to the Sheriff for suspicion of partiality (as that he is interested in the suit, or of kindred to either plaintiff or defendant), the process must then be awarded to the Coroner, instead of the Sheriff, for execution of the Queen's writs.

The passing of the act of last session (which is nearly a transcript of the English act 6 & 7, Wm. IV., c. 89,) has placed the law in Upper Canada, "respecting the office of Coroner," upon the same footing with that of England, if we except some unimportant alterations that have been there subsequently made as to the mode of appointment and local jurisdiction of Coroners.

Its adoption here, after its *sire* had been tried in England for several years, and found to supply the *principal* defects in the pre-existing law, may also be regarded as a step in the *right direction* in the way of law reform; and is a strong argument in favour of the position, that *more general public benefits* would accrue from the introduction into our statute book of many late English statutes, (with such remodelling as would meet our wants) affecting different subjects, which are founded upon reports made, *after a thorough investigation of the old law*, and the *mischief* requiring remedy, by the Real Property, Common and Criminal Law Commissioners, than from the huge masses of hasty and crude legislation ("rudus indigestæque moles"), with which we find our *annual present* from the Provincial Parliament loaded.

It seems desirable that the golden opportunity afforded by the welcome "Upper Canada Journal, &c.," should be embraced, by more experienced members of the legal profession, for the purpose of distributing information on some of the numerous *medico-legal* peculiarities of our law, which are brought under their notice more frequently, than under that of the members of their sister profession.

* In England the coroner is also empowered to inquire into the origin or cause of fires occurring in their districts, a power which it would be well to have exercised in this country. Mr. Wakely has exercised it in London.—ED.

ART. XV.—*Case of Preternatural Labour.* By CHAS. ROLLS, M.D.,
Wardsville, C. W.

I AM happy to find a journal devoted to medical science published in Canada West, at so comparatively early a day: and as you have invited the members of the profession to transmit you any interesting cases, which may, in the course of practice, come under their observation, I have amongst numerous others, selected the following one. Not expecting, at the period of its occurrence, ever to publish it, I took no written notes; but if the outlines furnished, of a case of not very frequent occurrence in this country, are esteemed sufficiently interesting, they are at your service.

Some time since, I was called on to attend a woman in labour (Mrs. McK.) living in the adjoining township of Zone, a distance of twelve miles. She is a stout, healthy person, aged about thirty: has borne several children, and hitherto nothing unusual had occurred in her accouchments. For the last forty-eight hours she had been in severe labour; two women (midwives) had been in attendance, and, by her own account, she had suffered so severely, by their rough handling, that she preferred dying rather than be put to any further torture.

At the time of my arrival I found her in a very low condition. The action of the uterus had ceased some time previously; the pulse very weak, indeed almost imperceptible; and the whole vital system completely prostrated from long-continued *ineffectual* intense action.

On examination, I found the arm, as far as the elbow, and about eight inches of the funis umbilicalis were down and projecting beyond the external orifice.

I immediately informed her husband (who was present) of the necessary steps which would be required to effect the delivery of the child; at the same time holding out to him but little hope, of a favourable issue, on account of her feeble condition; and I urged upon the woman that she should, at once, submit to the necessary steps, as the nature of the case was such, no time ought to be lost. It was, however, full a quarter of an hour before my own and her husband's persuasion overcame her reluctance; she repeatedly declaring, as I have before mentioned, that she would far rather die than submit to any further suffering than she had already undergone. At last, however, she consented, and in a short time we had her placed in the proper position, and every thing arranged for turning and delivery by the feet.

Giving the woman previously a little of the spirit of camphor, in water, I first introduced the funis umbilicalis, pushing it gently upwards, a little at a time, until it was all returned within the uterus. Having effected this, I took hold of the hand and

arm, and pushing steadily upwards returned them likewise; then gradually introducing my own hand, well lubricated with oil, in the form of a cone, and carrying it carefully along the body of the child, towards the left umbilical region, until I grasped one of the feet; then moving my fingers to search for the other, and carrying my hand at the same time forward and a little to the left, I found the remaining foot, and grasped both firmly in my hand. I then gradually, with a slow but steady pull, brought them both down, until I had cleared the external orifice, and delivered the child as far as the breast; then taking a napkin, and encircling this part with both my hands, the delivery was completed in the usual way. The afterbirth was shortly after removed, by gently pulling at the cord; the uterine contracted; and the usual bandage put on to compress the abdomen.

The whole operation lasted about four minutes. During its continuance I had to administer spirit of camphor several times to prevent fainting. Immediately after the delivery of the placenta, I gave a strong composing draught of *Tœ opii* in water; directed warm clothes to be applied to the abdomen, and perfect rest and quietness. I remained with her during the remainder of the night; and for two or three hours subsequent to the termination of her labour, she had the most violent eructations of flatus I have ever witnessed; indeed the quantity expelled was truly astonishing. Towards morning, however, this abated; the other untoward symptoms improved; and although continuing in a very low and weak condition for some days, she gradually recovered, and in three or four weeks was as well as usual.

REMARKS.—There are two or three points in this case which are somewhat interesting. 1st—The *not very common* presentation of both hand and funis umbilicalis. 2nd—The extreme depression of the woman in connection with her subsequent rapid recovery. 3rd—The facility with which (owing to the previous exhaustion) the turning of the child was effected; and 4th—The after eructation of so large a quantity of flatus; the remote and proximate causes of which (as Cullen would say) might form an interesting subject of investigation to some of your readers. But it is not so much on their account that I have furnished the case for publication in your journal, as from a wish to show to the public and the Legislature how necessary it is to all, whether men or women, who are engaged in the practice of midwifery, should be thoroughly qualified by previous study and examination. There cannot be the least doubt, had this patient been left without further assistance than she had for the first forty-eight hours, in the course of a short time she must have been a corpse—her husband a widower—and her children motherless. She had been attended by two professed midwives (one of whom

is esteemed by the public quite a village oracle) : and yet the poor creature had been allowed to remain in strong labour two days and nights, unassisted, in a case in which every medical man knows, the instant he examines, that assistance is necessary, no attempt had been made in the right direction by these midwives, but the labour had been encouraged to proceed, and the woman tortured and worn out, by their fruitless efforts to deliver in the preternatural condition in which I had found it; they actually expecting to effect the accouchment by tugging at the arm, and wondering *what in creation* prevented the child from being born. Can there be a doubt in the mind of any unprejudiced person that such practice should not longer be tolerated?

To women, as midwives, I have no objection, if they be properly qualified (as in the old countries) by previous education and examination; but to allow the ignorant persons, who at present are so frequently employed in the country parts of Canada, any longer to be so engaged, without proper qualifications, is, in my opinion (and I doubt not other physicians will generally coincide with me) unjust to the public, unjust to the profession who are called on to rectify their blunders, and, above all, most lamentably unjust to the poor suffering patients themselves, who are so painfully and often fatally deluded by them.

ART. XVI.—*A case of Impregnation with imperforate hymen.* By JOHN R. DICKSON, M. D. Kingston, 1851.

On the morning of the 29th July, 1850, at 4 o'clock, I was called to visit Mrs. C—. On arriving at her house, I was informed by Mrs. Smith, an educated midwife (who had been in attendance during the past night), that the patient was in labour with her first child, that "the *vagina was completely closed*, that she did not mind it as long as the pains were not very severe; but since they had become so, she was alarmed lest the uterus should be ruptured, or the lining membrane of the vagina prolapsed. On examination, I felt a strong, unyielding Hymen, apparently imperforate. I did not wish, myself, to make any ocular exploration, but requested Mrs. S. to institute such an examination, and see if she could discover any aperture while I went home for a scalpel. After examining closely, she could not discover any. On my return, I waited a short while to make a more close examination, and try if the expulsive pains would not rupture the membrane; I found, it remained firm and unyielding, despite the strong pains. I then took an ordinary scalpel, and rolled tape around its blade until within about $\frac{1}{4}$ of an inch of its point, and with this made a T shaped incision into the

Hymen, which was about two lines thick. A few expulsive pains brought forth a well-formed living infant, at its full time.

