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THE
UPPER CANADA JOURNAL

OF

Medical, Surgical, and Physical Sciences.

SEPTEMBER, 1852.

ORIGINAL COMMUNICATIONS.

ART. XVII.—*Case of Rheumatic Endocarditis, terminating in Gangrene of the Lower Limbs.* By J. O. KELLOGG.

Charles Buck, aged 16, residing in Brock, had enjoyed good health up to Dec., 1849, when, after exposure to cold and wet, he was seized with acute articular Rheumatism, affecting his ankles and extending to the knees and hips. The muscles of the back and cervical region were also affected, so that all movement was attended with severe pain. Palpitation and anxiety of the precordia. He was prescribed for by a Surgeon, and the urgent symptoms were relieved. The mercurial treatment, as near as I could learn, was resorted to, and, in five or six weeks, he was able to go about; and enjoyed tolerable good health up to November, 1850, when, after walking five or six miles, he experienced a second attack—palpitations, anxiety of the precordia, temporary blindness, and forgetfulness, and confusion of mind. I saw him first, Nov. 14, 1850; joints swollen, particularly the ankles; pain on motion intense, shifting to the knee and hip; expression of countenance dull and anxious; complexion sallow; pulse quick and small, but regular; tongue covered with a black thick coat; bowels loose; sleep disturbed, dreams and starts from his bed.

On applying the stethoscope over the region of the heart, a loud and distinct bellows murmur was heard accompanying the second sound.

℞ Hydr. Submur. grs. xli.
Pulv. Specac. Co. grs. xv.
ft. Pulv. vi.,—one every sixth hour.
Spr. Nit. Dulc. git. xxv every four hours.

Flannel shirts and drawers were ordered, and perfect rest.

Nov. 19.—Heard he was better. Gums slightly affected; swelling and pain less; sleeps better; discontinue powders and have

℞ Pot. Iodidi ℥ i.
Pot. Sub. Carb. ℥ i.
Tinct. Opii. ℥ i.
Vin. Sem. Colch. ℥ ii.
Aque ℥ vi.—A table spoon-full twice a day.

Did not see him until Nov. 24, when I was called in the night. Had been very restless; pain intense; wandering in mind; countenance sunken; incipient gangrene of the right lower extremity extending half way to the knee; bellows sound, on applying the stethoscope, as before, pulse 120, and weak; tongue clean at its edges and tips, and moist. Ordered warm camphorated spirits and flannel to the extremities; decoction of Anchovic flax and wine every three hours; opium in doses of from one to two grains every six hours, or oftener, if pain is not relieved, and sleep secured. He continued to grow worse. Gangrene extended to the body; and death supervened on the 28th. No post mortem examination could be obtained.

ART. XVIII.—*On the White Globules in Disease.* By J. BOVELL, M.D., Toronto.

It has long been an object with Physiologists, Pathologists and Chemists, to determine the specific and peculiar differences of the various elementary tissues or structures of the body, both in health and disease; and perhaps no investigation has been more earnestly entered into than which has so important a relation to the well being of the body, viz., the nature of Inflammation and its results. The formation and precise character of that common result of inflammation—Pus—has therefore engaged a great deal of attention and elaborate research for some years, and has lately been investigated through the improvements of modern science with a keenness which seems to promise satisfactory results. Each observer appears to have added something new to the previous stock of information, so that no one can lay claim to the chief result which appears likely to be arrived at from their combined observations.

The more we inquire of the Microscopist concerning the form and nature of the Pus Corpuscle, the more firmly convinced do we become in the opinion that it possesses no definite or distinctive marks sufficient to render it very easily recognizable from other floating bodies, and indeed, from its general history there is much that would induce us to attribute its formation rather to a degeneracy of formative force, than to any power in the system to set up a new secretion, or to any exaltation of the formative force; on the contrary, the behaviour of effusions and the changes which take place in them, are sufficient to induce the inquiry, whether the pus corpuscles is ever thrown off as such, or whether the change does not take place afterwards?

Perhaps few observers have paid greater attention to the subject than Professor Vogel and Mr. Paget, to whose investigations it is necessary to refer. But firstly let us review the changes which take place in exuded plasma. Vogel observes that "the fluid in blisters produced by burns, or the ordinary vesicants, (independently of minute flocculi, consisting of coagulated fibrin, pus-corpuscles, lymph-cells and epithelium cells) is clear, and sometimes of a yellowish green colour, communicates a blue tint to reddened litmus paper, and in addition to its principal constituent *albumen* contains a little fat extractive matters and the ordinary salts of the serum of the blood." In his chapter on "Dropsies," Vogel has with much reason, attempted to shew that the quantity of the exuded plasma is dependent on the condition of the class of vessels principally affected, for he asks, "Since the serous, and also the fibrinous fluids, take their origin from the blood, and are produced by the permeation of its fluid constituents through the walls of the vessels, how is it that in some cases we have one and in other, the other form of effusion?" In the present state of our knowledge, this question cannot be satisfactorily answered; there is, however, every probability that it admits of this solution:—That serous dropsy owes its origin to a permeation of the fluid of the blood through the walls of the veins, while fibrinous dropsy arises from a similar permeation through the walls of the capillary system.

In favour of this view may be urged, firstly, the different properties of the walls of these two divisions of the vascular system. The veins have thick walls, consisting of several layers of cells and fibres, while the walls of the capillaries are very thin and delicate. It is true, that we cannot accurately estimate the differences in their endosmotic properties, but from analogy (from all the experiments that have been made in this department,) we may conclude that the product of endosmosis, in the former case, is more dilute and poorer in solid constituents; and that in the latter, it is more concentrated and abundant in them. Secondly, as we have already shown that serous dropsy is associated with dilatation of the veins and attenuation of their walls, so we learn from microscopic examination of the capillary system, that a dilatation of those vessels and an attenuated condition of their walls, precedes, and is associated with the occurrence of the fibrinous fluid, either in the parenchyma of an organ, or in a cavity. The simultaneous occurrence of the effusion, and the modified condition of the vessels

is, however, so constant, that we may conclude with all the certainty possible in such cases, that the dilatation of the capillaries is the cause of the effusion. It naturally follows, that in the gradual transition of the capillaries into veins, there is no rigid limit between fibrinous and serous dropsy, and that one may easily merge into the other. Further, many causes producing a dilatation of the capillaries can likewise act in a similar manner on the veins; hence the two processes are very frequently associated together; and thus in the fluid of serous dropsy, we very often meet with small quantities of fibrin.

In serous dropsy, the causes of venous dilatation are frequently mechanical, and are, consequently, included in the department of pathological anatomy. Not so with fibrinous dropsy. Here the dilatation is dependant on dynamic causes, whose investigation would of necessity, lead us far into the department of nervous pathology. We should, moreover, be led to the consideration of many other phenomena, as for instance, the stoppage of the blood in the dilated capillaries, which will be considered in another place. I restrict myself, therefore, at present, to the mere statement that fibrinous dropsy is essentially dependant on the capillary system; that it is associated with, and for the most part arises from a dilatation of those vessels, and attenuation of their walls.

The consequence of this process, in relation to the pathology, as well as to the physiology of nutrition is so great that, in point of importance, there is scarcely any other that can be compared with it. All nutrition depends on an effusion of fibrinous fluid into the parenchyma of organs, and the transition from the normal state into a morbid condition is so imperceptible, as to render any line of rigid demarcation an impossibility. And as the process admits of being associated with many others, it has received a variety of appellations. Many portions of the process of inflammation, may be referred to it. *The so termed exudation, and the effusions of plastic lymph are nothing more than the result of this same process, and the general nutritive fluid* which we term, "exudation, or plastic lymph," is nothing more than the fibrinous fluid now under consideration. I have made this brief statement with the view of avoiding unnecessary repetition; I shall subsequently have occasion in many places to take up the thread, which I for the present drop, and pursue it further.

Thus all observers are agreed as to the fact of there being an exudation of plasma from the walls of vessels, and there seems to be a now pretty uniform agreement as to the character of the material which is so deposited, and I believe that it will be universally admitted that in every instance the primary effusion does not partake of the character of pus, but that on the contrary, the peculiarities of that fluid are stamped upon it sometime after it has been poured out, as has been shewn on sufficient testimony. Those bodies which, under the microscope, present the same physical characteristics as the pus-corpuscle are present, but observation, both microscopical and chemical equally, prove that those changes which take place in a fluid and constitute "pus laudabile bonum," are gradual and manifest in the fluid itself, and are brought about, hastened or retarded to a great extent by external circumstances.

We shall endeavour to shew from the writings of Dr. Addison, Senr., Professor H. Bennett, Mr. Pirrie, and Mr. Paget, the nature and character of the exudation as well as the remarkable changes which take place in it.

