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# CANADA

# MEDICAL JOURNAL

AND

Monthly Record

OF

MEDICAL AND SURGICAL SCIENCE.

EDITED BY

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CANADA

MEDICAL JOURNAL

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ORIGINAL COMMUNICATIONS.

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*An Essay on the Contagion, Infection, Portability, and Communicability of the Asiatic Cholera in its relations to Quarantine; with a brief History of its Origin and Course in Canada, from 1832.*  
By W. MARSDEN, A.M., M.D., ex-President and Governor of the College of Physicians and Surgeons, Canada East; Honorary Fellow Medico-Botanical Society, London; Corresponding Fellow Medical Society, London; Honorary Fellow Montreal Pathological Society; Honorary Fellow Berkshire Medical Institute and Lyceum Natural History; Honorary Fellow Medico-Chirurgical Society, New York; Member by Invitation of the American Medical Association, &c., &c., &c.

Continued from Vol. 4, page 537.

In no instance has Asiatic Cholera made its appearance in any of the country parishes around Quebec, until some one had come to town while the disease existed, and returned home; or some one had gone from town into the country. For example, a plasterer alarmed at the ravages of Cholera in 1832, made an agreement with a Mr. Mimée, the crier of the Court, to go to Leeds, in the county of Quebec, about forty miles distant, to plaster a new house in course of erection. He arrived at his destination, and took up his abode with a farmer in a cottage near the new house. He was taken ill with cholera, and died eight hours after his arrival. The farmer's wife who attended him was the next attacked, and died, and then her husband. The people in her neighbourhood became alarmed, and immediately after the last body was buried, assembled and burned down the cottage with everything in it, and there was no other case of cholera in Leeds. The same summer a beggarman wandered down the north shore of the St. Lawrence to Ange

Gardien, a parish about twelve miles from town. He got lodgings at the house of a farmer named Mathieu. During the night he was attacked with cholera, and died. He was buried immediately, by orders of the parish priest. Mathieu's wife, who attended him, was next attacked, and died, and then her husband. The next person attacked, who died also, was the next door neighbour, a blacksmith, who visited Mathieu's house, and assisted in confining the bodies. There were no other cases in this parish.

In the beginning of 1833, Asiatic Cholera reached Havanna and Matanzas, on the north side of Cuba. In the course of the summer it reached Tampico, Campeachy, Vera Cruz, and other parts of the Mexican Gulf, creating fearful havoc, and finally reached the city of Mexico. At Tampico, about one half of the inhabitants perished.

The mortality in Quebec and Montreal, in 1832, was as great as at Havanna, being about one-tenth of the population. In many of the rural districts of the Southern States the mortality among the blacks averaged from one-fourth to one-half of their whole number.

In 1832, like the majority of my professional brethren, I was a non-contagionist, and believed firmly in the doctrine published by the Boards of Health of Quebec and Montreal, that cholera was not contagious, but was an epidemic; in fact, was in the air, and that cleanliness and temperance were the best preventives of cholera. To this erroneous and fatal doctrine I attribute the very great mortality in Quebec and Montreal among the respectable and wealthy classes, who were thus thrown off their guard, and exposed themselves unnecessarily, when they might otherwise have been safe, without diminishing their usefulness.

It has been remarked by some writers on each invasion of the pestilence, where it has reappeared, that each successive visitation has been less fatal and malignant than the former one; and some writers have attributed this result to changes in the nature and character of the disease. This is in my opinion an error, as I have seen cases as malignant, sudden, and fatal on the last as on the first visitation. The decrease in the number of cases I attribute to the fact that experience has not been entirely thrown away; but, being "forewarned," they were "forearmed," and so avoided unnecessary exposure. To this we may add the improved hygienic condition of most of the cities and places that have once suffered from the pestilence. So regular and systematic is the progress of this fell scourge, and so immutable are its laws, that to those who have had much experience my narrative will seem like a mere repetition of what they have seen; but the very sameness of the narrative stamps the identity of the facts and the accuracy of the deductions.

The succeeding visitations of Asiatic Cholera, in Lower Canada, were in the years 1834, 1849, 1851, 1852, and 1854. In 1832, 1834, and 1854, the disease was introduced by European emigrants through the St. Lawrence, passing the imperfect bounds of Quarantine on each occasion. In 1849 and 1851, it crossed the northern boundary between the United States and Canada, and, commencing westward, travelled eastwards to Quebec; whereas in 1852, it came from New York by the River St. Lawrence to Quebec, and then travelled westward.

In 1834, Asiatic Cholera, for the second time, made its appearance in Lower Canada, commencing as before, at Quebec, on the seventh of July. It appeared at Montreal on the eleventh of the same month. On that day, two emigrants, ill with cholera, were carried from the steamboat to the Cholera Sheds. On the twelfth, several cases occurred among the residents, and the earliest cases among them were traced to communication with the Cholera Sheds. This year, as in 1832, its close adherence to emigrants shewed incontrovertibly the agency by which it was transmitted from place to place.

It appeared at Three Rivers, midway between Quebec and Montreal, on the nineteenth of July, that town having escaped the disease in 1832, for reasons to which I before alluded. A fatal case is said to have occurred at the Quarantine Station on the eleventh of June, and isolated cases were said to have appeared in Quebec between that date and the sixth of July, but of this there is no proof. On the very day before the outbreak in Quebec,—the sixth of July,—the brig "John," from Dublin, arrived in port, with 216 emigrant passengers on board, having arrived at Grosse Isle only two days previously, and having had a large number of deaths from cholera on the passage out. Thus the first cases of Asiatic Cholera, both in 1832 and 1834, may be traced to the city of Dublin.

Having alluded to the imperfect system of Quarantine in operation, both at this time and in 1832, I may state that the "John" which arrived at the Quarantine Station on the fourth of July, after a passage of forty-nine days, and after having lost a large number of its passengers by a fatal disease of most malignant type, whether cholera or not, (but of this no doubt can exist, as cholera was raging at Dublin, the port of her departure, when she left,) was permitted to proceed to Quebec almost unimpeded, where she arrived within forty-eight hours. In less than twenty-four hours more, a number of persons in the city, who came into contact with these passengers, were the first to be attacked with cholera, and on that day,—the seventh,—the first death from Asiatic Cholera occurred. Some idea may be formed of the system of Quarantine then

in operation, when told that, besides having no system of separation of passengers from cholera vessels and others at the Quarantine Station, the communication was quite uninterrupted between the Quarantine Station and the city. In fact, when it was notorious to the authorities that deaths from Asiatic Cholera were taking place in the city, pleasure trips, so called, were organized and permitted by the authorities. The following advertisement from the *Quebec Gazette*, of the ninth of July, 1834, speaks for itself: "Pleasure trip to Grosse Isle. The steamer 'John Bull' will leave Hunt's Wharf on Friday next, at noon, remain at Grosse Isle two hours, and return to Quebec in the evening about seven. Fare five shillings; children half price. Dinner, &c., &c., to be had on board. The band of the 32nd or 79th Regiments will be on board." Now it is hardly credible that the authorities would permit this "Pleasure trip," this courting of death, this wooing of desolation, on Friday, the 11th of July, four days after cholera was known to exist in Quebec, and the same day on which cholera had reached Montreal! Yet the "Pleasure trip" did take place, and was both sanctioned and participated in by the highest in the land, as appears by the following extract from the columns of the same newspaper: "The steamer 'British America' was this morning substituted for the 'John Bull,' which did not arrive from Montreal till the former had left after midday for Grosse Isle. The fine weather and the refreshing breeze from the north-west after the almost intolerable heat of the early part of the week, tempted a large number of persons to take a view of the unrivalled scenery of the St. Lawrence from Quebec to the Quarantine Station, now seen in its richest dress, and the excellent band of the 32nd Regiment, which was on board of the steamer, offered an additional inducement. His Excellency the Commander in Chief, accompanied by the heads of the chief military departments and by his staff, was a passenger in the steamer, on his way to inspect the station as a military post. Among the other passengers were very many of the ladies and gentlemen of the city, and a few strangers." *Quem Deus vult perdere prius dementat.* The disease spread rapidly from this time.