I endeavoured to get some particulars relating to this patient's former state of health, but she and her husband were both so shy about it, that I could only learn that she had consulted several physicians about her declining health after marriage, but concealed the *fact* from them, of his inability to effect a *vaginal entrance*, imagining it was owing to some defect in his own formation.—However, the midwife was more successful than I was. She ascertained that, previous to marriage, at her catamenial periods, she suffered almost as much pain as at her confinement; that there was merely a slight moisture externally; that there was swelling and tension at this time in the abdomen, which usually subsided in about a fortnight. Since her marriage,—to use the patient's *own graphic and feeling words*,—she never *knuc* her husband, until her accouchement

ART. XVII.—*A case of Psoriasis palmaris et Scroti*. By HENRY GOING, L.R.C.S.I. London, C.W.: 1851.

DR. King's case of psoriasis inveterata, published in the last number of your journal, brings to my recollection a most intractable form of psoriasis palmaris et scroti, occurring in a young man of excellent constitution; the disease continued for eight or ten years, notwithstanding the most active treatment. Plummer's pill, with Dover's powder, iodide of potassium, with sarsaparilla and iodine; Donovan's solution of arsenic, iodine and mercury, &c, were successively and repeatedly tried: local applications being also resorted to, such as citrine ointment, preparations containing creasote, ioduret of sulphur ointment, &c., &c., without the slightest benefit being obtained. The disease was completely cured, about two years ago, without any relapse occurring, by the administration of two grains of blue pill and one-third of a grain of iodine, three times a day for three or four weeks, without producing ptyalism, no local application being resorted to.

In this case, Donovan's compound arsenical solution completely failed, although pushed as far as was consistent with safety. What peculiar action the blue pill and iodine, *in conjunction*, could have exerted over the constitution, I am at a loss to determine, where Plummer's pill, given at night, and iodine with iodide of potassium by day, for a length of time, failed to produce even the slightest temporary benefit.

TORONTO, JUNE 16, 1851.

THE MEDICAL BILL.

THE subject of a Medical Bill for Canada West being the all-absorbing Medico-Political topic of the day, we propose to redeem the pledge given by us in our last number, of taking up the consideration of it in our present issue.

The invitation conveyed through the pages of this Journal, to the members of the Profession in Upper Canada, to transmit without delay their opinions on this important measure, either as the results of combined deliberations at County meetings, or as the expressions of individual feelings, has been most satisfactorily complied with; and judging from the number of communications which have come to hand, from all quarters of this section of the Province, and the unanimous declarations of their authors on the principle as well as the details of the required Bill, we feel ourselves warranted in declaring, that there is an universal demand for such a measure from the members of the Medical Profession of Canada West.

It would have afforded us much pleasure to have published all the letters which we have received on the subject, for we should thereby have staggered, we think, some of the advocates of free-trade in Physic, by the extraordinary reports of cases treated by free-trade practitioners, and which the writers offer to prove at any time when called upon so to do. These cases would certainly, in older countries than Canada, have furnished much matter for investigation by coroners, and would have terminated most infallibly in the declaration by a jury in another court, of a verdict of manslaughter against these "unconnyng and unaproved practysours in fysyk," whom it delighteth some of our sapient law-makers to honour, countenance, protect and support.

The fact is, that while the study and administration of the laws with regard to a man's goods and chattels, are looked upon by the Legislature as constituting a science capable of being acquired, and an art susceptible of being practised only by men possessed of gigantic mental powers, and demanding the most stringent enactments for the protection of those same individuals entrusted with such paramount interests, and almost holy offices, the knowledge of the human body, and all its ailments and injuries, with the right adaptation of remedies, are regarded as matters coming quite within

the reach of any man or woman walking, let his or her position be what it may, whether that of a farrier or a charwoman. Every one knows something of the body, and every one knows something of disease: *ergo*, every one can practise physic. This is the logical inference of the legislature. May we hope, for the sake of humanity, that the levelling spirit of the age may yet be softened by those kindly influences which increased intelligence and extensively called for education cannot fail to effect, and that the day may soon arrive, when in this country the Medical Profession may receive that measure of credit and respect accorded to it elsewhere, for contributing not only to the happiness but also the well-being of our population! The Bill, as submitted to Parliament for its sanction, is a measure calculated to protect the interests of the public, as well as to advance the progress of medical science; these it is proposed to effect, by the organization of the profession into a body: unity of action and concentration of forces have at all times been considered indispensable to the successful operation of a large number of scattered or separate pieces of machinery; the same obtains with regard to communities of men. Acts of incorporation are daily sought for and granted by the Legislature to bodies of individuals, certainly for the most indistinct and even inconceivable purposes: for example, to Mechanics' Institutes, Sons of Temperance, &c. &c.; and yet we are astonished to learn, that when notice was given of intention to introduce a Bill for the incorporation of the Medical Profession of Upper Canada, the hon. member so moving was warned of strenuous opposition to be offered to the measure. But let us examine into its clauses, and ascertain the possible grounds for this warlike attitude assumed by our sister profession, the members of which, unfortunately for the country, occupy altogether too many (one-half) of the seats in the Legislative Assembly. The nine first clauses of the Act, inasmuch as they serve merely to constitute the body, describe the mode of election of the governing council, and declare the name of the Corporation, and the title to be acquired by its members, can surely involve none of the wrath of the above-named belligerous opponents. But we are told, that it is the tenth clause especially against which their opposition is directed. And what is this? A clause to protect the legally-qualified practitioner; the man who has spent his whole life in the study of his profession; who has risked his own existence in the practice of it; who has exposed himself to those dangers, both from contagion and the raging elements, which even the relatives of the sick will often not encounter; and who is ever ready to sacrifice his own comfort and ease at the call of distress and wretchedness—we repeat it, to protect this man from the intrusion of daring and ignorant quacks, (their daring is always proportioned to their ignorance) of “fools who dare to rush in where angels fear to tread,”—this penal clause excites the sympathy of the

country! Why, the very vendors of spirits are protected; the very cabmen and carters are protected by clauses in the city incorporation act; the hewers of wood and drawers of water—we mean no offence—the timber-merchants and the water-companies are protected; and yet medical men, entrusted with the lives of their fellow-men, must not seek any protection at the hands of the country, from “*unprincipled persons*,” who even in the sixteenth century “*were punished by fine and imprisonment, and other fit and reasonable ways, for practising from avarice rather than in the faith of a good conscience*.” We are told, that the profession itself is not in favour of the penal clause. We deny it: we say that the profession calls aloud for it. We are told, that the country desires free-trade in physic, and that people will employ whom they choose as their medical attendants. Then we say, that these men, if guilty of malpractice should be subject to criminal prosecution, and punished for felony or misdemeanour, according to the extent of the mischief done by them. It is said, that no jury will convict in civil process a quack prosecuted at the instance of another party. Then we answer, amend the law, and convict by summary process. While these are our views with regard to the penal clause, we affirm nevertheless, that statutory enactments will never annihilate quackery and humbug. Men revel in the excitement of novelty and incessant change, even although that change involve the risk of life.

There is a raciness in the practice of a quack, in the self-confidence which he manifests, in his manner of treating a patient, the novelty of his prescriptions, and the simplicity and apparent sincerity of his explanations, especially touching results, even though these are indicative of certain death, while all the time he is representing the certainty of recovery,—all this is captivating to persons as ignorant as himself. But let us leave this sickening topic, and pity the admirers of its subjects,—let us encourage our brethren, holding up to them the lamp of hope; and as the necessity has occurred in olden times, let us cheer them with the consolation, that, although they may suffer persecution from the free trade portion of the community, nevertheless, they enjoy the possession of that which is infinitely more valuable and desirable than either the smiles or frowns of the pseudo statesman, the purse-proud philanthropist, or the Bœotian critic.