It is stated by several observers that an increase of the white corpuscles of the blood is always noticed in the vessels of an inflamed part; but Mr. Bennett, and a few more recent experimentalists, have declared that their presence in increased numbers is not due to any local action, and that they are only in superabun-

dance when they so exist in the general mass of the blood. We believe that there is much truth on both sides of the question; and, although we do not believe that the white corpuscles are generated in inflamed vessels or contiguous parts, yet we think that there is strong grounds for stating that, in consequence of the non-appropriation of the nutritive material by the tissues, the white corpuscles accumulate within, and exudation corpuscles are left unassimilated without the vessels. While within the white corpuscles, having a tendency to move more slowly along the sides of the vessels at all times, now move still more sluggishly; every pulse-wave bringing new accessions to the spot: and it is yet a question whether the formation of new cells does not go on within, from the non-appropriation of the plasma as takes place without the vessels in the form of exudation cells.

Mr. Carpenter, in his *Physiological Treatise*, remarks:—

Now the recent microscopic observations of Mr. Addison and Dr. Williams which were made independently of each other, have established the important fact that a great accumulation of white corpuscles takes place in the vessels of an inflamed part: this seems to be caused at first by a determination of those already existing in the circulating fluid towards the affected spot; but partly by an actual increase or generation of these bodies, which appear to have the power of very rapidly multiplying themselves.—The accumulation of white corpuscles may be easily seen, by applying irritants to the web of a frog's foot. Mr. Addison has noticed it, in the human subject, in blood drawn by the prick of a needle from an inflamed pimple, the base of a boil, the skin in scarlatina, &c. And the Author, without any knowledge of these observations, had remarked a very obvious difference between the proportions of white corpuscles, in blood drawn from a wound in the skin of a frog immediately upon the incision being made, and in that drawn a few minutes after, and had been led, like the observers just quoted, to refer this difference to a determination of white corpuscles to a part irritated. The absolute increase, sometimes to a very considerable amount, in the quantity of white corpuscles in the blood of an inflamed subject, has been verified by Mr. Gulliver and several other observers. These facts, therefore, afford strong ground for the belief, that the production of fibrin in the blood is closely connected with the facts previously urged, there scarcely appears to be a reasonable doubt, that the elaboration of fibrin is a consequence of this form of cell-life, and is, in fact, its express object.—This view derives farther confirmation from the following recent experiment of Mr. Addison's. "Provide six or eight slips of glass, such as are usually employed for mounting microscopical objects, and as many smaller pieces. Having drawn blood from a person with rheumatic fever, or any other inflammatory disease, place a drop of the colourless liquor sanguinis, before it fibrillates, on each of the large slips of glass; cover one immediately with one of the smaller slips, and the others one after another at intervals of thirty or forty seconds: then, on examining them by the microscope, the first will exhibit a small loss blood corpuscles in various conditions, and numerous white molecules distributed through a more or less copious fibrous network; and the last will be a tough, coherent, and very elastic membrane, which cannot be broken to pieces nor dissolved into smaller fragments, however roughly or strongly the two pieces of glass be made to rub against each other. This is a 'glaring instance' of a compact, tough, elastic, colourless, and fibrous tissue, forming from the colourless elements of the blood; and the several stages of its formation may be actually seen and determined.

We gather from these observations, and from those of others, that there is an increase of the white corpuscles of blood in inflamed parts, as well as in the mass of blood; and it also appears that their accumulation, within and without the vessels, is due to a failure

in the "assimilative force" of the part. The material is there for use, but is not taken up. If we may use a common metaphor, the bricks and mortar are lying in an heap, but they are not set in their place. That Mr. Addison's opinion of their increase at the base of boils and pimples is true, numerous facts testify; and I have in my own upper lip, and have seen the same in the cheeks of others, permanent little tumors left as the result of an "inflamed pimple;" and there are many facts in Pathology to show that large growths may thus arise from exudation in a part.

Mr. Paget's observations coincide with those of Mr. Addison, although the former has given a much more elaborate account of the circumstances under which the increase takes place as well as those which seem to modify, and in a degree controul, the *varities* in the character of the exudation; while, therefore, we may properly dissent from the doctrine that "there is an increase of the white corpuscles by immediate influence of the part," there is every reason to agree with those who state such local increase, both within and without the vessels of the part, from a waste or non-appropriation of the nutritive plasma. The results of inflammation as noticed on free surfaces may help us to understand many points otherwise difficult to be understood, as they are more readily watched and their character detected. Both Mr. Paget and Dr. Hughes Bennett consider mucus as a product of inflammation: and, if the statement be kept within certain limits, we believe it to be correct. On the mucous membrane, as on the skin, there is every provision for a rapid and abundant production of the epithelial covering; and under slight degrees of irritation we see the developement of those cells arrested, and thrown off in a larger quantity of "liquor" of the part. We therefore find in erysipelas, scarlatina, and measles a large quantity of colourless cells, equally abundant as in the more limited case of disturbed nutrition pointed out by Mr. Addison. But Mr. Paget's remarks are very valuable in another point of view; for, unless we are prepared to admit that the process of inflammation is capable, *per se*, of generating new products, it is evident that we must accept the only other interpretation of the phenomena—that a morbid and peculiar condition of the blood is as essential as the influence exerted by the tissue in which the inflammation is developed. We thus notice one fact of importance to the present inquiry, viz.: that there is an increased amount of cell growth; that that all growth in its earliest life possesses a uniformity of character, however much in its later periods it may differ in chemical and certain other super-added physical appearances. The Reviewer of Mr. Paget's work on Reproduction and Repair says:—

* The fibrinous plasma, or coagulable lymph, which is effused into wounds as their proper reparative material, does not seem to differ in any essential characters from that

which is poured out on the surface of serous membrane. Its distinctive vital endowment is its tendency to spontaneous development into a fibrous tissue; but this, according to Mr. Paget, may take place in two modes. For the plastic material which is produced for the repair of open wounds, generally develops itself, in the first instance, into cells, from which the fibrous tissue is formed by a subsequent metamorphosis; whilst that which is poured out for the healing of subcutaneous wounds, as generally develops itself into fibrous tissue by the fibrillation of the blastema, in which nuclei are present, but no cells. "Both these," remarks Mr. Paget, "are repetition of natural modes of development of the same forms of tissue. In the embryo and fetus you may trace very well the development of subcutaneous cellular tissue through nucleated cells, and that of tendons and other formed fibro-cellular or fibrous tissues through nucleated blastema." It need not appear an objection to this statement, that there should be two modes of developments for the same tissue; for this is seen in the case of the blood-corpuscles, as explained in Mr. Paget's former case; and it is now well known to be the case also in the production of bone.

"The development of the fibro-cellular or connective substance through the medium of cells, may be observed in the material of granulations, or in a wound healing by primary adhesion, as well as in inflammatory adhesions. The cells, at first, bear a close resemblance to the colourless corpuscles of the blood; but they gradually elongate, and attenuate themselves into the filamentous form. It was stated by Schwann that such cells metamorphose themselves into *fasculi* of fibres, but Mr. Paget has not seen a single cell for more than a single filament; the long filaments, indeed, being formed of two or more cells, attached end to end. The nuclei seem to take the initiative in this metamorphosis, becoming oval even before the cell does; in other cases, however, the cell seems to take on the reproduction instead of the metamorphic action, in which, also, nuclei are the prime agents.—large compound cells being frequently met with in granulations, containing eight, ten, or more nuclei, pretty evidently derived from the subdivision of the original nucleus, and destined to be developed into new cells. Mr. Paget has not been able to trace the further development of the nuclei of the filamentous cells into fibres of elastic tissue (as described by Henle) in the tissue of granulating wounds or inflammatory exudations, the nuclei appearing rather to waste and be absorbed.

"On the other hand, the development of fibrous tissue through nucleated blastema is observed in the material poured out for the reparation of subcutaneous wounds. The following is Mr. Paget's account of the process, as traced by him in the reunion of divided tendons:—

"When the first effusion of the products of the inflammation, excited by the violence of the wound is completed, then a quantity of finely molecular or dimly-shaded substance, like homogenous or dotted fibrine, begins to appear in the space in which the bond of union is to be formed. The substance is infiltrated in the tissue that collapses into the space between the retracted ends of the tendon. At first there is no appearance of nuclei or cytoblasts in it; it seems to be merely a blastema of fibrine; but as it acquires firmness and distinctness the nuclei appear in it, they seem to form out of collecting clusters of granules, and presently appear as oval bodies, with dark hard outlines, soon becoming elongated, with clear contents, without nuclei, irregularly scattered, but so firmly imbedded in the blastema that, in general, they cannot be dislodged. They may be seen in very fine fragments without reagents; but, commonly, the application of acetic acid is necessary to make them distinct, by making the intermediate substance transparent while the nuclei themselves acquire dark edges and shrivel up a little. The nuclei undergo little change, while the blastema in which they are imbedded is acquiring more and more distinctly, the filamentous appearance, and then the filamentous structure,—only they appear to elongate, and to attenuate themselves, and to grow more irregular in their outlines as it by shrivelling.