This second pestilential invasion of the New World was preceded by similar outbreaks in many parts of Europe, after a certain lull or disappearance of the scourge. After attacking Quebec, Three Rivers and Montreal, it again spread along the course of the Rivers and Lakes to Upper Canada, in one direction, and into New York, New Jersey, Pennsylvania, Maryland, Georgia, &c., in the other, and the greater part of the American Union, again suffered more or less. Halifax and other parts of Nova Scotia were also visited for the first time this year. The culpable silence of the press, as well as of the official authorities after the

re-appearance of the disease, was notorious; and was justly and severely animadverted upon by our American neighbours. Notwithstanding repeated enquiries from New York, it was not until the 20th of July, that the municipal authorities of that city were officially informed of the existence of Asiatic Cholera in Quebec. Among the remarkable instances of infection that occurred in 1834, I will mention that of three gentlemen, Messrs Lespanard, Shadgett, and Dupont, all personal friends and patients of mine, who went to Lake Beauport, a beautiful and healthy place, about twelve miles north of Quebec, to spend a few weeks. On returning to town, they called at the house of a farmer of the name of Bedard, to rest and refresh. On entering the house they were shown into a large room, which was closed when they entered, and having taken a little brandy and water, one of them having a pocket flask containing that liquor, they left for town. They had remarked a peculiar smell on entering the room, which they, however, attributed to its having been shut up; but on mentioning the circumstance to some one they met on their way home, they were told that the farmer's wife had died of cholera in that room about a week before, and that the room had not been opened since. The same night on arriving in town, Mr. Lispenard, till then in perfect health, died of cholera and was buried the following morning. Mr. Shadgett, another of the party, attended the funeral of his friend, and returning home took cholera and died the next morning. The third party, Mr. Dupont, also took the disease, but recovered. There can hardly be any doubt how or where these three gentlemen became infected.

In 1835, cases of cholera continued to manifest themselves at New Orleans and along the course of the Mississippi and Ohio Rivers, and on boats plying on these streams, as well as in Cuba, especially at St. Jago, on the south side of the Island, and at Havana, and finally at Charleston, South Carolina. After 1836, all traces of the pestilence seem to have disappeared from the North American Continent, as well as from Cuba, which was the only West India Island attacked on this second extra-Asiatic campaign.

Nothing more was heard of Asiatic Cholera on this Continent for the space of about twelve years, when the packet ship *New York* arrived at New York from Havre on the 2nd of December, 1848, after twenty-two days passage, with 330 passengers. A great number of the passengers by this ship were Germans, who had come by rail from Germany, (where cholera was prevailing,) to Havre, where they shipped. The weather was cold and boisterous when the vessel neared the Northern Atlantic Coast,

off Cape Sable, when one of the passengers who had a trunk of warm clothing belonging to a person who had died of cholera, took the clothing out and lent it to some of the people to keep them warm. Very soon after a child was taken ill at 3 p.m., and died at 8 p.m. the same day, and another child died soon after with the same symptoms, those of cholera. This was on Tuesday, and on the following Wednesday and Thursday, four men were reported very ill, two of whom died suddenly, with all the symptoms of Asiatic Cholera. A third died from what was regarded as a case of Dysentery. Twelve cases were landed at the Quarantine Station, Staten Island, of whom three died. In fact eighteen cases occurred on board, of whom seven died. On the eighteenth of December, additional cases had occurred among the German emigrants, twenty remaining in hospital, of whom five died, and two new cases were reported. Dr. Whiting had refused to report these cases as cholera (probably because no cholera was known to exist at Havre when the vessel sailed,) nevertheless, the disease spread in the Hospital among the inmates, and on the 20th of December four new cases occurred, three among the inmates of the hospital, one of which proved fatal, and the same day two cases occurred in Wellington Street, New York. Here then re-commenced the pestilence for the third time on this Continent.

The plague also got a foothold at New Orleans, on the 11th of December, 1848. The *Swanton* from Havre arrived there just nine days after the *New York* arrived from the same Port at Staten Island, with 280 emigrants on board. Thirteen passengers had died from cholera on the passage. No Quarantine whatever existed, and the ship came to the wharf. *The day after the arrival of the passengers in this city, cholera broke out, and soon became epidemic.* It then spread rapidly westward along the course of the Rivers. On the 21st, ten days after its outbreak at New Orleans, two boats touched at Memphis having cholera on board. From New York it spread slowly during the cold weather, but as the temperature rose, it spread rapidly in every direction.

Let the non-contagionists and the believers in "mysterious atmospheric influences," note the above facts, the breaking out of Asiatic Cholera at the Quarantine Station at New York on the arrival of the packet ship *New York* from Havre with the disease on board; and the sudden outbreak at New Orleans on the arrival of the ship *Swanton* from the same port, and its subsequent extension, in different directions from both places, as common centres of contagion, and account for the pestilential invasion on any principle but that of infection. In the one case, New York, it progressed slowly, being opposed by some kind of Quarantine,

and in the other, New Orleans, it spread like wild fire, being unresisted.

The pestilence did not this time reach Canada, till the spring of 1849, when for the third time it visited British America. It did not, as on the two former occasions, come from the East by the River St. Lawrence, and travel westward, but entered from the United States frontier westward, and travelled slowly eastward. I would call attention to this circumstance, because, many writers, and especially theorists, have stated that cholera travels from East to West, overlooking the important fact that the disease had its origin in the East, and that the "tide of travel" is westward. On this subject Graves says: there is a *popular idea current, that its course was westward, such was the case in Europe, but in most of Asia it was eastward.* When it travels from East to West it has more to feed upon, because travellers are more numerous, poorer worse fed and clad, and more filthy than those who travel eastward. The Editor of the *British American Medical and Surgical Journal* writing on this subject in 1849, says: During the last and present year it has visited the principal kingdoms of Europe with a rapidity sevenfold more quick, and the history of its westward progress is an object of intense anxiety." Now let me ask the impartial enquirer if the extension and facilities afforded by steam communication and travel by sea and by land (Steamboats and Railroads) will not account for this rapid movement of the pestilence.

In 1849, the first case of the Asiatic Cholera in Canada occurred at Kingston, as early as the 30th of April, whence it seems to have radiated. That city was in direct and constant communication with New York by the New York Central Railroad, and connecting lines, and was therefore first attacked. It did not reach Montreal till the 15th of June, Quebec, 4th of July, Hamilton, 18th of July, and Lachine, 28th of July, and was then prevalent in many parts of the United States, say, New York, Albany, New Orleans, Cincinnati, Buffalo, Chicago, Sandusky, St. Louis, Richmond, Baltimore, Philadelphia, Baton Rouge, Natchez, Memphis, Lexington, Ky., and a few cases had appeared at Boston. In Quebec the first known case of Asiatic Cholera was in Champlain Street, in the person of a shoemaker named McGill, whose business was chiefly among strangers, lumbermen, and travellers. He died after a few hours sickness, during which he was visited by one of the Water Police, a friend of his, who went home and died the next day.

(To be continued.)



*Will a Child born after the Mother has had Small Pox, contracted after conception, be liable to take the disease?* By A. H. DAVID, M.D., L.R.C.S.E., &c., &c.

The query, will a child born after the mother has had small pox and contracted after she has conceived be liable to contract the disease? has often been discussed, and I believe I am correct in stating the general impression is, that a child born under such circumstances will *not* take small pox. During a course of very extensive reading, and a practice of over thirty years, I have never met with a case illustrative of this question until within the last few days. I consider it a duty to lay it before the profession through the pages of the *Canada Medical Journal*. I am well aware that one swallow does not make a summer, nor can we build an hypothesis upon a single fact, but one well authenticated case of this kind ought to make us reflect, and have some slight influence in modifying or correcting our theories on the subject.