We pass on now to make a remark or two upon another class of objectors to the Bill, as originally introduced during the last session by the Hon. J. H. Cameron, and which was *amended*, albeit altered at the County meeting held in this city on the 2nd ultimo. It refers to the privilege hitherto always enjoyed by the holders of Degrees or Diplomas obtained from Universities or Colleges in Her Majesty's dominions, of claiming the Provincial license without examination. The alteration carried by a majority on that occasion,

consists in the exclusion of that clause altogether, and the substitution therefor of what we cannot help looking upon as a perfect anomaly; we mean a reciprocity clause,—with whom?—with Universities and Colleges of hundreds of years' standing!! Our opinion on this point has been already pronounced, with that of many others, in the protest, which appeared in our last number. A correspondent on this subject very justly remarks,—“that while “Canadians seem not to hesitate to admit British capital into this “country, they, nevertheless, refuse to admit British talent.” We wonder what will be the effect of the perusal of this reciprocity clause upon the men who constitute the Councils of the British Universities and Colleges! We venture to predict, the inquiry that will follow: “Are there any Lunatic Asylums in that Colony, “or are the proposers of this scheme all native born Yankees?— “Surely they were ‘born out of time!’” Our contemporary in Montreal, in his last number, just received, writing on this subject, says, “We regret to perceive that it” (the proposed Bill) “contains “a clause, No. xii., which *we little looked for from our Upper Canada “brethren;*”—and in inserting the protest, he adds:—“*We cannot “doubt that it will be very extensively signed, as well by U. C. as “L. C. practitioners.*” We long to see how our free-trade legislators will deal with this clause: with regard to the other sections of the proposed Bill little need be said. We thought that the manner suggested for the election of the Board of Governors was complicated: under the existing circumstances of the profession in Upper Canada, perhaps it may prove as good as any that can be recommended. We shall watch its progress.

Since the above was sent to press, we have been favoured by a friend with a copy of a Bill, introduced by Mr. Richards on Monday last, with reference to the penal clause, which forms part of C. 3, 8, Geq. IV., the Medical Bill now in force. We subjoin the Bill for the perusal, information, and careful consideration of the medical profession of Canada West. The honourable member restricts the operation of his Act to Upper Canada only: he has acted wisely, for, every French-Canadian member in the House, we are credibly informed, would most certainly have voted against its application to the Lower Province. That it is a Bill for legalizing quackery, and at the same time opening a very wide door for the vexatious persecution of the “benevolent, but well-qualified persons” whom the Honourable Member has taken under his especial protection, must be admitted by all; for who, in the cases supposed, can prove mal-practice, or gross ignorance, on the part of the offender but regularly educated medical men? And we only trust, that on any occasion of the kind, the latter will lay aside all feelings of delicacy, and endeavour to support the law, should this Bill ever become such :

AN ACT

To amend the Law of Upper Canada relative to the practice of Physic and Surgery.

WHEREAS past experience has shewn that penal enactments have not deterred unqualified persons from practising Physic, Surgery, and Midwifery, but, on the contrary, such enactments have often had the effect of preventing benevolent persons, well qualified, from lending their aid to relieve physical suffering, and it is therefore expedient and proper to repeal such penal clauses as may exist in any Acts now in force in Upper Canada in relation to the practice of Physic, Surgery, and Midwifery: Be it therefore enacted, &c., That the sixth and seventh sections of the Act of the Legislature of Upper Canada, passed in the eighth year of the reign of King George the Fourth, and intituled, "An Act to amend the laws regulating the practice of Physic, Surgery, and Midwifery in this Province," shall be and they are hereby repealed.

II. And be it enacted, That no person shall be liable to any criminal prosecution or to indictment for practising Physic, Surgery, or Midwifery without license, except in cases of malpractice, or gross ignorance, or immoral conduct in such practice.

III. And be it enacted, That any person, not being a licensed Physician, or Surgeon, or Midwife, who shall practise, or attempt to practise, Physic, Surgery, or Midwifery, or who shall prescribe for or administer medicines or specifics to or for the sick, shall be liable for damages in cases of malpractice as if such person were duly licensed.

IV. And be it enacted, That any person not being licensed to practise Physic, Surgery, and Midwifery, who shall practise, or profess to practise, Physic, Surgery, or Midwifery, or shall prescribe medicines or specifics for the sick, and shall in any Court having cognizance thereof be convicted of gross ignorance, malpractice, or immoral conduct, shall be deemed guilty of a misdemeanor, and liable to a fine of not less than _____ nor exceeding _____ or to imprisonment in the County Gaol not less than _____ months, nor exceeding _____ months, or both, in the discretion of the Court.

V. And be it enacted, That this Act shall apply only to Upper Canada.

[For P. S., see page 130.]

COLLEGE OF PHYSICIANS AND SURGEONS OF LOWER CANADA.

THE semi-annual meeting of the Board of Governors was held at Montreal on the 13th ultimo, when the eleven gentlemen who had received the degree of M. D. at McGill College, on the 8th, were duly sworn upon their diplomas, and received the license of the College. Ten gentlemen underwent examination for the College license, and obtained it, and five were rejected. Nine young gentlemen passed the preliminary examination, and were admitted to enter upon the study of medicine, and three were refused.

"IGNORANCE OF FRENCH AND ENGLISH.—At the late semi-annual meeting of the Board of Governors of the College of Physicians and Surgeons of Lower Canada, two young gentlemen were refused admission to the study of medicine,—the one, a Canadian, for ignorance of the English language,—the other, of

English descent, for ignorance of the French language. The Act of Incorporation is explicit on this point. It states, 'that the qualifications to be required by the Board of Governors, from a person about to commence the study of medicine in this Province, shall be,—a good moral character, and a competent knowledge of Latin, History, Geography, Mathematics, and Natural Philosophy; and that from and after the end of the year one thousand eight hundred and fifty, a general knowledge of the French and English languages shall be indispensable.' We understand that the two young gentlemen, who were thus unfortunate, passed otherwise very creditable examinations. But the Board had no other alternative than to carry out the law; and we state these facts as a warning to students."

"CONVOCAATION, UNIVERSITY OF MCGILL COLLEGE.—At the Convocation held on Thursday, May 8th, the following gentlemen were admitted to the degree of M. D. The valedictory address was delivered by G. W. Campbell, M. D., Lecturer on Surgery. With the names of the gentlemen, we subjoin their residences and the subjects of their Theses:

R. C. Weilbrenner, Boucherville, C. E. on Difficult Labour; Peter O. Carr, Simcoe, C. W., on Diseases of the Bones; W. H. Hingston, Montreal, C. E., on Plethora; G. M. McMicking, Chippewa, C. W., on Puerperal Fever; S. T. Brooks, Sherbrooke, C. E., on Hæmoptysis; Robert Walker, Simcoe, C. W., on Intermittent Fever; J. J. Blacklock, Cornwall, C. W., on Epilepsy; George LeClere, Montreal, C. E., on Apoplexy, Onesime Bruneau, Montreal, C. E., on Cancer; Charles E. Casgrain, River Ouelle, C. E., on Epilepsy; John W. Mount, Mascouche, C. E., on Tetanus.—*Brit. Amer. Journal.*

THE ST. LAWRENCE SCHOOL OF MEDICINE, MONTREAL.

ANOTHER Medical School has been established in Montreal under the above designation. We recognize among the Lecturers the names of several who have been most favourably known as teachers for several years past, in that city. We need only allude to Dr. Arnoldi, on Midwifery; Dr. McDonnell, on Surgery; and Dr. Horace Nelson, on Anatomy, to augur that this school will form a powerful rival to the other two institutions already, we are informed, in successful operation. The chairs of Practice of Medicine, Institutes of Medicine, with Comparative Anatomy and Zoology, and Materia-Medica and Pharmacy, are to be occupied by Drs. David, Gibb, and Fenwick, gentlemen, according to report, thoroughly qualified for doing justice to the task which they have undertaken.