"The blastema may become at length perfect fibro-cellular or fibrous tissue,—though not to be distinguished from that found in normal conditions. The final disposal of the nuclei is doubtless sometimes, as Henle describes it, that they are developed into the nucleus-fibres, and constitute some of the various forms in which elastic yellow tissue is found mingled with the proper white filaments. But, in the process of repair by tissue thus developed, as well as by that which is formed through cells, my impression is that the nuclei finally shrivel,—gradually contracting into little crooked or branched lines,—and at length disappearing: for, as I have already said, well-formed nucleus-fibres, or, such elastic yellow fibres as might be developed from them, do not generally

occur in cicatrices of recent formation, or in the large bonds of union by which divided tendons are healed." (Lecture ii, p. 1071.)

Now this description as closely corresponds with Hente's account of the mode in which the fibrous tissues are at first formed, as did the preceding account of their production by the metamorphosis cells with that of Schwann; and Mr. Paget's observations thus go to prove that both these admirable anatomists are right in what they severally affirm, though both are wrong in conceiving the method witnessed by them to be the only one. For whilst the development of fibres in a nucleated blastema appears to be the regular mode of formation and reparation in the case of tendons and ligaments, that by the metamorphosis of cells appear to be equally characteristic of the formation and reparation of the subcutaneous areolar or fibro-cellular tissue.

"The formation of the cell-tissue appears to take place wherever inflammatory action participates in the reparative processes; "for of such cells, in various stages of development, are formed not only long suppurating granulations, but also the walls of abscesses, inflammatory infiltrations, producing succulence, induration, and thickenings of soft parts; and in the lymph produced in inflammation of serous membranes, which organizes itself into false membranes." In the early stage of the reparation of most wounds in warm-blooded animals, some indication of this process may be traced. But it speedily gives place, in subcutaneous wounds, to the other method, which we find to prevail in morbid processes in which there is no sign of inflammation; as, for example, in the growth of warts and condylomata, in the simple fibro-cellular tumours of the subcutaneous tissue, in nasal polypi, and in organizing clots of blood. We therefore seem justified in concluding, generally, "that inflammation ensues in the healing by adhesion and granulation; but does not exist in the healing of subcutaneous wounds."

"When it is seen that in inflammation of bone the lymph usually ossifies,—in those of ligament is converted into a tough ligamentous tissue,—and that, in general, lymph is organised into a tissue more or less corresponding with that from whose vessels it was derived,—it is usually concluded that this happens under what is called the assimilative influence of the tissues adjacent to the organised lymph. But it seems more probable that no such assimilative force is exercised after the effusion; rather, we may explain the facts by believing that the material formed in the inflammation of each part partakes from the first, in the properties of the natural products of that part; in properties which we know determine the mode of formation independently of any assimilative force.

"We have some evidence of this in the products of inflammation of secreting organs, the only structures of which we can well examine the natural products in their primary condition" (pp. 21-2.)

The mode in which the intensity of the inflammation affects the character of the effused lymph, may be likewise explained, by taking advantage of the admitted relation between secretion and nutrition, and applying our knowledge of the mode in which the former process is altered by inflammation, to the explanation of the phenomena of the latter.

"We may therefore believe that, in the inflammation of any part, the product will, from the first, have a measure of the peculiar properties of the material employed in the normal nutrition of the part: that, as in the inflammation of a secreting organ, some of the secretion may be mingled with the product of the inflammation, so in that of any other part, some of the natural plasma—i.e. some of the material that would be effused for the healthy nutrition of the part—may be mingled with the lymph. The measure of assimilation to the natural structure will bear an inverse proportion to the severity of the inflammatory process, because, the more the conditions of nutrition deviate from what is normal, the more will the material effused from the vessels deviate from the normal type. In the severest cases of inflammation we may believe that unmodified lymph is produced, the conditions of the due nutrition of the part being wholly suspended; but when the inflammation is not altogether dominant, its product will be not wholly contrary to the natural one, and will from the first, tend to manifest in its development some characters correspondent with those of the natural formations in the part. Thence, onwards, this correspondence will increase as the new tissue is itself nourished; as scars improve, so do false membranes and the like become more and more similar to natural tissues" (p. 22.

To be continued.

ART. XIX.—*Apparatus for making Extension in Fractures of the Lower Extremity of the Radius.* By PROF. BEAUMONT.

In our last issue we noticed Dr. Warren's favourable report of Professor Beaumont's very valuable apparatus; and in this number we have the pleasure of presenting our readers with a wood-cut, from the hands of Mr. Allison, which will, we trust, with Dr. B.'s remarks, be sufficiently explicit.—ED. U. C. J.

To the Editor of the Upper Canada Journal of Medicine.

SIR,—I beg to enclose you the sketch I so long ago promised of the apparatus for treating fractures of the radius, &c., an account of which was published in your Journal of last month. I beg to point out two typographical errors, (page 127) "Angles," for "Axles," and "Angle," for "Axle."

Your most obedient servant,
W. R. BEAUMONT.

September, 8th, 1852.

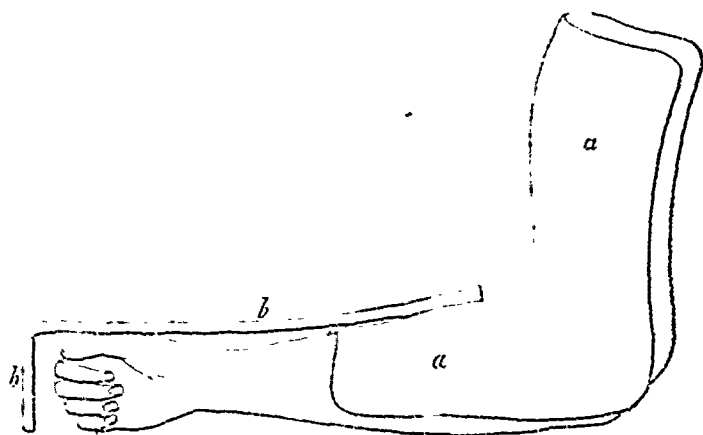
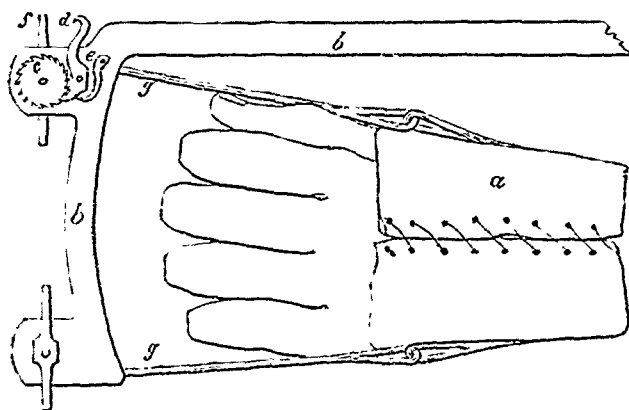


Figure 2.—Shows the hand midway between pronation and supination, the leather cap laced round the carpus and metacarpus, the cords attached to the cap and passing towards the axles to which they are also attached. The axles are hidden, but their axes correspond with the centre of the ratchet wheels. The catch and spring which prevent the ratchet wheel and axle from turning backward, are also seen, and the levers or cross handles attached to the axles.



- a. The leather cap.
- b. b. The iron bar (attached to the splint.)
- c. A ratchet wheel.
- d. The catch.
- e. The spring.
- f. The lever or cross handle by which the axle is turned, and extension gradually and permanently made.
- g. g. The cords attached to the cap and to the axles.

Review.

Climate of Italy in relation to Pulmonary Consumption, with Remarks on the Influence of Foreign Climates upon Invalids. T. H. BURGESS, M.D. LONGMAN, London.

It is most gratifying at all times to peruse a book written by a man of capacity, sincerity, and honesty—and certainly no subject could have been selected by an author better calculated to display in him the possession of all these qualities than that which furnishes the title of the work before us.

Anxious to satisfy himself as to the credit bestowed upon the climate of Italy and the south of France for consumptive and scrofulous patients, we find Dr. Burgess visiting every one of the localities so loudly and enthusiastically extolled, as capable of revivifying the dying pthysical patient; he inspects them without prejudice,—but he is resolved to denude the statue, to hazard no opinion without the support of positive data, seeing to believe and convinced, fearlessly to declare, that the fashion of sending away patients labouring under confirmed Pthisis to so great a distance from their home, their friends and their comforts, in search of a bubble, is not only a very great mistake, but absolutely a positive evil. He emphatically tells us, “that it is an agreeable climate and not an elevated temperature that is required for Phthisis, and unless that desideratum be obtained, the mere temperature will do little good.”

From time immemorial, consumption has been looked upon as the national malady of the English; it has been regarded with the most heart-sickening dread by parents; it has excited the most anxious attention and study of pathologists; it has been set down as *the disease* upon which medical art, now based upon science, can effect the least impression, to stay its fatal course. So also its genuine prototype, scrofula,—time was, when to have asserted that a delicate, clear-skinned and beautiful girl, was affected with scroula, would have been the signal of preparation for immediate dismissal from the council medical of a family, for having aspersed the fair fame, not only of the individual immediately interested, but also of the whole family. The idea of *King's Evil*, (the fashionable *ignis fatuus*) being in a child, who had never in her life, exhibited a mark or blemish on her surface, was too intolerable an insult to be borne, as well as an evidence of ignorance too palpable and gross to permit of any indulgence or countenance.