Some seven or eight years ago I attended a Mrs. E——, through an exceedingly severe attack of small pox; she was at the time in her seventh month of pregnancy, and notwithstanding all I could do, painting her face daily with tinc. iodine, &c., she is much marked with the disease. She carried her child the full time; and some three or four weeks after her recovery from small pox, I confined her of a daughter, whose skin did not exhibit any marks of the disease. As an experiment, I tried twice or thrice vaccination with the child, but as a matter of course did not succeed in getting the vaccine to take, as is universally admitted to be the rule. And now when the child is between seven and eight years old, she has taken small pox and has it rather severely. I consider this case of great interest to the profession. We can scarcely suppose that the foetus will *not* be influenced by disease under which the mother is suffering; nor that it can escape from the effects such disease usually entails, for the blood circulating through the mother's system must surely carry the disease to the embryo, and produce its effects precisely as it is doing on the constitution of the mother. This case would lead us to infer that such in reality is not the fact, and all our pre-conceived ideas will have to be abandoned. Now as the case is one of great importance, not only to the profession, but to the public at large, and likely to change all our pre-conceived ideas of immunity from disease received in utero, I shall be most happy to take any medical man who feels an interest in the matter, to see the case, and as both the father and mother of the child are living, all the facts, as I have stated them, can be verified, so that there may not exist any doubt about the correctness of my statement.

42 Beaver Hall Terrace, 25th June, 1868.

*Compound comminuted fracture of the lower end of the Humerus and upper third of the Radius Excision of the Elbow Joint—favourable result.* By GEORGE PERKS, Esquire, Surgeon.

On the evening of the 21st February, 1868, I was called upon to see John Wilson, aged 21 years, was told that, about eight hours previously, the elbow of the left arm had been crushed between two railway cars whilst he was engaged in "coupling" them. This had occurred at Omamee, about twenty-eight miles from here, from which place he had been sent forward by rail, the limb having had a splint and bandage applied by Doctor Turner of Milbrook, by whom he had been visited soon after receiving the injury. I was further told that some other medical gentlemen had examined the injured parts, all of whom decided that amputation above the elbow would be required. Patient had lost a large quantity of blood; pulse 80 and tolerably full; pulsation in the radial artery at the wrist perfect; extension and flexion of hand and wrist, to a slight extent, can be made; and sensation in these parts remains unimpaired. A lacerated wound in the integument, over the outer condyle of the humerus, about an inch long, admitted of free examination of the joint. Chloroform having been administered, a free examination was made by introducing the finger. Both condyles of the humerus were found to be broken off, and the outer one very much comminuted. The radius was literally shattered throughout fully one third of its length. The ulna had escaped without fracture. The soft parts, particularly on the outer aspect of the joint, were necessarily very much lacerated and contused, and the external lateral ligament completely divided.

In consultation with Drs. Clemisha and Burnham, by whom I was most ably assisted during the operation, it was decided that no attempt to save the limb would be likely to succeed, unless the comminuted bones were removed. Chloroform having again been administered, an incision was made, commencing at the inner edge of the wound in the integument, over the external condyle of the humerus, and extending across the back of the joint, as far as the internal condyle. Another commencing at the outer edge of the wound, extended about three inches over the shaft of the radius, and a third incision, about one inch in length, commencing at the inner end of first one, over the ulna, completed the outline of the flap, which was dissected off. The detached condyles of the humerus were now carefully dissected out and the end of the bone from which they had been broken, insulated by a retractor, and sawn off. The radius, which was comminuted up to a point, a little beyond the junction of the upper with the middle third, was carefully dissected out and

removed up to the point. As that fracture there was transverse, neither saw or cutting pliers were required. The parts were now allowed to remain until all bleeding, which was very small in amount, had ceased. Carbolic acid of full strength was freely applied to the whole wound, and the integuments brought together with a few points of iron wire sutures. The limb was now placed on a pillow, slightly flexed at the elbow. The carbolic acid putty, as recommended by Dr. Lister of Glasgow, was now carefully applied over the whole wound, and motion prevented by applying a light splint made of tin plate, with connections of strong wire over the joint. At 11 p.m., a pill containing 2 grs. opium was given.

22nd February, 9 a.m.—Passed a rather restless night; pulse 100; tongue coated; not much thirst; wound discharged a quantity of bloody serum during the night. There is a good deal of swelling, extending from the hand to near the shoulder, which rather increased during the day, and at 10 p.m. has considerable pain. Pulse 110; ordered decoct. aloes comp.  $\bar{\text{z}}$  ii, tinct. opii., tinct. ipecac.  $\bar{\text{aa}}$   $\bar{\text{z}}$  ss. N. ft. haust. statim sUND.

23rd February, 10 a.m.—Passed a better night; not so much pain; swelling about the same; reddish coloured serum continues to flow from under the dressing, but rather less in quantity and having no smell, excepting of carbolic acid. A mixture composed of carbolic acid one part, to linseed oil four parts, has been freely and frequently applied over the dressings, and the edges of the dressings where the discharge ran, were covered with strips of cotton cloth saturated with this mixture. The pulse had gone down to 90; tongue cleaner; thirst much less.

10 p.m.—Progressing favourably; ordered another dose of laxative medicine which acted during the night.

24th February.—Passed a good night; pain much better; swelling rather less; discharge continues of same character in every respect but less in quantity; pulse 90; appetite up to this time has been poor, but he has to-day taken a little light food. Same application continued. Each day's report is very similar to the above, until 29th February, eight days after the injury, when, upon examining the discharge, a very small quantity of pus was found mixed with it, and upon gentle pressure being made over the dressings, a few bubbles of gas also escaped. The entire dressings were removed. Union by the first intention had taken place along the entire length of the longitudinal incisions, but the transverse one, across the back of the joint, was open and widely separated, the remains of the radius, and the ulna, were well covered, but the end of the humerus was bare about three quarters of an inch; no periosteum adherent, and it was quite evident that a ring of this bone was dead, and

must exfoliate. There was some little sloughing of contused soft parts, but the general appearance of the wound was healthy and granulations springing up; there was no disagreeable smell from the discharges.

8th March.—The wound is filling up with granulations and closing in; swelling very much reduced: the dead portion of the humerus can be seen exposed. To-day the dressings were changed for the water dressing, a weak solution of hyposulphite of soda being used to wet the cloths. This change of treatment was adopted from the belief that the carbolic acid, even in its diluted form, was too stimulating, and I was led to ask myself the very important question whether the death of periosteum, and consequent death of bone, was not occasioned by the too free application of this invaluable agent. To-day the arm is placed on a gutta percha splint extending from the hand to the axilla, giving a comfortable support to the limb, and so arranged that the dressings can be removed without removing the splint.

16th March.—Wound filling with granulations and closing in; very little discharge of pus from around the necrosed bone. To-day a splint made of strong tin plate was fitted and applied; this extended from the shoulder to the hand, admitted of the wound being dressed without removal, and had a joint at the elbow which could be *fixed* or loosened by a screw, so as to admit of alteration of the angle at the elbow. This gives very efficient support, and admits of his carrying the arm in a sling from the neck. He left his bed to-day, and is able to walk about with the injured limb thus supported.

From this time the healing went on rapidly, and now, May 12th, the wound is nearly healed. In it may be seen the dead portion of bone, which to-day was found to be loose. This was seized with a pair of forceps and extracted. The sequestrum was about three quarters of an inch in length, an irregular cylinder, and no difficulty was experienced in its removal.

From this time the progress towards recovery was very favourable and rapid, and the success far better than I had any reason to hope and expect, under the circumstances.

25th May.—The wound is healed; the motions of the limb are weak. In the elbow, extension and flexion are nearly perfect as before the injury. The same may be said of the wrist, fingers and thumb, but rotation of the hand can be performed only to a limited extent, but is still improving.