The fees for the lectures are to be the same as those at the University of McGill College. We are happy to find that this is the case, because it indicates all absence of opposition to, and petty jealousy against that institution, which would certainly have been inferred had the class fees at the new Institution been lower than those at the original school. *We heartily wish our medical brethren success in their undertaking.* We perceive that an act of incorporation is sought by them from the Legislature.

SELECTED MATTER..

MEDICINE.

DR. GOLDING BIRD, ON THE SOLIDS OF URINE.

In a paper published in the *Medical Gazette* two years ago, I pointed out, for the first time, the importance of determining the amount of *real urine* passed by a patient. By this term, *real urine*, I understand the solid elements of the urine, as distinct from the water in which they are dissolved. Water, although an important, is not an essential element of the urine: it may be excreted by other excretories; but not so the matters dissolved therein: these seem, except in mere traces, to be only able to escape from the body at the outlet afforded by the kidneys, and indeed, from a structure of those glands distinct from that which pours out the water. In the paper alluded to, I pointed out the mode of determining this important question at the bed-side, and hinted at the results which would probably be obtained by it. From that moment I have never lost sight of the inquiry, and one among many of the results flowing from it I now shall bring forward.

[After remarking upon the importance of first ascertaining the quantity of urine secreted during the twenty-four hours, Dr. Bird proceeds to say:]

The characteristic function of the organs under consideration must undoubtedly be regarded as the excretion of highly nitrogenised matters derived either from the wear and tear of the animal tissues, or from imperfectly assimilated food. Therefore, to obtain a measure of the amount of integrity from this great depurating function, we must not only measure the urine, but calculate with tolerable accuracy the amount of solid matters really existing in it. This can, of course, be effected by the evaporation of a given quantity to as dry an extract as can be obtained. The practical difficulties attending this process are familiar to every one who has ever performed the task; and, moreover, the time required for its performance would preclude its being had recourse to sufficiently frequent to be of any real service. I have elsewhere noticed the objections to this mode, as well as the advantages presented by the more rapid and easy determination of the quantity of solids from the specific gravity of the urine.

Although ready to admit that this mode of calculating the quantity of solids is not susceptible of rigid accuracy, still I maintain that the total error existing in a series of observations thus made, will be far less than if actual evaporation of the urine was performed; and farther, the large number of observations capable of being thus made by every one, amidst the fatigues of large practice, render it of infinitely greater value than a process which requires time and practical skill for its performance.

The following table presents us with a mode of recollecting the quantity of solids existing in urine of different specific gravities, when the table is not at hand for reference—a piece of short memory of no small service in practice. Thus, if the specific gravity of any specimen of urine be expressed in four figures,

the two last will indicate the quantity of solids in a fluid ounce of the urine, within an error of little more than a grain, when the density does not exceed 1.030; above that number the error is a little greater. To illustrate this, let us suppose we are called to a patient, the integrity of the depurating functions of whose kidneys we are anxious to learn. The quantity of the urine excreted in twenty-four hours amounts, we will suppose, to three pints or sixty ounces, and the density of the mixed specimens passed in the time alluded to is 1.028; now we merely have to multiply the number of ounces of urine by the two last figures of the specific gravity, to learn the quantity of solids excreted; or 60 multiplied by 20 equal to 1200 grains of solids. If the table were at hand, the calculation would be more rigid, for we should then multiply 60 by 20.79, instead of 20; the product, 1247 grains, shows that by the former mode an error of 47 grains has been committed—an amount not sufficient to interfere materially with drawing our inductions by the bed-side and of course capable of immediate correction by referring to the table at our leisure.

Specific Gravity.	Weight of 1 fluid oz..	Solids in $\frac{1}{5}$ j.—grs.	Specific Gravity.	Weight of 1 fluid oz.	Solids in $\frac{1}{5}$ j.—grs.
1010	441.8	10.283	1025	448.1	26.119
1011	442.3	11.336	1026	448.8	27.188
1012	442.7	12.377	1027	449.3	28.265
1013	443.1	13.421	1028	449.7	29.338
1014	443.6	14.470	1029	450.1	30.413
1015	444.0	15.517	1030	450.6	31.496
1016	444.5	16.570	1031	451.0	32.575
1017	444.9	17.622	1032	451.5	33.663
1018	445.3	18.671	1033	451.9	35.746
1019	445.8	19.735	1034	452.3	35.831
1020	446.2	20.792	1035	452.8	36.925
1021	446.6	21.852	1036	453.2	38.014
1022	447.1	22.918	1037	453.6	39.101
1023	447.5	23.981	1038	454.1	40.206
1024	448.0	25.051	1039	454.5	41.300

From a large number of observations, it appears that the average amount of work performed by the kidneys in the adult, may be regarded as affecting the secretion of from 600 to 700 grains of solids in twenty-four hours. Although certain peculiarities connected with muscular exercise, regimen, and diet, as well as certain idiosyncrasies of the patient, may influence this, yet if we regard 650 as the average expression of the number of grains of effete matter excreted in twenty-four hours by the kidneys, we shall not commit any very serious error. In calculations of this kind much latitude must be allowed, and it ought at least to be assumed that the kidneys may excrete fifty grains more or less than the assumed average, without exceeding or falling short of their proper duty.

I have in this as well as in the preceding lectures, repeatedly used the term *depuration of the blood*, and have referred to it as an expression of a great fact. Some few years ago it would have required no little courage to have even used this term, for it would have been by many regarded as at least redolent of the sybils of the wash-tub, among whom and their congeners there is always an aptness for referring all diseases to the "blood being in a bad state," or simply "bad blood," as all who have had much to do with dispensary practice can amply testify. Yet so much favour has a modified humoralism gained in the sight of

the reflective physician, that not only will such expressions pass current, but hosts of affections are now regarded as strictly blood diseases, or conditions of *cacoemia*—another illustration of scarcely any popular opinion or prejudice existing without some admixture of truth. Admitting in general terms the fact that the kidneys do deplete the blood of from 600 to 700 grains of solid matter in the twenty-four hours, I am anxious to remind my readers that not only does this occur in accordance with fixed physiological laws, but that the proportion of solids excreted at particular parts of the day vary according to the amount of impure matters existing, and present in the blood. I will select but one among many illustrations which I have at hand for this purpose. In a person in good health, the bladder was completely emptied, and the urine afterwards secreted was collected the next day at 8 A.M., 12 and 5 P.M., and 11½ P.M., the total quantity voided being twenty-four ounces, but a very small quantity of fluid having been taken. The urine voided at 8 A.M., was evidently excreted from the blood independently of the influence of the food, and may be regarded as a measure of the quantity required to be removed for the depuration of the blood of the effete matters entering it from the metamorphosis of tissue; that passed between 8 and 5½ contained the addition of imperfectly assimilated matter derived from breakfast; and that voided at 11½ contained the results of mal-assimilations of dinner. The table before you exhibits the result of the analyses of these specimens:—

When passed	8 A.M.	12 and 5 P.M.	11½ P.M.
Quantity	5vij	5vj	5viij.
Sp. Gr.	1.016	1.020.....	1.030
Uric acid	8 grains.	2.4 grains ...	4.8 grains.
Urea	50.9 " ...	11.16 " ...	88.2 "
Creatin animal matter, and volatile salts	62.46 " ...	36.78 " ...	123.72 "
Fixed salts.	18.4 " ...	4.4 " ...	35.1 "

We thus find that the blood alone yielded 114.16 grains in 8½ hours.

"	"	plus breakfast	80.34	"	in 9	"
"	"	dinner	216.72	"	in 6½	"

In this example we have merely traced out the excretion of a definite amount of matter from the blood in health, and when the processes are as little as possible interfered with; this observation bearing, indeed, a close resemblance to the interesting experiments of Boussingault with ducks. We, however, will now pass to the consideration of another illustration, in which the quantity of effete matter excreted is considerably increased from the leaven of disease. An illustration also of another fact, and a very important one, to which I have already alluded—that a direct ratio exists in certain diseases between the excretion of a definite portion of effete matter from the blood and the amelioration of the patient's condition, such excretion being pro tanto *critical*.