No wonder then that this empirical remedy in the form of change of climate should have been so generally adopted for these diseases which have baffled the efforts of the best informed physicians of all ages and all countries. But things are changed now-a-days—with the increased and increasing desire for information among all classes of society, with a heartier appreciation on the part of the laity, of the labours devoted by medical men to unravel the mysteries of nature, even when displayed in the shape of annual actions or disease, and with a responsive cheer of approbation for the wonderful increase of success in the treatment of disease, obtained by the latter as the fruits of their successful investigations, we find at the present period of the world's progress, that while parents or patients may listen with distress to the enunciations of their physician, that scrofula is present here, or the seeds of consumption are being developed there, they seek rather that grace which will enable them to run with patience the race that is set before them, and calmly submit to that dispensation of a beneficent Providence, which is so well calculated to teach them, that this world, with all its allurements, is not to be their abiding city. The author in his preface, says, that the influence of climate upon health and disease has of late years attracted considerable attention, and hence, instead of vague assertions or traditionary fame, authenticated facts and positive observations were essential in order to establish the sanitary character and influence of any given climate.

The first two chapters of the work before us, are occupied with general remarks on foreign climates, and most interesting accounts are given of Malta, the favored residence of our late loved Queen Adelaide, and Madeira, which tend to show how unfounded have been the hitherto published reports of the climate of these two localities. He then proceeds to comment on the nature and curability of Phthisis, he presents us, however, with no new views or different ideas on these topics from those universally entertained by educated medical men of the present day. The third chapter opens with a description of the route to Italy, through the South of France, examining the climates of Province, Aix, Montpeleir, Marseilles and Nice. After stating on the authority of Dr. Meryon, that the Niceans themselves have very little faith in the virtues of their lauded climate, their own bills of mortality exhibiting one-seventh of their deaths as arising from Phthisis, he thus concludes, "It were easy to multiply evidence of a similar kind to shew that the climate of Nice is one of the *last* to which a foreigner labouring under troublesome phthisis should resort," and "enough has been shewn, I think, respecting that climate to demonstrate, that one more favorable for consumptive patients might easily be found within the British Isles." So much for the vaunted climate of Nice. Passing by Geneva and its beautiful lake, he introduces

his reader to the Bains d'arve, baths built on a stream formed by the melted snows of Mont. Blanc and situated at one mile and a half from Geneva. He thus describes them, "Many are admirably suited for nervous or hypochondriacal patients, or for persons whose constitutions have been enfeebled by severe and long-continued mental labor. The water, as might be inferred from its peculiar source, is intensely cold in the summer months, when every thing else in the Valley of Geneva is very warm." Skirting along the shores of the Laggo Maggiore, he conducts us to the Lake Como, the climate of which he considers the most favorable for consumptive patients to be found in any part of Italy, from the great equability of its temperature and the more gradual changes of atmosphere. After furnishing data for the conclusion at which he arrives on this point, he thus closes his remarks on this beautiful spot, "I have only to say, in conclusion, for the benefit of the consumptive invalid who *will* blindly go to Italy for "the cure of his complaint," that there is no other part of that country, in my opinion, so well adapted for his summer residence as the Lake of Como—owing to the hygromatic condition of the atmosphere and the modification of the temperature, caused by the waters of the lake and the vicinity of the mountains, the climate possesses during the summer months, the mild influence allowed to exist in the usual winter stations. The advantage of this is obvious, for the main points required to constitute a really beneficial climate for the disease under consideration, are, as Mr. Carnin remarks, total absence of violent atmospheric agitation, and the continuation of the same climate through the transitions inseparable from the succession of the seasons."

Milan next comes under review with its celebrated "La Scala," its magnificent Duomo, and its splendid Museum of Brera, the half-way house in the great highway to and from the South of Italy by the Samplon. Its claims for consumptive patients, as regard climate is discussed,—showing from most satisfactory data that the consumptive invalid "should spend as few hours as possible within the walls of the capital of Lombardy." The remainder of the chapter is occupied with a very full and interesting account of that extraordinary endemic of the city, the Pellagra, or Italian Leprosy, a disease evidently quite as horrible to behold, and as productive of victories, as Cretinism is in the Cantons of Switzerland.

Passing in quick review the climates of Central Lombardy, we are led on to Venice, the Queen City of the Adriatic, built on piles in the midst of an immense lagoon or marsh;—a city not recommendable, certainly, to consumptive patients, in a curative point of view; but always a source of attention, from its many splendid curiosities in the shape of "gorgeous relics of former

greatness." The author gives a saddening picture of what he saw among the sight-seeing phthisical patients at Venice. I have repeatedly seen," says he, "patients positively moribund, conveyed about the city, sight-seeing, under the impression that constant change of scene was as necessary for their cure as change of atmosphere. Change of scene may, and does, produce good effects in nervous and dyspeptic invalids, or upon those exhausted by over-exertion, shock, or mental anxiety; but what benefits it can accomplish in patients with organic disease, like tubular consumption in an advanced stage, I am at a loss to conceive. The invalids themselves, or their advisers, however, seem to think otherwise; for, apparently, their sole object in view when visiting Venice, was to contemplate the works of Titian, the frescoes of Tintoretto and Paolo Veronese, the statues, palaces, temples, and mausoleums of Sansovino and Palladio, whereas they seemed as if utterly unconscious of the injury they were thus doing to their health, or their frail tenor of life, nevertheless the climate of this singular city possesses a certain mildness of character and equability, often unknown in some of the more southern parts of Italy, usually frequented by invalids. The mildness of its air is caused in a great measure by the moisture arising from the Lagunecier—modifying the temperature; farther, the equability of the climate is owing to a kind of balance existing between the warm and cold atmospheric influences, which again results from the distribution of prevailing winds. "Moreover, according to the chemical researches of Cenedella and Pisanello, the air of this city is impregnated with iodine and bromine, stated by these gentlemen to exist in abundance, not in the plants only, which grow in the lagunes, but to a certain extent in the water itself. There are two other contributors to be remarked in reference to the attractions of Venice, first, its immunity from dust, and secondly the gondola exercise,—the soothing and gentle motion of which is so particularly adapted to consumptive invalids. The following for Venice, will serve as an example of the pains taken by our author in collecting the best information with reference to the meteorological data, upon which his opinions are invariably based.

The following figures, collected by J. F. Schouw, from seventeen years' meteorological observations made by Dr. Fraversi, and published in the transactions of the *Athenæum* of Venice, will show the character of the temperature of the different seasons, its ranges and variations, and their influence upon the general condition of the atmosphere. The mean temperature of winter is 3.35, that of spring, 12.64, summer, 22.82, and autumn, 13.26. The annual mean is 13.26, the winter mean is undoubtedly low enough, but, compared with that of Padua, or of Milan it presents a favourable aspect, for the winter mean of Padua is only 2.80, and that of Milan is as low as 1.99. R It is, therefore, to be inferred that Venice is the warmest medical station on the Adriatic coast of northern Italy, and that the temperature rises as we approach the sea, and falls as we advance towards the foot of the Alps.

The minima of cold correspond with the preceding, for, whilst at Venice the mean is 2.5, that of Padua descends to 4.1, and that of Milan, 4.7. The absolute minimum of

Venice is only 6·9. The variations of temperature are especially deserving of notice, as furnishing the most certain indications in medical climatology. The variations of temperature between the mean maxima and minima at Venice, are on a much more limited scale than in the principal towns of northern Italy, and even than in some places in the south. Thus, for example, the variations in the winter season are only 11·9, whilst at Padua they are 13·5, at Milan, 13·7, at Pavia, 16·8, at Florence to 15·1, at Rome to 15·3, and finally at Palermo, the most southern station, to 15·4.

The difference in the preceding figures is so much the more in favour of the winter climate of Venice, that it consists in decisive quantities of 2, 3, and even 4 degrees, not merely in fractions. The spring, summer, and autumn seasons present similar advantages, the variations being nearly to the same extent in each season: thus, the spring gives 14·3, summer 14·1, and autumn 14·5; whence it results the transition from one to the other is effected without disturbance of the thermal condition of the atmosphere and almost with an appearance of equability of temperature. The transitions from autumn to winter, or from winter to spring, cannot be attended with abrupt violence, seeing the winter thermal variation, 11·9, is below the oscillation of temperature prevalent in spring and autumn. This favourable distribution of heat throughout the year places the Venetian climate, in this respect, before most other southern climates.