I almost regret that I did not delay the publication of this case until sufficient time had elapsed for the arm to recover its strength; it has, however, so far progressed as to convince me that it will ultimately prove to be nearly as useful as it was before the injury, both so far as the ex-

tent of its motions and its strength are concerned. I look upon this case as peculiarly valuable in illustrating the value of the carbolic acid in preventing suppuration. Notwithstanding the great extent of the wound, no suppuration took place; no pus was formed until the eighth day, and would not then have formed, but that in consequence of the separation of the wound, the dressings were removed from the surface of the wound, allowing air to enter and remain in contact with the discharges, thus favouring decomposition, the products of which formed an acrid irritating liquid, which led to the formation of the pus. No sooner, however, were the dressings properly adjusted in such a manner that the surface of the wound was covered with a cloth saturated with the acid and oil, and covered with the putty so as effectually to exclude the air, then no more pus was formed. The constitutional disturbance was surprisingly small, not a tithe of what would have taken place under the ordinary treatment.

This was also true in the only other case in which I have had an opportunity of using the carbolic acid to illustrate this feature in its use—a case of compound dislocation of the tibia, and fracture of the fibula. If any objection can be made to this plan of treatment, so far as my very limited experience goes, I should say, that, at least in the strength in which I have used it, it is too stimulating, rather retarding than promoting cicatrization. It was with this view that I was induced to use the water dressing, after the surface of the wound became tolerably level, and when there were no pits, or sinuses, in which the decomposing discharges could accumulate. I had no reason to regret the change; perhaps, however, a still weaker solution of the acid than the one I used might have answered every purpose.

I think this case is a very fair illustration of what may be done in the way of conservative surgery. I am satisfied that the amputating knife is too frequently had recourse to, and if by any efforts of mine, I can be the means of lessening the number of cases, in which recourse is had to this horrible necessity, I shall consider myself amply repaid.

PORT HOPE, ONTARIO, 26th May, 1868.

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*Principal causes of the mortality of Montreal, and modes of prevention.*

BY WILLIAM H. MONDELET, M.D., Licentiate of the College of Physicians and Surgeons, C. E.

Montreal has many advantages other than its magnificent commercial position. Its situation is beautiful; it is supplied plentifully with water, of a purity which few cities in the world can lay claim to, and its

climate is really as fine as the heart of man can desire. Why, then, it is not among the healthiest cities in the world? The reasons are unfortunately not very far to seek. Its drainage is still defective, except as regards some of the principal streets, and it has no system of scavenging, by which refuse organic matter can be every day taken away. We must add to this the important fact, that the city is built upon a clay or very retentive subsoil, in which poisonous decayed matter is held until it is spread around by the heat of the sun, carrying sickness and death to thousands. This sickness and death might be almost or wholly stopped, by a perfect system of drainage, and a system by which should be carried off, from before every house, every day, the refuse matter thrown out, and which should do away with noisome cesspools connected with wooden drains, under people's windows.

A great deal of money would be required to carry out thoroughly the necessary reforms, and from the expenditure of this, the city fathers have hitherto shrunk. But they would do well to remember, that a healthy balance sheet is not the only desirable thing for a city. The lives of the men, women and children who live in it, are something. To wilfully and knowingly sacrifice them, from causes that might be prevented, is little better than the crime of murder, and the responsibility is fearful. The fact is, that stables, outhouses of every kind, even for the storage of fuel, and cesspools of all kinds, especially connecting with wooden drains, are an utter abomination in respectable streets, and should not be tolerated in a large city. Our American neighbours, at least in the better part of their cities, are much more cleanly and have reached a much higher point in civilization; we confess it with no pleasure. Look for instance, at the better part of Boston, about the common, or some of the upper parts of New York, and there is no such thing as an out-house to be seen, to say nothing of the kind which emit unspeakable stinks. The back lanes of these streets are just as sweet smelling as the front streets themselves, there being nothing but little gardens or grass plots between the rows of houses. The fuel is stored in a sub-basement, under the house itself, which is in every other respect, self containing. All refuse or garbage, instead of being left in large heaps to decay, is taken away every morning. Where the family keeps a horse, it is boarded away at the livery stables, which it may be said *en passant*, are generally kept with the most rigorous care; all manure being carted away every day, and the house where people live is prevented from smelling like the stable, a kind of smell which, however much the inmates may get used to it, must fill the house, in certain conditions of the atmosphere, if the stable is in the yard, near the dining room and bed room windows.

I am told that the land itself is held in these streets subject to the condition that there shall be no erections of any stables or outhouses whatever.

There are many things in the municipal system of Boston which Montreal would do well to copy, for instance: A notice to house keepers and tenants has lately been issued by the Boston authorities, which, I think, if done here would probably have its good effect. It is as follows:—

“All house offal, whether consisting of animal or vegetable substances, shall be placed in suitable vessels, and no ashes or other refuse matter shall be mingled with it, and the same shall be kept in some convenient place to be taken away by the city scavengers, which shall be done as often as twice a week.”

“No person without the license of the board of aldermen, shall throw into, or leave, in or upon any street, court, square, lane, alley, or wharf, public square, enclosure, vacant lot, or in any pond or body of water, within the limits of the city, any dead animals, dirt, sawdust, soot, ashes, cinders, shavings, hair, shreds, manure, oyster, clam or lobster shells, waste water, rubbish of any kind, or any refuse animal or vegetable matter whatsoever.”

Boston is on the whole clean and sweet smelling, while Montreal, in very many places, is dirty and unsavouring smelling, and that in parts where there is not the slightest need for such a condition; where it is, on the contrary, not only disgraceful but a reproach to civilization. This reproachful condition not only engenders fever and death to thousands, especially to the young, but it hinders (it cannot be too often repeated) Montreal from being so desirable a place to live in as it ought to be, and hinders its progress and prosperity. It is nothing to say that Montreal is prosperous in point of fact. It is so from the force of circumstances; but in spite of the evils of which we speak.

We may not be able, for years, to get streets here without dirty outhouses. But there is no reason why, at once, the system of street drainage, so well begun, should not be perfected, and all wooden drains, connecting with cesspools, abolished and prohibited. No reason why the manure of stables in the city should be allowed to lie for a single day; no reason why the garbage, &c., thrown out of houses, should not be carried off every morning; no reason why the streets should not be regularly and daily swept and the dirt carried away. Complaints are carried daily to the police office, referring to dead animals being left in close proximity to people's dwellings; these latter, if allowed to remain exposed to the temperature and burning sun of the month of July, become putrefied and exhale odours capable of originating fevers and numerous other affections.

As regards public nuisances, as I mean here, has reference exclusively to those sanitary evils met with in places or on property belonging to, or under control of the municipal authorities. It is used in contra distinction to those found on private property. We may not conceal the fact, that the worst form of nuisances are the most difficult to manage, those that before all others claim the attention of the Board of Health, as materially aiding in the generation and accumulation of the causes of endemic and epidemic diseases, are to be traced to matters under the control of the city authorities and not of private individuals. Among the nuisances to which I here allude, may be named the general condition of the highways, as the roadways or streets, side gutters, and surface drainage, street cleaning and disposition of street dirt, the removal of kitchen offal the public docks on the St. Lawrence in front of the city, the present system of communicating with sewers, by private individuals. The emptying of privies and water-closets by connecting drains into sewers, sewage and sewerage, the construction of the inlets to, and the termination or outlet of the sewers, deficient water supply by overcrowding of tenements, the cellar residences.

Under the control of our civic authorities should also range as nuisances, tanneries, butcheries, soap and candle factories, which are allowed and tolerated in our midst. It would seem as if public opinion on that subject were set at nought, or rather public opinion is not felt; people are callous about it, the evil gets worse and worse, the effects stare us in the face, and nothing is done to avert the danger which is apparent; disease overtakes us, people are alarmed, a panic ensues, death is the sequel, a general outcry is heard, and when the danger has passed away, the same indifference returns.