I would press upon the practitioner the importance of directing his attention to diuretics, not as merely helping the pumping off of water, but as *renal alteratives*—as remedies aiding the removal from the body of injurious matters. I am aware that this indication is often unintentionally fulfilled, whenever alkalis or salts of vegetable acids are given, but still at the present time these and other analogous remedies are not administered with the confidence they deserve.

I am anxious to announce to you a new fact, one which bids fair to be of great importance to the treatment of disease, and one which I believe has never been announced, and which the examination of the urine secreted under the

influence of remedies has led me to discover. It is, that we possess remedies which, when administered remarkably increase the metamorphosis of tissue, and enable us to produce at will the very depurative effects, which I have pointed out to you as resulting normally in the course of certain zymotic diseases. In taking a practical view of the so-called diuretic agents, it will now become necessary to divide these into two classes: the one including those which simply increase the bulk of the urine; the other, those which act as *renal alteratives*, and aid the depuration of the blood.

To the former class belong all those agents which out of the body exert no chemical effect on animal matter, as all the vegetables diuretics—squill, copaiba, broom, juniper, guaiac, digitalis, &c. All these, in the absence of any opposing cause connected with mechanical obstructions to the free course of the circulation, will, it is well known, increase the discharge of fluid by the kidneys, and become often valuable agents in enabling us to successfully treat dropsical accumulations. Hitherto no distinction has been drawn between these agents and those which exert a chemical influence on organic matter; and hence two sets of agents exerting most different physiological effects were confounded. If the urine secreted under the influence of the diuretics I have enumerated, be examined, the quantity of solids will never be found to much exceed the normal quantity; nay, sometimes they will even be in smaller quantity than in health, in consequence of their in some instances acting as irritants to the kidneys, and by producing congestion, interferes with active secretion.

Remedies, then, which exert no chemical action on organic matter out of the body, appear to be incapable of augmenting the quantity of solids in the urine, and hence are only of use in increasing the elimination of water; they may, and do act as renal hydragogues, but not as renal depurants.

We have next to notice those remedies among the reputed diuretics which exert the influence I have alluded to, and according to my own observation, increase the metamorphoses of tissue, and act as depurating agents: this class includes the alkalis, their carbonates and their salts, with such acids as in the animal economy are capable of being converted into carbonic acid, including the acetates, tartrates, citrates of soda and potass. These remedies all act alike, they all actively stimulate the excreting function of the kidneys, and increase the bulk of the urine; but they do more, they actually increase the metamorphoses of tissue by, in all probability, a direct chemical action on the elements of worn-out and exhausted tissues, or other matter in the capillary laboratory of the body. It is well known that alkalis and their carbonates powerfully dissolve albumen out of the body, and even break it up into various secondary bodies. thus, digested with an alkali albumen yields leucine, protid, and erythro-protid, bodies allied to gelatine, formic acid, and other compounds. In like manner casein is broken up into tyrocin, leucine, valerianic acid, and other elements. From such change occurring in the body, and in the living body, and in the living organism itself, we find the chemical diuretics easily affecting important changes. This I have repeatedly confirmed by absolute experiment. I will adduce but one, as it may be taken as an example of the rest. A young lady is now, and has been for some time under my care, labouring, among other things, under a condition of the orifice of the ureters which prevents her passing water without the aid of a catheter, so as to admit of a very accurate examination of the quantity secreted in twenty-four hours. This, when no medicine was administered, was thus collected and examined; and then three drachms of acetate of

potass being administered in the course of twenty-four hours, the urine secreted in that time was collected and analysed. The results are shewn in this table:—

	Without medicine*	After ℥ij pot. acet.
Quantity of urine in twenty-four hours.....	f ℥xvj	f ℥xlvi.
Specific gravity of,	1.025	1.017
Solids in	416 grs	782 grs.
Uric acid	2.6	3.45
Urea.....	130.5	202.40
Soluble salts	72.0	248.20
Insoluble salts	21.6	32.20
Organic matters not included in the above }	189.3	295.50
	416	782

The results of these analyses shew, that, after deducting the excess in the amount of soluble salts arising from the conversion of acetate of potash into the carbonate, the solids of the urine excreted under the influence of the chemical diuretic, exceed those recovered without its aid, by 190 grains: and we further learn, that although a large proportion of matter was metamorphosed into both uric and urea when the remedy was given, still that the greatest increase was in that mixture of organic products set down as extractive, and consisting chiefly of creatine, creatinine, uroxanthin, and matter rich in sulphur. In the example adduced, not only did the patient lose an excess of thirty ounces of water in twenty-four hours, but she *wasted* to the extent of one hundred and ninety grains more than if no remedy had been given, and to this extent had the blood been depurated of those elements which yielded easiest to the influence of alkaline salts. In these lectures I have advanced much which tends to limit the influence of the vital force, and have endeavoured to show that it is not the active agent in controlling metamorphic changes; but let me not be supposed for a moment to deny its influence.

I regard life as an active agent in controlling organization, and in exerting an influence opposed to chemical or destructive changes—in a word, as a *conservative agent*. Now, admitting the elements of our frames resist chemical influence in the ratio of their vitality, it would follow that such constituents of our fibres as present the greatest departure from health, are less highly vitalized and thus yield the easiest to the chemical force exerted by the alkaline diuretics. On this account it is fair to presume that, when we cause an alkaline carbonate to circulate through the blood, it exerts an influence on the nascent elements of those matters less highly influenced by life, allied to those produced out of the body, and actually causes the matter to assume so soluble a form as to allow of its ready excretion. This remarkable effect of the alkaline diuretics, although now for the first time demonstrated by actual experiment, and the results of their chemical influence detected in the stream by which they are washed from the body, was not overlooked by the observing physicians of other days.*

I would earnestly beg those who are now doing me the honour of listening to my remarks, to give a careful and steady trial to the *depurating or chemical diuretics*, especially the salts of potass with vegetable acids, when they are called upon to treat a chronic affection in which the exciting cause or existing disease, depends upon the presence of some product of less vitality or imperfect organi-

* In the next number of the Journal we shall refer to Mr. Simon's observations on this important subject.—Ed.

zation. I fully believe that in many instances such matters will be often found to yield, whether they present themselves as albuminous deposits in glands, furuncular diseased cellular tissue, or incrustations on the skin, as in some of the squamous and tubercular cutaneous diseases. That they will succeed in increasing the waste of matter, is, from my observations, beyond all doubt; that the lowest vitalized matters will yield to the solvent the readiest is most probable and that an important and powerful addition to our supply of therapeutic weapons is certain.

I will not dare to do more than state that it has occurred to me to see the periodicity of ague broken through, the paroxysms lessened and made more distinct, and the sallow, dirty aspect of malaria exchanged for the clearer and brighter complexion of returning health, under the influence of the agents I am advocating. The disease has thus been rendered readily amenable to the subsequent administration of the anti-periodic whose previous influence it had resisted, or, at least, not satisfactorily obeyed. Jaundice, connected with a large sluggish congested liver, has certainly better yielded to setting up a complementary function on the part of the kidneys by a diuretic alterant, than by goading the liver with remedies whose influence it refused to obey; and in more than single instance a strumously enlarged cervical gland has yielded to the persistent use of an analogous remedy even after resisting the iodide of potassium.

In corroboration, to some extent, of the views I have announced, I would particularly draw attention to the extraordinary discovery made by Dr. Letheby, and announced by him last year at the Royal Medico-Chirurgical Society. This gentleman discovered that arsenious acid, when administered to an animal, ceased under the influence of an active diuretic to develop its poisonous effects, being rapidly carried off by the kidneys. The high and deserved reputation of Dr. Letheby invests this most unexpected and remarkable observation with authority and if corroborated by the experience of others, it must be regarded as one of the most marvellous facts connected with therapeutical inquiries.