The hygrometric condition of the atmosphere, and the phenomena resulting therefrom, are not such as we might infer from a simple consideration of topography of the place. According to the researches of Schouw, the winter gave, as the result of seven years' observation, a mean of five and a half days of snow. Notwithstanding the humidity arising from the lagune and the sea, especially when the winds blow from that quarter, the hygrometer only presents a mean of 87. This is undoubtedly high, but we must not forget that there are maritime towns in southern Italy, frequented by invalids, which give a similar mean, although they are not built in the midst of water, nor flanked by a morass.

The fall of rain is not so great as might be expected, although there are occasionally several consecutive days of what the Scotch call "drizzle," and that not in the rainy season either. The annual rain present a mean of 933 millimetres, which is below the scale observed in several southern towns, and in the same series above mentioned, the rainy days were limited to a mean number of 75, than which the most favoured regions of southern Italy do not present a lower figure. The barometer shows, according to Dr. Traversi, a mean of 757 millimetres, indicating that the alternations from dry to damp air are not such as to give to one condition any great preponderance over the other; and the atmosphere, although humid, is not so much so as might be inferred from the peculiar nature of the topography. These apparent singularities are explained by the manner in which the north-east wind acts upon the Venetian atmosphere. Indeed, as Dr. Traversi remarks, in his *Observations on Climate*, meteorologists ought invariably to examine with attention the different circumstances which accompany this wind, while prevalent; for upon it depends, in great measure, the vicissitudes of the weather, and the particular character of the annual climate. When this wind blows over Venice it disperses the miasma, driving it out of the lagune, and favours the continuation of fine weather if it lasts any time.

He then sums up his remarks on the climate of Florence, shewing its destructive effects even during a temporary residence upon the health of foreign consumptive invalids. "Extreme cold in winter, great heat in summer, the prevalence of the northerly winds—the chilling effects of which are not neutralized by the antagonistic winds; rapid and violent transitions, profoundly affecting the system even in healthy persons; and combined with these violent atmospheric and thermal variations are also in similar proportions, hygrometric and electric ever-changing influences."

Pisa, from its alleged curative effects in consumption, is much visited, and we will allow our author to introduce his reader to it in his own words:—

But the dismal aspect of Pisa surpasses that of any other city or place in Italy, and is calculated to inspire the mind of the stranger with anything but cheering emotions.

Every object, animate or inanimate, within this melancholy town, seems stricken with decay or death. Although its population once numbered one hundred and twenty thousand souls, Pisa is now little more than a sepulchre. The solitude of its streets is such that many of them have echoes; and one might often ride round its walls without meeting a single person. Here and there the gaunt figure of some moribund invalid stands before the traveller, while viewing those few monumental relics of former greatness which Pisa still retains,—a dying foreigner vainly seeking, amidst these mouldering and silent walls, for some respite from a doom that is only hastened by the means taken to avert his fate.

If Pisa is not the "city of the dead," it is most assuredly the city of the dead alive; for who can walk through its streets, especially in the English quarter, without mourning over the traditional delusion which has enticed so many natives of England to seek a renewed lease of life in a foreign country, and find only an Italian grave.

Pisa is now, and has been for many years the great central depot, for foreign consumptive invalids, throughout Italy. The fame of its climate in cases of pulmonary consumption is universal, and quite equal to that of Rome. Yet, singular to relate, there is no other medical station in any part of the continent whose climate has been less carefully investigated by scientific men and concerning which there are fewer positive data derived from meteorological observation, than that of the far-famed Pisa. This seems the more strange, as Pisa has long been the seat, and, until very recently, of a university of considerable repute.

This climate is mainly indebted to tradition, and some vague unsupported statements, and random assertions, for its wide-spread renown. There is, however, one element in the composition of the Pisan climate pretty well ascertained, and admitted by writers of every shade, namely, that it is "horribly rainy." In fact, that rain forms one of the essential conditions of the climate.

The winter temperature of the invalids' quarter at Pisa is higher than that at Rome, yet Dr. B. shews that this warmth instead of being advantageous is positively injurious, owing to great atmospheric humidity and constant evaporation from the adjoining valleys, along the low swampy banks of the Arno and the collections of water scattered here and there over the Pisa plains.

The opinion of Dr. Burgess on the climate of Rome and Naples is thus summed up—that while the former, if mild, is sedative and depressing, and owing its mildness to malarious emanations, cannot prove sanative, particularly in a malady characterized by depression of the vital force and accompanied by vitiated nutrition—the latter is the most dangerous throughout Italy for persons suffering from affections of the respiratory organs.

Before concluding this lengthened synopsis of a work which we have great pleasure in recommending, because it is so extremely well written, so much calculated to enlighten the members of the Profession as well as the laity upon a subject which has hitherto not received from them that consideration to which it is so justly entitled, and containing inferences and directions based on the only sure data, namely, personal experience and vital statistics—we would take leave to correct one error, which has crept into his first Chapter, or "General Remarks on Foreign Climates;" but for which the author is not in the least responsible. Reference is made to a paper on the Canadian Climate which appeared in the Edinburgh Medical and Surgical Journal for May, 1844, by Dr.

Allen, and in which the following remarks occur:—"It is a certain fact that a scrofulous or consumptive patient is scarcely ever seen in Upper Canada in any shape. The excellence of this elevated region for persons of a scrofulous or consumptive constitution seems to depend on its pure, dry, tonic atmosphere and its entire freedom from marsh miasmata." We need scarcely appeal to any medical man in Canada, either West or East, as to the certain fact here enunciated. That it might have been applicable to Guelph (the locality in which the writer of these remarks resided in 1844) we are not prepared to deny or confirm; but it is our melancholy duty to protest in the most unqualified manner against the certainty of the declared facts in reference to every other portion of Canada. We remember some years since receiving the following pithy answer to a remark made by ourselves on the comparatively small number of cases of Phthisis which occurred among the French Canadians,—it was this: "They do not fall into Phthisis, because they generally die from Bronchitis or Pneumonia, either acute or chronic."

Correspondence.

LETTER ON THE NECESSITY FOR ESTABLISHING HEALTH OFFICES.

To the Editor of the Upper Canada Medical Journal.

TORONTO, September, 1852.

SIR,—I am perfectly aware of your rule, whereby you exclude all anonymous contributions. I send not the following pages that they may be "inserted," unless indeed you deem the matter worthy of an exception to your general rule, but to place at your disposal a subject of the greatest importance, not only to the Profession, but to the public generally.

I have the honour to be,
Yours &c. &c.,
ANON.

It is a wonderful thing that the entrance or exit of a fellow-being should be so little cared for by the living. Already Canada numbers nearly two millions of inhabitants, and has, scattered over her broad lands, numerous villages and towns, while here and there a city dots the space. But as yet no attempt has been made to estimate the increase of the population by the births, or the decrease

by the death of its inhabitants. Now and then we see recorded the number of deaths in a particular locality, but we may question the truth of the statement; for until every city and every country has its *health officer* we can have no just data to estimate the healthfulness of the climate of Canada.

Every birth ought to be registered in the Health Office, say in cities within one week—in counties the time might be extended to one month after its occurrence. The deaths might be subjected to the same law, and for the better enforcement of the said law, a penalty not exceeding, say £5, might be inflicted on the party neglecting to comply—half the penalty to go to the informer.

Some might be found to object to the trouble that this would cause many persons who reside at great distances from county towns—for I assume that the county town would be the most fit place for this Registry Office. But the objection is a poor one; births are not every day affairs—a yearly journey would suffice the most fruitful couple; and death, although always too soon when it comes, yet comes not daily. Again the objection might be obviated by the parent of the child born, or near relatives of the deceased, making affidavit before a Justice of the Peace, according to a set form, the said affidavit to be transmitted by post, within the stated time, to the health officer of the county in which the birth or death took place.

The benefits arising from this strict scrutiny are numerous; we would not so often hear of concealed births, or would children shortly after birth (before Baptism) be made away with unaccounted for—be buried in some open field, or perhaps dung-heap, there to moulder away as neglected and forsaken as the filth with which it is placed. Are the children of men no better than dogs that the law thus allows them to perish unnoted?

I know, and have heard, of many children thus quickly disposed of. No one, perhaps, ever knowing of the birth of such a child, save the mother bearing it, and the midwife; two or three others may hear of it, but they forget the circumstance, the child they are told was *still born*, or died a few hours after birth,—the babe is wrapped in a cloth or placed in a box, and buried at night in some out of the way place. The facility with which children may thus be disposed of, affords a wide field for the commission of much crime.

The establishment of Health Officers would be by no means useless. The annual statistics which would thus be obtained, would afford the most valuable information as to the frequency of certain fatal diseases at different periods of the year, and at what period of life they are most fatal, &c. The adaptability of the climate for intending settlers, would thus be tested; and many

more advantages would thus be obtained sufficiently obvious to strike the most careless inquirer.

It is hardly necessary to obtain an Act of Parliament for the establishment of such an office, the several Municipal Councils of Upper Canada have, I think, that power; and I would urge on our Corporation the necessity of immediately founding this office in Toronto. If I remember rightly an Inspector of Anatomy was not appointed because the city had no nominal office to bestow on the person proposed. Now here is a good opportunity, one person might easily fill the two situations, and thus would be established at least one new and valuable office that our city could boast of.