Now, this is intolerable. Legislative action becomes indispensable since our City Fathers will not act. In the meantime let individual energy supply the want of public vigilance and action, and what cannot be effected through public spirit, be attained by means of individual efforts stimulated by the sense of imminent danger of self-preservation.

The slaughtering of cattle in cities, is one of those sanitary evils that is incompatible with the proper enforcement of *Health Laws*, and is a fruitful element in rendering the surrounding atmosphere unfit for healthy respiration.

Interterminal slaughtering in England and France, has for many years been held as an intolerable nuisance, and the most conclusive medical and other testimony, may be produced to prove its injurious influences upon the health of cities. To remedy some of the evils arising from city slaughter houses in the absence of more effectual measures, the Board of



Health of the European cities declared all slaughter houses to be nuisances prejudicial to public health, unless the proprietors complied with certain sanitary requirements, and whilst these regulations did create a reform, to some extent, in the slaughter house system, they by no means removed the evils complained of. In answer to the said application, the Board replied that they were not prepared to endorse any particular plan, to recommend any special locality, or to aid and co-operate with any enterprise, at that time, which proposes to establish an abattoir in the vicinity of the city for the slaughtering of cattle; they were, however, clearly of the opinion, that no slaughterhouses should be allowed to exist in a populated neighbourhood, but that they should be confined to rural districts and be subject to rigid sanitary supervision. The situation and construction of *abattoirs* or slaughter houses and market places are intimately connected with the supply and emission of water, and deserve somewhat more than a passing notice. Presuming that every one is more or less acquainted with the operations of the common slaughter house, it must be evident that these establishments ought to be situated at a distance not only from the denser portions of our towns, but also from the markets and stalls, beyond every other place, to be liberally supplied with water. So much filth and garbage of a rapidly decomposing kind, is necessarily associated with them, but without an absolute flush of water, and stringent regulations as to its application, they are apt to become centres of the most noisome nuisances and diseases. Notwithstanding these facts, which are but too lamentably apparent in all our large towns, yet as a country have we done almost absolutely nothing towards the establishment of *abattoirs*, to which the animal might be led quietly, and without danger to the inhabitants, where their carcasses might be dressed with regard to cleanliness, and where the offal might be sluiced away and collected in such a manner as to become of value to the agriculturist. Our neighbours on the continent are infinitely before us in this respect.

Indeed every precaution that science and experience can suggest, should be made available for the health defences of our population. Public cleanliness, says an English writer, should be a primordial law to be enacted in the existence of every city, while the judicious application of a sound sanitary police, is not only a public safeguard, but its best and cheapest defence. It must be patent to all who have given attention to the subject of sewerage, that no system can be successful in the absence of flushing either natural or artificial, and that such a process to be effected requires a liberal supply of water.

As efficient means should be taken to secure for all towns and cities, a regular and abundant supply of pure water, so ought there to be a

regular system of emission for that which is foul and waste. The rain which falls on our roofs and streets, and the waste water of our houses and public works, with all the animal and vegetable matters, wherewith it is impregnated, must be regularly and speedily carried off, otherwise, stagnation and putridity ensue, deleterious effluvia arise, and are inhaled by the inhabitants, and disease suffering and death are inevitable consequences. The most obvious method of discharge is by open gutters; but as these are offensive and unsightly, the great object, both in ancient and modern times, has been to establish a system of underground sewerage.

Among ancient nations, the Romans carried underground sewerage to the greatest perfection; it is worth while, in these days of existing precepts, briefly to glance at their *Cloacæ*. This term is generally used in reference only to those capacious subterranean vaults, either of stone or brick, through which the foul waters of the city, as well as the streams brought to Rome by the aqueducts, finally discharge themselves into the Tiber, but also includes within its meaning any smaller drain, either wooden pipes or clay tubes, with which almost every house in the city was furnished, to carry off its impurities into the main conduit. The whole city was thus intersected by subterranean passages. The most celebrated of the drains was the "*Cloaca Maxima*" the construction of which is ascribed to *Tarquinius Priscus*, and which was formed to carry off the water brought down from the adjacent hills into the *teflabrum* and valley of the *Forum*.

The flushing of sewers not only necessitates a large flow of water, but is a costly operation, if thoroughly and properly performed. It is less expensive, however, than the occasional visit of a direful epidemic with attendant evils; the suppression of commercial trade, the wide diffusion of sickness and extensive loss of life. Water closets, even when constructed on proper principles, are frequently liable to obstruction, and when thus obstructed, create a nuisance equal to if not more serious, than a full privy, and far more difficult to remedy. Complaints are made to the police respecting the accumulation of human ordure obstructing the drains from water closets and the nauseous odour arising therefrom, affecting whole neighbourhoods. In England it has been found that water closets, except in well regulated families, are liable to become greater nuisances than ordinary privies. In Glasgow where the sewers empty their foul contents into the Clyde, the tide rising about seven feet and the current of the stream being no more rapid than that of the St. Lawrence opposite some parts of our city, the system gave rise to a great nuisance.

Notwithstanding the obvious and pressing necessity there exists for such a system of drainage in our large and populated towns, it is well known that there is scarcely one of them that is not notoriously deficient in this respect. Where drain courses do exist, they are either badly constructed, or out of districts most requiring them, while sections are entirely without a single underground channel. Such a state of matters should not exist.

Setting out, then, with the axiom that underground sewerage is preferable both in point of health and convenience to open gutters, the first requisite is a plan of the district to be drained, with all its levels and facilities of a discharge. Nothing in fact can be done without a declivity for the sewage, and it is this want which occasions that stagnation and putridity so much complained of in many populous districts. Where natural descent is deficient it is the duty of the civil engineer to effect a remedy by carrying the tail or outlet to a greater distance, by inserting steps or falls at certain parts of the sewer, and by contracting and curving the drains occasionally, so as to increase the flow of the current. An important point in the construction of sewers, is their internal dimensions, which, while sufficient for all ordinary purposes, should never be so large as to diminish materially the scouring effect of the water. There is also, another and most important requisite, without which all others would be only partially successful: I mean an abundant supply of water, whereby the sewers might be kept always pretty full, and occasionally thoroughly scoured, from the remotest branch, to the general *embouchure*. If we had such a supply always at command, the open gutter would in many situations be preferable to the underground sewers, and there would be no necessity for those abominations known as cesspools. An overflowing supply of water is therefore necessary, not only for the ordinary purposes of consumption, but for facilitating the removal of that portion which has been used and become impregnated with filth and garbage. Drains are the vehicles of transportation, the water is the moving power or carrier, and is the cheapest that can be procured. In fact the supply of water to a town and the discharge of refuse, are two branches of the same subject, and unless the water is abundant enough and distributed enough to cleanse the drains, these last must be more offensive than useful. Where artificial supplies of water cannot be obtained, the principle of flushing can be advantageously introduced. This consists in fixing in the sewers cast iron gates or sluices, which, when closed, cause the ordinary supply of water to accumulate about them, and when a sufficient quantity is collected, they are thrown open and the rush of water so caused is sufficient to sweep off the deposits.