I would impress upon those who will now act on my suggestion of employing alkaline acetates, tartrates, or citrates, as remedies for the depuration of the blood, or for aiding the solution of lowly organized or cacoplastic deposits, the necessity of testing the work done by the kidneys, by collecting the urine of twenty-four hours several times during the treatment; and then, by aid of the specific gravity, and the table I have given, the amount of excreted solids indicating so much metamorphosis of matter may be observed.

I have not alluded to the influence of benzoic and cinnamic acids as depurating remedies, because I have in an early lecture alluded to their mode of action. I may remark, however, that their efficacy is by no means limited to the quantity of carbon, hydrogen, nitrogen, and oxygen, they separate in the form of hippuric acid, as first pointed out by Mr. Ure, but I find that they induce an increased metamorphosis of tissue, and the quantity of matters included under the vague term of extractive, remarkably increases during the administration of benzoic acid. I may now be permitted to express the statements I advanced in this lecture in the form of five propositions:—

A. That a knowledge of the amount of solids escaping from the body in the urine will, independently even of their chemical composition, often enable us to detect a deficient function of the kidneys, although the bulk of the secretion may not be materially affected. This can only be ascertained by the plan now proposed.

B. That whilst *specific diuretics*, as a rule, only increase the exhalation of water from the renal capillaries, the alkaline salts, (*chemical or alterative diuretics*,) on the other hand, when coming in contact, in the capillary circulation, with the nascent elements of tissues or parts of low vitality, remarkably accelerate their metamorphosis and subsequent solution in the blood.

C. That in certain diseases attended by cacoplastic or even saline deposits, before despairing of all aid from medicine, it would be well to affect their removal by the agents in question.

D. That in the treatment of disease, this question ought often to be entertained, whether ailment is not excited, kept up, or aggravated, by an unhealthy condition of the blood, either by the actual existence of a *materies morbi*, or the presence of the results of mal-assimilation.

E. That when one or other indications be made out, great benefit may be often derived by aiding the metamorphosis and solution of the morbid elements by the chemical diuretics (B), not administered with the view of separating mere water, but of aiding the excretion of solid elements of the urine.

THE RELATION OF THE URINE TO THE FOOD AND THE SYSTEM.

By Bence Jones, F.R.S.

Any organ that is used must be repaired, and the substance that has been used must be removed. Take the muscles for example; the muscles consist of water, salts, non-nitrogenous fat, and a highly compound arrangement of carbon, hydrogen, nitrogen, oxygen, sulphur, and phosphorus. Carbonic acid, ammonia, water, sulphates, and phosphates are the last products of muscular action, and of the action of oxygen on the muscles. The intervening products, probably, are innumerable; as kreatin, kreatinine, uric acid, urea, choleic acid. Some of the products are thrown out of the body by the lungs, others by the kidneys. If the removal of some of these products by the lungs is stopped, the circulation through the lungs ceases in two minutes; the functions of the heart and brain are arrested, and from the mechanical stoppage in the lungs, death ensues. If their removal by the kidneys is stopped, in two days the patient is poisoned; the nerves and muscles are affected by the poison, and chemical death ensues. "If the beef-steaks (the muscles of an ox) are given to one who has taken strong exercise, and is in perfect health, they are dissolved, and pass into the blood, and their chief use is to repair the muscles and nerves, not to form uric acid and urea, the constituents of the urine. The waste of the muscles, and other organs, passes off in the urine, whilst the food nourishes the wasting organs. Such I conceive to be the clearest ideas I can give you of the relation of the urine to the system, and to the food; and, theoretically, I consider this is the true healthy relation, and perhaps, in a state of full bodily labour, when enough food, and no more than enough, is taken, this may be the only relation: but provision has been made for too little labour and for too much food. If too much food is constantly taken, and too little exercise, plethora and hemorrhage must take place, if some escape for the excess of food be not provided. You have seen that the phosphates, urates, and sulphates are generally increased in the urine after food has been taken. If more food is taken than is required for the wants of the system, the excess is thrown out by the same organs that remove the waste of the muscles and other structures. If even excess of water

alone is taken, the excess is thrown out partly, at least, by endosmotic laws not yet clearly applied. How the quantity of substances to be thrown out is determined, I do not yet distinctly see."

The great agent in affecting these changes is oxygen. Of this there are many familiar proofs, as the production of carbonate of potash in the urine after the citrate of potash has been taken. "Very lately Professor H. Rose, of Berlin ('Phil. Mag.,' July, 1849) has made some most interesting experiments on the inorganic constituents of organic bodies, chiefly as regards their degree of oxidation. He divides the degrees of oxidation into fully oxidized, partially urine — The food, if it consists of wheat and other grain, contains organic substances, the inorganic constituents of which exist partly in an oxidized, partly in an unoxidized state. The flesh is a partially oxidized body; but the quantity of unoxidized matter in the blood is larger than in the flesh, and the quantity of fully oxidized matter is smaller in the blood than in the flesh. The urine is a perfect and fully oxidized substance. The inorganic constituents of the urine are as highly oxidized as it is possible for them to be."—*London Journal of Med. Science.*

PATHOLOGY OF PHTHISIS.—ON ELASTIC FIBRES FOUND IN THE SPUTA OF PHTHISIS.

By Professor Shrader Van der Kolk.

The learned Utrecht Professor, so well known for his researches into the structure of the lungs, declares that the microscope offers an infallible means of detecting the existence of cavities, by exhibiting in the sputa the presence of the *elastic fibres* which surround the cells of the lungs; and this the more certainly, as the cavity is in an early stage of formation, consequently, at the very period when such a sign, if to be depended upon, is most wanted. They can be examined under a magnifying power of two hundred. They are of an arched form, very thin, with sharp borders, and are sometimes covered with fat, which is removable by ether. They must not be mistaken for a species of *conferva*, which very rapidly appears in the expectoration, especially when this contains fat, but which is recognizable by its ramifications terminating in tumefied cells.—*Brit. & For. Med. Chir. Review, Jan'y, 1851.*

SURGERY.

DR. CHEVERS, ON CAUSES OF DEATH AFTER INJURIES.

It is almost impossible to have been long in the habit of paying close attention to the pathological examinations in one of our large metropolitan hospitals, without observing that a very great proportion of those who die from the secondary effects of mechanical injuries have been the subjects of marked, and often very acute, form of renal, hepatic, or splenic disease or of the whole of these combined. For the purpose of confirming the observations which I have made at Guy's Hospital for several years past, I carefully examined the accounts of all the cases where death occurred from the *secondary* effects of operations and mechanical injuries of every description, which have been entered in the post-mortem Register of the Museum during the last fifteen years,* comprising the whole of the cases in which examination of the bodies of patients so

* The period within which these occurred extended from the 19th of May, 1827, to the 19th of May, 1842.

Living could be procured during that period. The results are, I think, extremely interesting, and can scarcely fail to be regarded as of very great practical importance.

One hundred and fifty-three cases of the kind were obtained from that source. Many of the subjects of these reports had undergone severe operations, or suffered from extensive accidental injuries; others had been the subjects of wounds and contusions of an apparently very trivial kind: still, the internal inflammations which destroyed life in most of the latter cases were generally as severe as those which proved fatal in the former instances, and frequently more so. In these 153 cases death took place from—

Inflammation from secreting surfaces or internal organs (excluding the kidneys, liver, and spleen) in	134 cases
In the remaining 19, the patients died from other causes; such as tetanus, sloughing, hæmorrhage, suppuration, gangrene, erysipelas, diarrhœa, and the total deficiency of reparative action in the wound: and in one of these cases the precise cause of death could not be discovered	19 "
	153 "

In but a small proportion of the above 134 cases (in which the injuries or operations were followed by the occurrence of fatal internal lesions) were the inflammatory affections found to be confined to a single organ or secreting surface; but it was generally noticed that several important parts, and these often at a considerable distance from each other and from the seat of the primary injury, had become equally involved.*

The following is a list of the various recent inflammatory lesions which were found to have occurred in the above 134 cases †:—

Acute disease of the substance of the lungs, appearing in the form of inflammatory œdema, red or grey hepatization, abscess, or gangrene, was noticed in	47 cases
Bronchitis alone	2 "
Pleuritis	35 "
Laryngitis and diphtheritis	2 "

* It may here be inquired, were not the inflammatory attacks, in some of these cases, the necessary results of the injuries which the patients had received? In a certain proportion, this may have been the case. In about thirteen of the above instances, the nature of the injuries was such, that it was evident that the patients could have no fair chance of recovery: in the whole of the others it appeared that there was nothing to render the patient's restoration impossible, had not severe inflammation or some other unfavourable change intervened. It is not usually to be supposed, in cases of simple fracture of the skull, fracture of the ribs, and operations for hernia, that arachnitis, general pleurisy, and peritonitis, will necessarily follow: these are results which must commonly be referred to some error in the patients' constitution. Again, in giving cases of laceration of the brain, and wound of an intestine, the injuries may in themselves be necessarily mortal; but where, after the patient's death, pneumonia is found to have been set up in the first case, and pleurisy in the second, we have just grounds for inquiring whether some previous fault in the constitution has not caused these lesions to be superadded to those which would naturally result as the immediate local effects of the injuries.