Much more might be said on this subject, but I will here leave it, satisfied that I have at least directed your attention to a matter of much importance, feeling assured that you will not quietly suffer it to rest with this passing notice.

[Our rule refers to letters on mere personal matter, and not to scientific communications. We thank our correspondent for his kindness.—Ed. U. C. M. J.]

TORONTO, SEPTEMBER 15, 1852.

THE ACT OF INCORPORATION.

We publish the proposed Act for the Incorporation of our Profession and as it is a mere transcript of the Act now in force in Lower Canada, we cannot for a moment suppose that the Government will deny us the enjoyment of privileges in possession of our brethren in Canada East. The Petitions to the three Branches of the Legislature, were forwarded by order of the Honorable Dr. Widmer, to His Excellency Lord Elgin, to the Honorable Mr. Tache, of the Council, and to the Honorable Messrs. Boulton and Ridout, of the House of Assembly. We trust that the exertions of Dr. Widmer on our behalf will soon be crowned with success; and, knowing as we do, that he possesses the full confidence of the people of this country, we sincerely hope that he may live to enjoy the gratification of witnessing the Incorporation of that Profession in which he has done so much for Canada.

In every civilized country efforts are being made to improve

the statutes of various Colleges, and the rapid discoveries which are daily brought out in every department of knowledge, renders it absolutely necessary that some enactments should exist to guarantee a wholesome and restraining influence, else the most wild and chimerical ideas would be promulgated in the place of truth, and the most incongruous ideas developed, and dignified with the title of science.

To imagine that any people would long tolerate an imperfect system of education, would be contrary to our knowledge of the worldly wisdom of our day, and unless we set about to enhance the value of Medical Certificates by raising the standard of acquirement in this Province to a level with that of the mother country, we shall retrograde in the scale of social and political life. We do not lack advantages in Canada, nor are our resources either lame or imperfect. On the contrary, we feel convinced that Toronto enjoys many things denied to other places on this continent.

In our last issue we ventured to call in question the system of management pursued at our General Hospital *with reference to Students* and endeavoured to show that they were not "the wild beasts in nature" which many persons gave them the credit of being. As our remarks were supposed to imply censure on the excellent Assistant at that Institution, we take this opportunity of assuring Dr. Clarke that such ideas never once came into our mind, knowing as we do his energy and zeal in the discharge of his legitimate duties. We referred to that want of entire systematic organization which renders an Irish, Scotch, or English Hospital such a perfect scene of Christian kindness, as well as *the theatre from which* untold blessings flow to mankind. In a London Hospital, for instance, we find Students of Medicine hourly trained to discharge those duties which in after life, when away from experienced help, they must, for weal or woe, minister to their fellow creatures. We there find the more advanced pupils as Clinical Clerks regularly placed under the guidance of the Hospital Surgeon or Physician to be practically instructed in those lessons which he has learned theoretically in the class room, and as a consequence we do find in the British Hospitals a class of men, minutely and carefully instructed in all that relates to the *practice* of their Profession. When, therefore, we spoke of patients recog-

nizing the sympathy arising from due organization, we were referring to that which an Englishman may well be proud of—the tender care and earnest anxiety which British Students exhibit to the sick on whom they are set to attend.

We therefore unhesitatingly urge on the authorities of the Hospital the necessity of making such changes as may meet the difficulty, and we demand from the Government the power to compel Students to pay such personal attendance on the sick as may familiarize them with the nature and progress of disease.

We should be sorry to have it thought that we consider the Directors of the General Hospital deficient in kindness. We believe them to be actuated by erroneous views, but certainly nothing else; and we state again that the Directors of the Hospital would in a short time, if careful preparations were made, confess that the assistance of well-instructed Clinical Clerks and and Surgeons' Dressers was invaluable both to patients and to the medical staff of the Institution. We cannot expect non-professional gentlemen to be versed in the best principles of medical education, and we most sincerely hope that the Government, by granting us an Act of Incorporation, will enable us to pass such rules as will force our students to be diligent in their hospital attendance; while the physicians and surgeons will, by taking increased interest in the discharge of their public duties, render the instruction which they are generally willing to impart, more valuable; and also ensuring to the patients that close research and investigation into the nature of their maladies which the inquisitiveness of the diligent student invariably demands.

An Act to incorporate the Members of the Medical Profession in Upper Canada, and to regulate the Study and Practice of Physic and Surgery therein.

WHEREAS the laws now in force in Upper Canada, for regulating the Practice of Medicine, Surgery, and Midwifery, require amendment; And whereas it is highly desirable that the Medical Profession of Upper Canada aforesaid be placed on a more respectable and efficient footing, and that better means should be provided for the conviction and punishment of persons practising the same without license: Be it therefore enacted by the Queen's

Most Excellent Majesty, by and with the consent of the Legislative Council and of the Legislative Assembly of the Province of Canada, constituted and assembled by virtue of and under the authority of an Act passed in the Parliament of the United Kingdom of Great Britain and Ireland, and intituled, *An Act to re-unite the Provinces of Upper and Lower Canada, and for the Government of Canada*, and it is hereby enacted by the authority of the same, That from and after the passing of this Act, all Acts or parts of Acts in any manner relating to the Practice of Physic, Surgery or Midwifery in Upper Canada, or in any manner relating to the mode of obtaining licenses to practice Physic, Surgery or Midwifery therein, shall be and are hereby repealed, except in so far as relates to any offence committed against the same or any of them before the passing of this Act, or any penalty or forfeiture incurred by reason of such offence: Provided always, that the Act of this Province passed in the fourth and fifth years of Her Majesty's Reign, intituled, *An Act to enable persons authorized to practice Physic or Surgery in Lower and Upper Canada, to practice in the Province of Canada*, shall not be repealed or affected by this Act.

II. And whereas it is expedient that the Medical Profession of Upper Canada, be empowered under certain restrictions to frame its own Statutes for the regulation of the study of Medicine in all its departments, and By-laws for its own government: Be it therefore enacted, That the Hon. Dr. Widmer; Dr. Mewburn, Stamford; Dr. Rolph; Dr. Mackelcan, Hamilton; Dr. Long, Hamilton; Dr. J. R. Orr, Bondhead; Dr. Badgley, Toronto; Dr. Nichol, Toronto; Dr. Lowe, Whitby; Dr. Bovell, Toronto; Dr. Howe, Darlington; Dr. Herrick, Toronto; Dr. Crewe, Cookville; Dr. Paget, Thornhill; Dr. Rees, Toronto; Dr. Gunn, Whitby; Dr. Burritt, Smith's Falls; Dr. Church, Granville; Dr. Cotter, Toronto; Dr. Turquand, Woodstock; Dr. Dallas, Palermo; Dr. Gardner; Dr. McPherson, Caledonia; Dr. Grant, Yorkville; Dr. Telfer, Toronto; Dr. Barnhart, Streetsville; Dr. Bown, Hamilton; Dr. McMicking, Chippewa; Dr. Bethune, Toronto; Dr. Cunningham; Dr. Herod; Dr. Quick; Dr. O'Brien, Toronto; Dr. Hodder, Toronto; Dr. Beaumont, Toronto; Dr. King, Toronto; Dr. Fraser; Dr. Trenor, Toronto; Dr. Crombie; Dr. Wright, Markham; Dr. Hunter, Newmarket; Dr. Geikie; Bond Head; Dr. Moore; Dr. McGill; Dr. Tempest; Dr. Langstaff; Dr. Durie; Dr. Parsons; Dr. Pass, Barrie; Dr. Jarron, Dunnville; Dr. Mitchell, Dundas; Dr. Tucker; Dr. McQueen; Dr. Smythe, Brockville; Dr. Workman; Dr. Aiken; Dr. Primrose; Dr. Scott; Dr. Hallowell; Dr. Petch, and their successors, to be named, and appointed as hereinafter described, shall be and are hereby constituted a body politic and corporate by the name of *The College of Physicians and Surgeons of Upper Canada*, and shall by that name have perpetual

succession and a common seal, with power to change, alter, break or make new the same; and they and their successors by the name aforesaid may sue and be sued, implead and be impleaded, answer and be answered unto in all Courts and places whatsoever, and by the name aforesaid shall be able and capable in law to have, hold, receive, enjoy, possess and retain for the ends and purposes of this Act and for the benefit of the said College, all such sums of money as have been or shall at any time hereafter be paid, given or bequeathed to and for the use of the said College; and by the name aforesaid shall and may at any time hereafter, without any Letters or Mortain, purchase, take, receive, have, hold, possess and enjoy any lands, tenements or hereditaments, or any estate or interest derived or arising out of any land, tenements or hereditaments for the purposes of the said College and for no other purposes whatever; and may sell, grant, lease, demise, alien or dispose of the same, and do or execute all and singular the matters and things that to them shall or may appertain to do: Provided always, that the real estate so held by the said Corporation shall at no time exceed in value the sum of — thousand pounds.