Such are the requisites for a regular system of drainage, from which it will be seen that underground sewers are preferable in most instances to open gutters, and that neither can be efficient without a liberal and steady supply of water. I have said nothing of those chemical modes of destroying noxious smells and effluvia, known technically as deodorising and disinfecting, leaving their merits to be discussed under the head of disinfectants, in the latter part of this paper. Neither have I adverted to those numerous mechanical contrivances now in vogue, for the prevention of effluvia from drains, water closets and cesspools: These, like the chemical deodorisers and disinfectants, may be all very good and ingenious in their way, but they do not apply themselves to the root of the evil. What our towns and cities desire is a system of sewerage that would render all such secondary remedies uncalled for and unnecessary; and this brings me to speak of cesspools, a mode too often adopted to get rid of the refuse liquid from houses. In no case, under any plea whatever, should these pits of poison and pestilence be permitted. Let them lie open in any degree and it is impossible to have them hermetically sealed, and they are for ever giving off their noisome and noxious exhalations; they saturate the adjacent soil with their offensive contents; and there is no possibility of preventing the evil without the constantly recurring expense and annoyance of emptying them. The rudest open gutter is preferable in comparison, for it is sure to force itself upon the attention, while the cesspool, out of sight out of mind, is steaming and fermenting with the most subtle and deadly gases. So detrimental and barbarous is this system, that no opportunity should be lost of indicting its application or of indicting its continuance as an insufferable nuisance; and here it may be remarked in conclusion that, without clear and available powers of law on the part of the corporations, the most perfect system of drainage will often be unavailing. So much ignorance has to be displayed that we firmly believe there are thousands who would not take advantage of a remedial system, though it were gratuitously offered them.

The system of connecting cesspools and privies with sewers, is one of the most reprehensible acts allowed by law. There is thrown into our sewers a flow of undiluted liquid of the most fetid character, rendering them in fact, nothing less than immense cesspools, and polluting them so that no exploration or examination can be made without risk of asphyxia or death. At this point I raise the question, however, whether a change taking place would materially in its effects differ, when to the matter already received in the sewers is added the immense mass of human and other ordure of the entire city in a half dissolved state or suspended in water, especially under the existing system of drainage.

In short, I have no hesitation in expressing the opinion, that with the most favourable circumstances as to elevation of ground plan and descent to river with a deep stream and rapid current, it would be almost impossible to overcome the liability to a deposit, either at the bottom of the sewers or in the vicinity of the outfalls, of solid material, thus offering the same objectionable features, as described, as regards the present system of connecting the cesspools.

The connection of water closets with sewers is an innovation upon the use for which they were originally constructed, inasmuch as they were intended for conveying of water alone.

The experience of engineers in Great Britain, for the last twelve years, has led many to doubt the propriety of adopting such a system to the abandonment of privy wells. The character and habits of our population, the facilities of flushing the sewers, and the nature of the outfall in regard to becoming offensive, should be carefully considered. On the continent of Europe, water closets according to the English fashion, appear to be comparatively little used, except at Hamburg; the objection to them being the loss of so much valuable manure, and the fear of creating nuisances at the surfaces of the sewers.

*Parent Duchatelet*, twenty years ago, came to the conclusion from his experience with Paris sewers, that flushing alone would not cleanse them, and to this day, notwithstanding their immense size, as the largest class are thirteen feet five inches high, constructed with rails or galleries, adapted to cars and sufficiently lighted, for the convenience of workmen; force being necessarily here employed to remove by hand solid substances formed in their depressed bottoms. The same result takes place in the London sewers. Two thousand years ago the Romans understood the necessity for flushing their sewers, for cleansing and purifying the air in them, having learned by sad experience, that the neglect of this means was followed by outbreaks of malignant fevers. They also thought though they used water freely, still they found it necessary to remove substances from them by hand. With the fullest confidence in the integrity and practical skill of our city surveyor, I may be allowed to differ with him in reference to the efficiency of our city sewerage and drainage. I regard the whole of what has been done in these matters, as imperfect. He himself acknowledges that nothing like a system has been followed in the construction of our sewers. Large sewers sometimes discharge their contents into smaller ones, occasionally others have either slopes or steps leading up, when they should be down. This want in regard to the survey of grades and in the construction of sewers, is one of the sad disadvantages resulting from district divisions of the city and resulting in a faulty system of drainage.

Besides, the above complaint, of the Surveyor himself, of the privilege now exercised by individuals of making indiscriminate connections with sewers, is another evidence of the imperfection in question, and if its license continue without interruption he would not be surprised if we are at length called upon to clear our sewers by manual labor of the deposits thus created. Then, again, the plan of surface drainage is a most flagrant nuisance, and which should be remedied by a new system of drainage. Beyond all, I have named the practice of draining privy wells into and connecting water closets and water privies with sewers, together with the horrid condition of the docks along the river front that receive the filth belched forth daily out of the mouth of our sewers, offers still stronger evidence of our own imperfect system of drainage. If the system as at present adopted at Chicago, which in my opinion is only an experiment on a large scale "of connecting water closets and water privies with sewers, and emptying their contents into the river, should prove a success—and this, time only can safely determine, it will be a happy result of a threefold combination in the arrangement of a new city, which no other metropolis has ever enjoyed, the advantage by the superior skill and studied experience of its engineer, based upon a careful, scientific and personal examination of the sewered cities in Europe, the improved uniformity, and correctness of the surveys, the lines, sizes and construction of the sewers, together with a river flowing through the centre of the city, without tide, of an average depth of thirteen feet, seldom varying more than two feet, and ordinarily not one, and a slight but constant flow from the area drained by the river, and waste water from the adjoining canal. During the last two years, there has been very little or no complaint from this cause. But notwithstanding this favourable presentation of Chicago experience, it has met with great success, and while none of the great cities of Europe furnish so exact a criterion, by which to judge of the effect of discharging the sewage of Chicago into their river and branches, yet this experience leads me to fear we may get like them.

If our present system of cesspools is, in the language of the city surveyor, an abomination and a nuisance, I am not without authority of opinion, that the continuance of the ordinance, granting permits to connect water closets with sewers, however perfect may be their construction, will constitute, and more certainly in the future, with an increased supply of water power for flushing the sewers, an abomination and nuisance ten-fold more dangerous to the health and comfort of the citizens, than the present cesspool system. The danger apprehended does not depend so much on imperfectly constructed drains from water closets and water

privies, as on the accumulation of the solid and liquid ejecta of the population, in the sewers themselves, and the exposure it is subject to, at low water, as it escapes from the sewer outfall.

The greatest actual innovation upon the original use of sewers, is the immediate connection of water closets with them, and the consequent abandonment of privy vaults. This, however, has not become universal in any large city, yet though very general throughout Great Britain, for the upper and middling classes of houses, the experience of the last ten years has led many to doubt the propriety of its adoption in all cases. The character and the habits of the population, the facilities for flushing the sewers, and the nature of the outfalls, in regard to becoming offensive, should be carefully considered.

On the continent, as I before remarked, water closets according to the English fashion, appeared to be little used except at Hamburg, the objection to them being the loss of so much valuable manure and the fear of creating nuisances at the outfalls of the sewers.

The plan of communicating water closets with sewers, is without doubt an improper and even unlawful innovation. The system, as I have already mentioned, was originally designed for the conveyance of water alone, from open ditches; in course of time, however, the practice of employing them, for the washing of street and house refuse prevailed. Now, every kind of factory with privies and water closets are allowed to communicate with them. This is highly improper, on account of the serious nuisances engendered thereby, and it is certainly an unlawful privilege, unless granted by the Board of Health, that no deposit be made of privy filth, anywhere, within the jurisdiction of the Board of Health, or anything else liable to become a nuisance, without violating a wise health law.

One of the most serious evils connected with our present plan of sewerage, is the over accumulating amount of its offensive solid contents. This collection derived from the fluid and semi-fluid refuse of almost every department of industry that can be enumerated, located within the range of the sewers, both public and private, together with the washings of the streets and alleys, undergoes putrefactive decomposition, and hence becomes the source of the virulent and toxilogical emanations from the sewers, or in their passage through the streets, from the numerous manholes, inlets or less commodious apertures. The danger of the poisonous gases in this city has been on more than one remarkable occasion fearfully experienced, during the advent of various epidemics, especially the cholera of 1832, which scattered death and desolation in

every quarter, to avoid the grievances connected with any system of drainage, and to get rid of the offal of a city in the least objectionable manner, has been and ever should be a *desideratum* with civil engineers, and the custodians of public health. The natural result, however, of adhering to the above named ordinance will be, in my own judgment, the augmentation of the *debris* of our sewage; and should the plan of water closet and water privy connection with sewers become general, as I perceive no prospect of hindering it, their sedimentary deposits will be alarmingly increased in amount. I base this assumption on the investigation made by Dr. Letheby for the commissioners of sewers of London, in which it is shown that the excrement of the population entering into the sewers of that great metropolis constitutes one third of their solid contents, amounting in a single day, to upwards of one hundred and fifty tons.