† It will be observed, that this Table merely denotes the number of times particular inflammations were found to have occurred, and have no reference to the total number of cases. Thus phlebitis is stated to have appeared in three cases, and arteritis in four; but there were, altogether, only six cases of vascular disease; in three of which there was arteritis, in two phlebitis, and in one arteritis and phlebitis combined.

Meningitis	27	cases.
Inflammation, softening or abscess of the brain	9	"
Pericarditis	14	"
Peritonitis.....	52	"
Arteritis and aortitis.....	4	"
Phlebitis	3	"
Inflammation of various portions of the intestinal canal (excluding cases of hernia).....	9	"
Suppuration in the substance of the Psoæ muscles	2	"
Acute purulent synovitis	1	"
Inflammation of the tunica vaginalis	1	"
Cystitis	8	"
With regard to the state of the kidneys, liver, and spleen, I found that		
The kidneys were observed to be in a state of marked disease, either presenting remarkable congestion, softening, mot- tling, or the granular or cystiform alterations in.....	72	"
The appearances of the kidneys were not mentioned (usually from the autopsy having been only partial) in.....	44	"
These organs were stated to be without any apparent disease in	26	"
The condition of the kidneys was doubtful in.....	11	"

Of the above case, in which the kidneys were either not examined, found healthy, or considered in a doubtful state, there was a marked disease of the liver or spleen, or of both these organs, in 21 cases—giving a total of 93 cases, in which one or more of these important organs was found in a state of lesion.*

It was observed, that of the 134 cases in which the patients died of internal inflammations, there was also superadded marked disease of the kidneys, liver, or spleen, or of all these organs combined, in 90 †

In a rather large proportion of these cases, the disease of the liver, spleen, and kidneys had evidently existed for a very considerable time previous to the patients receiving the wounds or injuries which became the apparent primary causes of death: but in very many (and this was especially observable in the renal cases) the changes were evidently of so recent a nature, as to render it probable that almost immediately after the operations or accidents, either visceral disease had been excited from a latent to an active condition, or that a state of acute congestion had suddenly been established in organs which had hitherto been suffering merely from chronic degeneration.

One of my principal objects in submitting these remarks to the profession has been, to call the attention of surgeons to the very great frequency of disease of the three last-mentioned viscera, and of the kidneys more especially, in those who perish from the secondary effects of operations and injuries. I have long

* From the character of the symptoms and the nature of the inflammatory lesion of which many of the patients died, I am convinced that renal diseases would have been discovered in a considerable number of those cases in which the state of the kidneys was not observed, had those organs been examined after death.

† While in taking notes of the above cases, from the Post-mortem Registers, I met with the following observation by Dr. Hodgkin, appended to the case of a man who sunk of lithotomy, about fourteen years ago, and in whom mottling of the kidneys was discovered after death;—"This condition of the kidneys was also noticed in another patient who died after the operation of lithotomy, and in others who have sunk after operations and injuries."

been perfectly convinced, not only that the greater proportion of deaths after wounds, in our metropolitan hospitals, result from the effects of disease in these organs, called into activity by the accidents which the patients have undergone, but also, that any operation or wound, however trifling, will be extremely liable to prove fatal in persons whose kidneys are in any degree suffering from acute congestion, or from any condition at all approaching to that state: and although my data are less complete upon this point, I believe that the same observation will hold good with regard to those who are the subjects of active, splenic, or hepatic disease.

My attention was first drawn to the above fact by observing that the morbid character presented by the serous membranes and other structures, together with the appearances of the effused fluids &c., in those who died of acute internal inflammatory attacks consequent upon operations or injuries, (especially where the primary wounds were at a distance from the parts afterwards involved,) almost invariably bore a precise resemblance to those which so characteristically distinguish the inflammatory affections of the same parts which are known to result from Bright's disease of the kidney;—and, where this has been the case, I have seldom failed to discover that there has existed, at the time of the patient's death, some form of disease of the kidneys sufficiently intense to have interfered greatly with the proper action of those glands, and thereby to have been capable of setting up a disposition to the occurrence of fatal mischief in the serous membranes or in other important structures.*

I would be departing too much from the practical intention of these remarks to enter into an extended investigation with regard to the precise manner in which a wound of some distant part of the body—by producing an increase of diseased action in kidneys already suffering from a great predisposition to vascular lesion—is eventually followed by inflammatory affections of various serous, mucous, and other structures. It may probably be sufficient to state, that the occurrence of such a train of actions can often be traced with the utmost precision; but there can be no doubt, that the state of general vascular excitement which succeeds most operations and accidents is extremely liable (by giving rise to additional congestion in kidneys already in a diseased or failing condition) so completely to interfere with their powers of secretion, as to induce the destructive effects which invariably result from unrelieved suppression of urine, and the consequent accumulation of urea in the blood;—that is to say, where the secretion is suddenly and completely checked, œdema of the lungs and cerebral effusion—where it is more slowly and partially suppressed, serous inflammations and effusions, and other extensive organic lesions.

There can be little doubt that structural diseases of the liver and spleen are also liable to become aggravated by the vascular excitement consequent upon wounds or other injuries to the surface of the body, and (in consequence of this farther derangement) to give rise to morbid effusions in other parts. The influence which organic diseases of the liver has in producing unhealthy actions in various structures, the serous membranes more especially, has long been recognized. Whether structural disorder of the spleen can by itself, effect similar injurious results, is a point less easy to decide: but it is certain, that some severe

* Dr. Bright has remarked, that "where the secretion of the kidneys is greatly deranged, the serous membranes seem always ready to become the seat of inflammatory action."

forms of local inflammation are almost invariably attended by remarkable disease of this organ: among these may be mentioned asthenic anthrax, and erysipelas.*

I have already, in an early part of these remarks, given a sketch of the class of persons who appear most liable to sink under extensive internal inflammatory affections in consequence of slight accidental injuries—and operations, in themselves, of a safe and ordinary kind. It is merely necessary to repeat, that, although in a great many instances in the prime of life, and to all appearance of robust and vigorous constitutions, their vital powers have generally been undermined by various kinds of intemperance and neglect, and the principal abdominal viscera have long been subject to some of the derangements upon which I have already dwelt. In this way, their powers of reparation after injury have become almost entirely destroyed, and they are thereby rendered wholly unfit to endure the trying effects which any operation or violence necessarily produces in the system.

With regard to inflammatory affections which arise in various parts, as the sequelæ of comparatively trivial and superficial wounds, in these unhealthy subjects, it may be stated, that, in their mode of attack, in their symptoms, and in the peculiar characters of the morbid appearances which are discoverable after death, they appear, for the most part, to be perfectly identical with those fatal inflammations of various structures which so frequently attack patients who are known to be suffering from certain forms of *Morbus Brighti*; and I feel assured that a large proportion of the traumatic cases differ from the above class of idiopathic ones, solely in the difference of the immediately-exciting cause which brings them into play.