III. And be it enacted, That from and after the passing of this Act, the persons who compose the College of Physicians and Surgeons shall be called "Members of the College of Physicians and Surgeons of Upper Canada."

IV. And be it enacted, That the affairs of the said College shall be conducted by a Board of Governors, elected from among the registered members of the profession, that is to say, five for the City of Toronto, three for each of the Cities of Hamilton and Kingston, and one for each of the Corporate Towns where there shall be resident more than two practitioners, and one for each County; the said election to be held at the City or principal Corporate Town in each County; and the Governors so elected need not be residents in such City, Town, or County which they may be elected to represent, but may be chosen by the district electors from amongst the registered Practitioners, irrespective of locality.

V. And be it enacted, That the said Board of Governors shall be, and are hereby constituted "*The Provincial Medical Board of Examiners*," in which capacity they shall meet for the examination of candidates not less than twice in each year at such time and place as to them shall be deemed most fit, and on which occasions five shall be a *quorum* for the transaction of business.

VI. And be it enacted, That from and after the passing of this Act, no person shall receive a license to practise Physic, or Surgery, or Midwifery, in Upper Canada, unless he shall have obtained a certificate of qualification from the said Provincial Medical Board.

VII. Provided always and be it enacted, That every person who has obtained or may hereafter obtain a Medical Degree or Diploma in any University or College in Her Majesty's Dominions, shall be entitled to a certificate without examination as to his qualifications.

VIII. And be it enacted, That from and after the passing of this Act, no person shall be admitted a student of Physic and Surgery, or Midwifery, unless he shall have obtained a certificate of qualification from the said Provincial Medical Board.

IX. And be it enacted, That from and after the passing of this Act, every duly licensed Practitioner resident in each City, Town, or County, shall enregister his name, with the date of his license and place of his residence, with the Clerk of the Peace for the County in which he resides, and obtain a certificate for the same; and that no person shall be permitted to practise Medicine, Surgery, or Midwifery, unless he possess such certificate of enregistration: Provided always that nothing herein contained shall extend to prevent any person duly licensed to practise Physic, or Surgery, or Midwifery, in Lower Canada, from practising the same in Upper Canada, according to the provisions of the Act hereinbefore recited.

X. And be it enacted, That the said College of Physicians and Surgeons shall have power,—

1. To regulate the study of Medicine, Surgery, Midwifery, and Pharmacy, by making rules with regard to the preliminary qualification, duration of study, *curriculum* to be followed, and the age of the candidate applying for a certificate to obtain a license to to practise: Provided always that such rules shall not be contrary to the provisions of this Act.

2. To examine all credentials purporting to entitle the bearer to a certificate for license to practise in the Province, and to oblige the bearer of such credentials to attest (on oath to be administered by the Chairman for the time being) that he is the person whose name is mentioned therein, and that he became possessed thereof honestly.

3. To fix the period of probation which persons must undergo before being eligible for election as Members of the College, which period shall not be less than four years, and to make all such rules and regulations for the government and proper working of the said Corporation and the election of a President and Officers thereof, as to the members thereof may seem meet and expedient, which said rules and regulations shall, before they shall come into effect, be sanctioned by the Governor of the Province after the same shall be submitted to him for approval and by him allowed.

XI. And be it enacted, That the qualifications to be required by the Board of Governors from a person about to commence the

study of Medicine shall be: A good moral character, and a competent knowledge of Latin, History, Geography, Mathematics and Natural Philosophy. And be it enacted, That the Governors of the College of Physicians and Surgeons shall have power from time to time as to them shall seem fit, to increase said standard education and to demand of candidates such higher qualifications as the improvement of science may render desirable, and the wants and requirements of society demand.

XII. And be it enacted, That the qualifications to be required from a candidate for examination to obtain a certificate for license to practise shall consist in his not being less than twenty one years of age; that he has followed his studies uninterruptedly during a period of not less than four years under the care of one or more general practitioners duly licensed; and that during the said four years he shall have attended at some University, College, or Incorporated School of Medicine within Her Majesty's Dominions not less than two six months' Courses of General Anatomy and Physiology—of Practical Anatomy—of Surgery—of Practice of Medicine—of Midwifery—of Chemistry—of *Materia Medica* and Pharmacy,—of the Institutes of Medicine,—and one six months' Course of Medical Jurisprudence,—and one three months' Course of Botany, if obtainable in Upper Canada. also, that he shall have attended the general practice of an Hospital in which are contained not less than fifty beds, under the charge of not less than two Physicians and Surgeons for a period not less than one year, or two periods of not less than six months each; and that he shall also have attended two three months' or one six months' Course of Clinical Medicine, and the same of Clinical Surgery, and to remove all doubts with regard to the number of Lectures which the Incorporated Schools of Medicine of Upper Canada are bound to give yearly: Be it enacted and declared, that it is and shall be sufficient that the said Schools of Medicine, respectively, shall yearly cause to be delivered one hundred and twenty lectures on the subjects by law provided, by the respective Lecturers of each department.

XIII. And be it enacted, That all persons obtaining the certificate for license to practise from the College of Physicians and Surgeons of Upper Canada, shall be styled Members of the said College, and be consequently in due course of time eligible to be elected Governors of the same, and such persons so elected as Governors shall be under regulations provided for in this Act, provided always that it shall be lawful for the Governor of this Province by Proclamation to fix the time and place for the holding of the first meeting of the said Corporation, and the first President thereof.

XIV. And be it enacted, That the Board of Governors

aforesaid shall regulate the fees to be paid by all candidates about entering on the study of Medicine, provided the amount of such fees do not exceed the sum of Five Pounds, and also by all persons who obtain from the said Board a license to practice Medicine; provided that the latter fee do not exceed the sum of two pounds and ten shillings currency, which fees the Governors shall have power to dispose of as they shall deem fit.

XV. And be it enacted, That so much of any law heretofore in force in Upper Canada, as may have fixed the period of prescription with regard to the claim of any person duly licensed to practice Physic, Surgery or Midwifery, for professional services, attendance or Medicine, shall be and is hereby repealed; and any such claim shall be prescribed by the lapse of five years from such attendance, service or medicine furnished, without any act having been done to interrupt the prescription, and not before: Provided always, that nothing herein contained shall be construed to revive any such claim actually prescribed before the passing of this Act.

XVII. And be it enacted, That all persons duly licensed by the Provincial Board of Examiners of the said College of Physicians and Surgeons, shall be liable to attend, on summons by any Coroner or Magistrate, on any inquest or otherwise if a Medical opinion is required to further the ends of justice at such fee or remuneration as may be fixed by law, and that the possession of such license shall alone entitle any public Magistrate or others to summon such Practitioners.

XVII. And be it enacted, That this Act shall be a Public Act, and taken and received as such in all Courts of Justice, and by all persons in this Province.

MONTHLY METEOROLOGICAL REGISTER, at

Latitude, 43 deg. 39.4 min. N. Longitude, 79 deg. 21.5 min. W

Mo.	Day	Barom. at ten. of 32 dees *				Temperature of the air †				Percent of Vapour			
		6. A. M.	2. P. M.	10 P. M.	MEAN	6. A. M.	2. P. M.	10 P. M.	MEAN	6. A. M.	2. P. M.	10 P. M.	MEAN.
b	1	0.635	0.632			9.0	9.0			0.394	0.421		
a	2	0.102	0.102	0.092	0.106	12.6	7.3	7.7	8.6	294	443	0.373	0.363
a	3	0.028	0.027	0.132	0.155	7.2	7.2	0.8	4.9	326	395	414	392
a	4	0.219	0.262	0.319	0.257	5.4	2.3	1	2.0	366	477	43-	426
c	5	0.367	0.401	0.122	0.194	1.5	7.9	0.8	3.1	458	479	470	466
c	6	0.117	0.029	0.011	0.049	1.8	7.7	4.3	3.5	457	544	445	488
c	7	0.037	0.075	0.067	0.061	0.7	0.1	0.5	0.6	447	594	467	509
c	8	0.092	0.088			1.1				497	545		
b	9	0.022	0.010	0.155	0.014	4.1	2.2	1.1	0.3	501	599	500	531
b	10	0.086	0.106	0.120	0.107	0.8	1.8	2.2	2.0	386	450	366	394
b	11	0.121	0.148	0.150	0.144	1.2	0.6	5.6	2.6	312	510	334	385
c	12	0.180	0.149	0.147	0.157	3.8	1.4	0.3	0.7	378	500	417	426
b	13	0.165	0.127	0.154	0.118	3.8	2.1	1.7	0.1	397	522	445	456
b	14	0.014	0.096	0.098	0.172	2.2	3.2	7.9	3.3	472	574	481	521
a	15	0.054	0.060			3.1	1.2			511	446		
a	16	0.292	0.28	0.220	0.213	10.0	7.4	9.6	8.0	292	352	351	334
a	17	0.187	0.171	0.126	0.188	7.9	2.0	5.1	3.6	417	512	379	422
ab	18	0.102	0.021	0.068	0.027	1.4	3.8	2.5	1.0	381	568	359	405
a	19	0.020	0.059	0.034	0.004	2.3	9.0	9.5	6.4	431	691	588	581
a	20	0.099	0.124	0.117	0.109	6.7	1.0	5.1	3.7	513	578	515	512
a	21	0.108	0.121	0.131	0.110	7.2	1.0	7.3	4.7	413	615	478	515
ab	22	0.154	0.14			10.9	1.0			593	578		
a	23	0.130	0.115	0.113	0.124	12.0	8.0	10.8	9.4	629	745	601	645
c	24	0.073	0.035	0.026	0.110	9.9	6.2	10.7	8.9	384	722	652	673
c	25	0.012	0.035	0.126	0.075	3	6.8	7.9	8.2	589	741	571	642
c	26	0.177	0.22	0.02	0.064	9.6	8.1	11.5	8.3	531	718	552	620
c	27	0.158	0.09	0.017	0.173	5.6	1.7	1.1	0.9	412	444	361	415
a	28	0.016	0.048	0.071	0.051	1.2	0.6	0.8	1.2	325	429	384	375
ab	29	0.119	0.174			0.4	2.1			298	526		
a	30	0.272	0.275	0.218	0.262	4.0	4.3	1.1	1.1	298	499	348	397
"	31	0.249	0.164	0.109	0.166	1.3	7.5	6.2	4.9	319	521	451	465
Mean	Normal...	29.645	29.629	29.629	29.632	29.11	71.30	51.95	65.08	0.425	0.516	0.457	0.481
	Observed	29.619	29.662	29.616	29.667	54.35	7.69	62.99	65.38				