It must be remembered, therefore, that proportionately to the population of this city, this addition to an already putrefactive mass, would consist of decaying organic compounds of a most offensive character, evolving foul and suffocating gases, even before it enters into the composition of the sewage. Great as is the nuisance arising from the present offensive character and amount of deposit in our sewers, and from thence distributed in our docks along the river front, I for one, would feel myself guilty of maintaining a nuisance should I not firmly protest against a continuance of the practice. Better is it to bare the evils we have than fly to others we know not of. The proper disposal of sewage, and the *excreta* of the population of a large city, are questions as yet unsettled.

While sewerage has met with universal approval, no efficient system has been adopted anywhere; all existing plans abound with defects, and public sentiment in favour of sanitary reform has been so thoroughly aroused, that a problem so important as this will not be suffered to rest until a satisfactory solution is attained. The feeling is becoming very general that, wherever practicable, sewage should not be allowed to pollute water courses of any kind, and the efforts to avoid it have resulted in presenting to the public three classes of projects. The intercepting, irrigating and the deodorising. Impressed with the *paramount* necessity for judicious municipal legislation, in all instances where public hygiene is involved, I am constrained, from a sense of duty, thus to offer my objections to a continuance of the system of making connections with sewers, as relates to water closets and privies.

I am sensitive, however, that the whole subject is far too comprehensive in its bearings to public health to be embraced in this document, far



too grave for hasty legislation. In reference to the granting of permits for making connections with sewers, I would again call the attention of the Corporation or the Health Officer, before any opening be made to connect with sewers, except in cases of water drains from private residences.

(To be continued.)

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## REVIEWS AND NOTICES OF BOOKS.

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*Therapeutics and Materia Medica ; a systematic Treatise on the Action and Uses of Medicinal Agents, including their History and Description.* By Alfred Stillé, M.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania. Third Edition, Revised and Corrected. In 2 volumes. Philadelphia: Henry C. Lea; Montreal: Dawson Brothers. 1868.

It is just eight years since the first edition of Professor Stillé's work was presented to the profession, and we have now to chronicle the receipt of the third. This, we are certain, is a sure indication of the value in which it is held; it speaks more loudly in its favour than could possibly any words we could write. The present edition embraces every article of the *Materia Medica* in use by the profession. Among the subjects treated of for the first time, we may enumerate chromic acid, carbolic acid, permanganate of potash, nitrous oxide, rhigolene, the sulphites of soda, &c., &c. We consider it is of especial value to students, combining as it does therapeutics with a very excellent description of the articles of the *Materia Medica*. The strictly scientific portion of the work embraces the consideration of medicines in their physical, chemical and physiological relations. The therapeutic portion is well written, and serves to aid the sagacious reader in explaining the operation of remedies, and to suggest new occasions for their employment. At page 25 of the introduction, we find the following, and so true is the description, that we cannot refrain from copying it:

“Physicians are daily blamed for their inability to save the lives of the sick, and many of them, it is to be feared, do not clearly apprehend, or apprehending, are unwilling to acknowledge, why such narrow boundaries limit the power of medical art. But the difficulty of forming just ideas upon this subject arises from overlooking, or not properly appreciating, the changes of structure produced by disease. When a man's brain is crushed, neither physicians nor even the vulgar expect to see him restored to health; and medicine incurs no blame for his death. But

if the cause of death be rupture of the heart, or an effusion of blood in the central portions of the brain, the fatal result is just as inevitable. Yet the physician only can appreciate this truth; the layman does not perceive why these lesions should necessarily extinguish life, and he can scarcely repress the suspicion that some medical means ought to have been found to prevent the catastrophe which he laments. Other diseases accompanied with visible changes of structure, such as valvular disease of the heart, tumours which arrest the course of the blood or of the chyle through its main channels, and cancerous degeneration, the physician sees terminating fatally without anxiety or self-reproof, while the unlearned half hint that he or his art is responsible for the result. A step further and doubts and difficulties assail the physician almost as much as the non-medical objector; nothing in the visible and tangible changes which the body has undergone can explain the fatal event, and when the propriety of the treatment and the skill of the physician are assailed, they cannot be vindicated to the complete satisfaction of the assailant nor always of the physician himself. His conscience will suggest the questions: Could nothing more nor different have been done? Would not a more experienced practitioner have been successful? And yet, in such cases, death may have been quite as inevitable as if the brain had been shattered, or the heart torn from its vascular connections. Blood of a certain composition is quite as essential to life as the integrity of any of the organs once expressively called *noble*; yet the nature, and still more the degree, of its alteration incompatible with life can only be guessed at."

We feel the full force of Professor Stille's remarks. Many a time is the physician blamed for not saving life—simply because the cause of death is not as palpable as when a man has his brains dashed out. In such a case, your only satisfaction is in knowing that you performed *all* your duty.

We cannot give our readers a better idea of the arrangement of Professor Stille's volumes, than by copying a few of his remarks on the classification of medicines. He says:

"Many attempts have been made to form a scientific classification of the *Materia Medica*. The botanical, mineralogical, and chemical arrangements, although recommended by several eminent names, are totally useless to the physician; and the physiological, in consequence of its assuming as a basis, of therapeutics, principles which are transient and uncertain, is only a delusive guide. Some writers have despaired of devising an arrangement or nomenclature at once rational and useful, and have taken refuge in an alphabetical catalogue of the articles of the

**Materia Medica.** The sole merit of this plan is, that it facilitates research in works intended to be used rather for occasional reference than for systematic study. It is destitute of that suggestive power which belongs to natural classifications, and by which one article recalls others of the same nature that may be substituted for it with more or less advantage.

“The most ancient, the most generally employed, and the most convenient classification of medicines is their arrangement in groups corresponding to their sensible operation upon the economy. The original foundation of practical medicine consisted in an attempt to promote the critical phenomena of disease, or, where these did not appear, to imitate them. It was observed that they usually consisted of evacuation from the lungs, stomach, bowels, kidneys, skins, &c., and as it became known, by accident or by experiment, that certain substances occasion similar discharges, they were employed for this purpose in disease. In process of time, and with a more careful observation of the effects of medicines, it became evident that many of these which appeared to be simple, are in reality complex; that many medicines, analogous in their general effects, are yet dissimilar in their secondary or subordinate operations; that many which were regarded as acting upon individual organs, as a whole in reality confine their operation to certain of their anatomical elements; that many natural medicinal substances are composed of two or more active and sometimes discordant elements, &c. \* \* \*

“In the arrangement proposed below, several of these distinctions are observed, and an order of classes is adopted, the general plan of which is that it ascends from the simpler to the more complex forms of medication. At one of its extremities will be found emollients, the action of which is very simple, and for the most part mechanical; while at the opposite end of the ascending scale the class of alteratives is placed, whose mode of cure is totally inexplicable in the present state of our knowledge.

“It will be found that the several classes do not always comprise the same articles which they include in other works. Many, if not all, medicines display diverse qualities according to their dose, combinations, mode, and time of administration, &c., but, as every one possesses some predominant virtue, on account of which it is most frequently prescribed, this circumstance has usually determined the author's choice of its position. In that place its subordinate as well as its cardinal qualities will be examined.”

## PERISCOPIC DEPARTMENT.

## Surgery.

## IS TERTIARY SYPHILIS COMMUNICABLE ?

A case of Indurated Chancre and Constitutional Syphilis contracted in an unusual manner. Reported by Dr A. M. SIGMUND, Shimmersville, Pennsylvania.