I must therefore repeat, that it is probable neither to the severity of the operation or injury, nor to the irritation which it creates in the nervous system; to the effects of bad ventilation, or of long confinement; nor, in fact, to the action of any other general cause, that we are principally to ascribe the predisposition of this class of patients to the fatal lesions under consideration; but rather to influences of a diseased state of their abdominal organs, to which their previous habits of life have long been subjecting them. It is highly probable that in most of the individuals who thus perish, even if they had never become the subject of any wound or injury, some other vicissitude would, by bringing the renal hepatic mischief into active operation, have equally determined the occurrence of fatal cerebral, thoracic, or abdominal inflammations.†

* It often, but by no means invariably appears that fatal results are promoted by the patient's catching cold during the period of restless excitement which follows severe injuries: this, doubtless, also assists in calling renal diseases into activity, where the kidneys have been previously liable to disorder; and may then, in some measure, aid in determining the occurrence of pulmonary or other inflammations. But still, it is certain that many fatal cases of thoracic inflammations, consequent upon injuries, occur, in which there is no satisfactory evidence of the patient having suffered from cold.

† It is not intended to be argued that operations or injuries will be certainly destructive to life, in every individual suffering from renal or other visceral diseases:—it is merely necessary to shew how slight a violence will often give rise to fatal mischief in cases of this description. I could cite other cases, in which small punctures, the passing of a catheter, the wound made in bleeding, blows upon fleshy parts of the body, the extraction of a tooth, were shortly followed by fatal results, in persons suffering from disease of the kidneys, &c. The last-mentioned case is a very remarkable one, and occurred in the hospital about two years since:—the patient, a girl eight years of age, had sloughing of the gum and cheek, after the extraction of the molar tooth, which continued until the facial artery ulcerated, and this accident happening in the night, the hemorrhage proved fatal. Upon examination after death, the kidneys were found enlarged and indurated, their tunics being closely adherent to the cortical surface. The liver was highly congested.

THERAPEUTICS.

DIFFUSE OPACITY OF THE CORNEA RESULTING FROM CORNEITIS TREATED BY STIMULANTS.

By Dr. Jacobs.

From the variety of stimulants used from time immemorial to remove opacities of the cornea, and the number of them extolled as infallible, it may be presumed that any stimulant will answer the purpose. Solutions of nitrate of silver, sulphate of copper, sulphate of zinc, or the combination called *lapis divinus*, will perhaps answer. I use a solution of iodide of potassium, ten grains to the one ounce of water; or, as a substitute for animal bile, said to be effectual, touch the surface with the camel-hair pencil previously dipped in water and brushed two or three times on soap. The fumes of prussic acid, so much vaunted as a quack remedy, I have not used, being dangerous and troublesome. If this nostrum has any influence at all, it is as any other stimulant.—*Brit. & For. Med. Chirurg. Review.*

In 1846, the late Dr. King of Barbadoes introduced the iodide of potassium into his hospital practice, and ever since that period it has been used most successfully both in the General Hospital, Barbadoes, and in the General Dispensary, Toronto.

INDIAN HEMP AS AN OXYTONIC.

By Dr. Simpson, Edinburgh.

Dr. Simpson stated, that, in the early part of the winter session, he had given Indian hemp (*Cannabis Indica*) in several cases of tedious labour, with the view of ascertaining if it possessed any oxytonic effect (like ergot of rye) in increasing and exciting parturient action of the uterus. He had been induced to try the effects, if any, of Indian hemp during labour, in consequence of Dr. Churchill stating that it possessed powers similar to those of ergot of rye in arresting hemorrhage, when dependant upon congested states of the *impregnated* uterus. In the few cases of labour in which it was tried, parturient action seemed to be very markedly and directly increased after the exhibition of the hemp; but far more extensive and careful experiments would be required, before a definite opinion could be arrived at relative to its possession of oxytonic powers, and their amount.—*Monthly Journal.*

APPLICATION OF COLD AS AN ANÆSTHETIC AGENT IN OPERATIONS FOR REMOVING WARTY EXCRESCENCES.

By Thomas W. Nunn, Esq., Surgeon to the Western Dispensary.

[Mr. Nunn says, that having taken advantage of the hint given by Dr. Arnott, he has been so satisfied with the result, that he considers it due to that gentleman to publish the following case. It occurred in a young married woman, who applied to the dispensary for the purpose of being relieved of a large accumulation of warty growths about the pudenda.]

The excrescences depended from the whole of the labia minora, and surrounded the clitoris so completely, that it was difficult to distinguish the meatus urinarius. Some of them were of considerable size—as large as a common fig—others were oblong, and were attached by a narrow pedicle. A great many small ones surrounded the orifice of the vagina. She also suffered from leucorrhœal discharge. No other symptoms of importance appeared. The excrescences were the cause of a great deal of suffering and inconvenience in a variety of ways.

Assisted by my friend Mr. Weston, I applied little wedge-shaped pieces of ice to the necks of the larger growths, till they became perfectly blanched and cold, and with a single stroke of a curved probe-pointed bistoury, removed several of the larger ones successively, without causing the patient any but slight pain.

I afterwards removed a very small growth without first applying ice. The result was, as might have been anticipated,—the patient found the pain insupportable.

I found it necessary to introduce a bougie into the urethra in order to indicate the position of the external orifice of that canal, so buried was it amongst the vegetations.

A great advantage obtained by the use of the ice, was the absence of hæmorrhage; it being hardly requisite to apply a sponge during the operation. I was thereby enabled to proceed without hindrance, and a clear view was obtained of the exact extent of each sweep of the bistoury.

No reaction in the least degree excessive followed the proceeding, the progress of the case being satisfactory.

It appears to me, that by the above simple plan we may often save our patients considerable suffering, without exposing them to the least extra risk,—which cannot be said of chloroform. It has been proved, on the one hand, over and over again, that if anæsthesia be not COMPLETE, there is the contingency of undesirable phenomena; while, on the other hand, if the anæsthesia be perfect, a greater chance of accident is incurred.

POSTSCRIPT.

Dr. Turquand's letter from Woodstock, is so satisfactory, that we regret it was not received sooner. Twelve out of the fifteen licensed practitioners of the county of Oxford, have expressed their decided concurrence in the proposed Bill of Incorporation. The meeting made also some important suggestions which shall be submitted to the proper quarter.

The Profession must act promptly, and for itself. The Lawyers in Parliament constituting one-half the representation, think nothing of consuming public time and money in their own defence, as witness the wrangling on Friday night about the employment of Queen's Counsel.

We beg to offer Dr. Clarke our thanks for the tabular return of the General Hospital, annexed; and take the liberty of suggesting to him the importance of a monthly abstract, with a few remarks on the peculiar type of prevailing diseases. We shall always most readily give insertion to information derived from our public institutions.

STATEMENT OF PATIENTS admitted into, and discharged from, the Toronto Hospital, from the 1st May, 1848, to 1st May, 1851.

Remaining in Hospital 1st May, 1848.	ADMISSIONS:			Total.
	From May 1st, 1848, to May 1st, 1849.	From May 1st, 1849, to May 1st, 1850.	From May 1st, 1850, to May 1st, 1851.	
37	691	811	898	2437
DISCHARGED:				
Cured.....	569	707	745	2021
Relieved.....	9	17	6	32
By request.....			36	36
Improper objects.....	1	6		7
Incurable.....	17	8	6	31
Died.....	82	85	80	247
	678	823	873	2374

Remaining in hospital 1st May, 1848	37
Admission from 1st May, 1848, to 1st May, 1851.....	2400
Total ...	2437
Remaining in hospital 1st May, 1851 ..	63
Total number discharged from 1st May, 1848, to 1st May, 1851	2374

BIRTH-PLACE OF PATIENTS:

England	184
Ireland.....	1989
Scotland	70
Wales	4
Canada.....	97
United States	27
Germany	1
West Indies	2
Total	2374