* Above or below the mean, for the same month and hour.

† Above or below the mean, for the same date and hour.

Highest Barometer 29.945, at 8 a. m., on 16th } Monthly range

Lowest Barometer 29.391, at 10 p. m., on 11th } 0.645 inch.

Highest observed temperature 81° 2, at 2 p. m., on 19th } Monthly range

Lowest registered " " 45° 8 at 3 m., on 2nd } 35° 4.

Mean highest observed temp. 72° 59 } Mean daily range:

Mean registered minimum 56.83 } 15° 77

Greatest daily range, 21° 9, from 2 p. m. of 15th to 6 a. m. of 16th.

Warmest day, 23rd. Mean temperature, 72° 92 } Difference,

Coldest day, 2nd. Mean temperature, 57° 38 } 15° 54

A considerable number of shooting stars observed on the nights of 10th, 11th, and 12th,

The "Means" are derived from six observations daily, viz.—at 6 and 8, a. m., and 2, 4, 10, and 12 p. m.

The column headed "Magnet" is an attempt to distinguish the character of each day as regards the frequency or extent of the fluctuations of the Magnetic declination, indicated by the self-registering instruments at Toronto. The classification is to some extent arbitrary, and may require future modification, but has been found tolerably definite as far as applied. It is as follows:—

- (a) A marked absence of Magnetical disturbance.
- (b) Unimportant movements,—not to be called disturbance.
- (c) Marked disturbance,—whether shown by frequency or amount of deviation from the normal curve,—but of no great importance.
- (d) A greater degree of disturbance,—but not of long continuance.
- (e) Considerable disturbance,—lasting more or less the whole day.
- (f) A magnetical disturbance of the first class.

The day is reckoned from noon to noon. If two letters are placed, the first applies to the earlier, the latter to the later part of the trace. Although the declination is particularly referred to, it rarely happens that the same terms are not applicable to the changes of the horizontal force also.

Toronto, September, 1852.

H.M. Magnetical Observatory, Toronto, C. W.—JULY, 1852.

Elevation above Lake Ontario, 108 feet.

Humidity of Air				Wind			Rain : inches.	WEATHER.
G.M.	P.M.	10	M.	G.A.M.	Z. P.M.	(P.M.)		
.85	.72	..	..	Calm	W b S	Calm	0.015	Overcast, shower of rain between 11 am & noon.
93	71	.90	.79	Calm	N	"	0.075	Detached cloud, with occasional showers.
85	63	81	76	NEE	S	"	....	Generally clear; light clouds dispersed.
90	61	77	74	Calm	E	NEbN	0.16	Clouded, thunder at 2 pm, rain during the night.
87	78	89	84	ENE	ENE	Calm	0.255	Overcast; rain forenoon, distant thunder at 2 pm.
87	88	95	88	N b E	E	Calm	1.05	Clouded till 1 pm; showers; air light from 5 pm.
88	73	81	80	N b W	SSW	Calm	napp	Generally clouded; slight rain from 7.40 to 8 pm.
90	66	..	..	Calm	S	SSW	....	Generally clear; clear spaces.
85	81	88	87	N	S b E	Calm	0.765	Mostly clouded; rain from 3.30 pm to 4.50 pm.
76	56	7	68	N	SEbE	N	....	Am clouded, pm mostly clear, ft air fm 8.45 pm.
73	64	7	68	N	SEbS	NE	....	Mostly clear; fine; faint aurora from 8.30 pm.
88	62	78	7	N b W	S	Calm	....	Unclouded; hazy round horizon; fine.
90	61	7	71	Calm	S	Calm	....	Unclouded; hazy round horizon; fine.
89	65	6	76	"	S b W	SSW	0.07	Cloud'd pm; thunder lightning rain 7pm to midn't.
93	58	..	..	"	NWbN	Calm	....	Cloudy am, clear and fine p.m.
86	58	91	73	N b E	ENE	ESE	....	Generally clear; light passing clouds; fine.
89	71	85	79	N	SE b S	Calm	....	Clear save few light clouds on horizon 2pm; fine.
94	64	81	75	Calm	S	Calm	....	Unclouded; very fine day.
88	67	82	79	Calm	S b W	Calm	....	Clouds, haze, sheet & fork'd lightning 9 to 10 pm.
92	73	81	85	Calm	E b S	NE	....	Very hazy; dull.
75	81	78	75	NE	E	Calm	....	Zenith unclouded; hazy round horizon; fine.
90	80	..	..	E	ENE	E	....	Overcast; dense clouds and haze.
91	76	82	85	E b S	SE b E	Calm	....	Light clouds; very faint aurora from 10.30 p.m.
91	81	91	88	Calm	SE b E	"	0.110	Clouded; thunder lightning rain fm 2.20 to 3 pm.
95	82	8	87	Calm	SE b S	"	0.170	Clear; clouds round horizon; rain during night.
97	76	77	75	Calm	S	NE b N	mapp	Thunder ceased at 7.10 am; do & rain at 3pm.
84	66	78	75	Calm	N	N	....	Detached clouds; halo round moon at 10 pm.
78	64	78	71	N b E	SE	N b W	....	Light clouds, air light and streamers fm 10 pm.
70	71	..	..	N	S b E	SW b S	....	Fine day; suddenly overcast at 10 pm.
79	61	77	71	Calm	S	Calm	....	Unclouded but hazy; very fine day.
90	60	78	73	N b E	S	Calm	....	Unclouded; hazy; very fine day.
..	..	..	..	Miles:	Miles:	Miles:	2.695	
..	..	..	..	1.93	6.17	1.27		

Sum of the Atmospheric Current: in Miles, resolved into the four Cardinal Directions:

North	West.	South.	East.
1022.92	340.60	877.05	733.92

Mean velocity of the wind—3.30 miles per hour.
 Max. velocity—18.8 miles per hour, from 10 to 11 a.m. on 27th.
 Most windy day—27th: mean velocity—8.39 miles per hour.
 Least windy day—1st: mean velocity—1.15 ditto.
 Hour of greatest mean velocity—1 p.m.: mean velocity—6.25 do.
 Hour of least " " —10 p.m.: do. —1.27 do.
 Mean diurnal variation—4.98 miles.

COMPARATIVE TABLE FOR JULY.

Year	TEMPERATURE				RAIN		Wind,	
	Mean	Max.	Min	Range	Days	Inches	Mean velocity.	
1870	64.6	80.1	47.4	32.7	12	2.995	Miles.	
1871	61.1	83.5	46.7	36.8	9	6.170		
1872	65.0	80.7	45.3	35.1	6	2.570		
1873	66.0	85.5	44.1	41.1	4	4.850		
1874	61.7	82.3	44.3	38.2	17	impr		
1875	67.3	82.5	44.4	38.1	9	1.725		
1876	67.9	86.3	50.4	35.9	9	1.770		
1877	61.2	81.1	44.9	36.2	10	2.110		
1878	68.6	87.5	49.3	38.2	8	0.853		
1879	65.4	79.5	51.4	28.1	10	4.972		
1880	66.4	84.2	43.0	41.2	13	4.355		
1881	63.5	79.8	43.6	36.2	10	1.360		
1882	65.3	81.2	46.7	34.5	9	2.695		
Mean	65.62	82.80	46.29	36.31	9.7	3.025		4.14.