On August 24th, 1867, I was called to see Miss M. H., aged seventeen years, well developed, and to all appearance in good health, with the exception of a large and painful ulcer on her upper lip. Upon examination, I found the ulcer to present the following characters: It was situated on the centre of the lip, extending from its anterior margin to near the frænum, oval in form, and, the lip being much swollen, about five-eighths of an inch in its longest diameter. Its surface was hollow, as if scooped out, and covered with a layer of dirty greyish lymph; the edges were hard, slightly elevated, and sloping a little from within outwards; the base well defined, and very hard, feeling, when pressed between the thumb and finger, like a button or ring of fibro-cartilage.

On inquiry, I learned that about two weeks previous the lip had become indurated at the centre, where she had a slight chap, after which the induration increased until it had involved the whole thickness of the lip, and then—about a week after—it commenced to ulcerate. On my informing her that the ulcer was undoubtedly of a syphilitic character, and asking her when and how she became infected, I received the following statement, which, from what I have since learned, I believe to be true. About three weeks before, she had been at a Pic-nic, and was there in company with a young man, (whom I knew to have been labouring under *tertiary syphilis*, and had also at that time some indolent sores on the inside of his lips), and that at one time during the day, when he had been smoking a segar through a very beautiful amber mouth-piece, she playfully took it from him and placed it in her mouth. In the evening he accompanied her home, and in parting impressed several kisses upon her lips, one of which was rather prolonged, in order, as he said, to take a good parting kiss, as he would leave the neighborhood in a few days. She felt nothing unusual about the lip until about a week afterward, when the induration commenced; but thinks she had a slight chap, or abrasion on it at that time, where the induration afterward occurred.

On further examination, I found that no visible secondary or constitutional symptoms had as yet developed, *and also, that there was no local disease, or evidence that there had been any, on any other part of her body.* To all appearance the disorder was as yet only local.

I applied solid nitrate of silver—the stick being brought to a fine point—thoroughly to every part of the ulcer, and the slough came away in a few days, the ulcer presenting rather an aggravated condition, where I re-applied the nitrate. From this time it commenced to heal—the nitrate being applied as often as was necessary—and in about three weeks the sore was entirely healed, but considerable hardness remained for some time after, which, however, disappeared entirely under the subsequent constitutional treatment.

I remarked that when I first saw the patient there was only the primary sore on the lips. In the course, however, of a few weeks—about five weeks from the appearance of the local lesion—secondary symptoms manifested themselves; such as the characteristic eruption, sore throat, pain in the ears, joints, &c., enlargements of the cervical glands, with pain extending to the mastoid processes on both sides. She suffered also for some time from rheumatism (syphilitic) of her left arm, preventing its use; she also had some non-suppurating buboes, but only on the left side. The eruption, as I have said, was markedly characteristic, and was most numerous on the forehead, scalp, face, neck, breast and arms; there was also some on the body and lower extremities, but not so numerous. It was at its height about ten days from its appearance, remained stationary about a week, and had disappeared again in three weeks more. The sore throat—not ulcerated, but only a little inflamed—enlargement of the glands, pain in the ears, and some soreness of the joints remained some weeks longer. The whole course of treatment lasted between three and four months, when I discharged her seemingly cured. I have seen her but a few days since and she tells me that she continues in perfect health.

The treatment constitutionally, consisted of iodide of potassium, in doses ranging from five to fifteen grains, three times a day, given in compound syrup of sarsaparilla, with the bi-chloride of mercury in half-grain doses until the gums were slightly touched, when it was omitted; morphine was given to relieve the pain.

A few days after I was called to see this case, a young man came to my office stating that he had a sore lip, which pained him considerably, and that he felt uneasy about it, “especially as he had seen a lady having a very sore lip.” On asking more particularly, I learned that he had been in company with the same Miss M. H.—a few days after the sore on her lip had commenced, and not thinking of any danger had kissed her. The sore was not yet large, but had the characteristic appearance of an indurated chancre. I applied nitrate of silver thoroughly then, and again in a few days after, after which it healed nicely, and then gave

the usual constitutional treatment, and up to this time no constitutional symptoms have appeared.

These cases are interesting as instances of the disease being communicated in rather an unusual channel.

The first case is also particularly interesting, as tending to determine the mooted point as to the communicability of tertiary syphilis. There can be no question that the young man had at the time well-defined tertiary syphilis; the sore on the young lady's lip was a well-marked "initial lesion," and followed by "characteristic constitutional syphilis."

[If, as stated by the writer, the young man had well-defined tertiary syphilis, and the young lady contracted her disease from him in the manner stated, the case as reported is certainly one of very unusual interest, as being in direct antagonism to, and subversive of the long accepted teaching of Ricord, that syphilis in its secondary and tertiary stage is not only not inoculable, but that in these stages or forms it loses, in part, its peculiar type. "Secondary symptoms," he says, "are the consequences of the absorption of the virus, and are transmissible by hereditary descent, without being inoculable. Tertiary symptoms are not inoculable, but cannot be transmitted by hereditary descent under their peculiar type, although, in consequence of a kind of degeneration or modification of the syphilitic virus, they are, probably, one of the fruitful sources of scrofula." Again, in speaking of tertiary symptoms, he says, "they never furnish inoculable secretions."

Upon this subject Dr. Bumstead, in his most excellent treatise on venereal diseases, says, that "Ricord's statement that 'secondary symptoms are not capable of inoculation' is true in the guarded sense in which it was intended, viz., that they are not inoculable upon the persons bearing them; but the inference which was also designed to be conveyed is not true, as Ricord himself has since acknowledged. Both are contagious and inoculable upon persons free from syphilitic taints, but neither are auto-inoculable.

"Again, Ricord's statements relative to tertiary symptoms cannot at the present day be implicitly received. This author maintains that tertiary lesions are not inoculable, and cannot be transmitted by hereditary descent under their peculiar type; and hence that the virus in this stage must be entirely changed from its original character. The first of the above assertions is doubtful, the second is incorrect. The inoculability of tertiary symptoms has never been tested upon persons free from syphilitic taint, and its possibility, therefore, may yet be demonstrated, as that of secondary symptoms has been."

In the case above detailed, it will be observed that the virus did not

reproduce symptoms or lesions characteristic of the stage of the disease to which it pertained, but that the virus from the tertiary stage produced the "primary initial lesion"—an indurated chancre, followed by secondary or constitutional symptoms, and reproducing a similar "initial lesion" upon another uninfected person. This case, therefore, if there be no error in regard to it, is particularly interesting, in furnishing evidence of the effect of the inoculation from the virus of tertiary syphilis upon a person free from syphilitic taint, the effect of which, Bumstead says, has never been tested.—Ed.]—*Humboldt Medical Archives, April.*

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## Medicine.

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### PERMANGANATE OF POTASH IN ACUTE RHEUMATISM.

By C. M. FENN, M.D., of San Francisco.

An extract from a clinical lecture, delivered by Dr. James F. Duncan, at the Adelaide Hospital, some time ago directed my attention to the use, among other remedies, of permanganate of potash in the treatment of rheumatism. I promised myself to make trial of the remedy at the first opportunity. Regarding the so-called chemical theory of the etiology and pathology of rheumatism as, at least, the most plausible, and believing the efficacy of other salts of potash in that disease to be largely due to the measure of oxygen which they contain, it seemed to me that in salt we possessed a remedy admirably adapted to meet all the indications; and that from the fact of its containing so large a proportion of oxygen (KO, Mn O<sub>2</sub>) and holding the same in such loose affinity, we should be enabled most speedily to promote the transformation of lactic into carbonic acid. In apparent corroboration of this view, I append the record of three cases.

Case 1. Mr. S., salesman, aged thirty, after some unusual exposure was prostrated by a severe attack of rheumatism. Upon an examination of his case the new remedy occurred to my mind. But the urgency of his symptoms was such that it seemed preferable to make use of the medicines we had some confidence in rather than fly to others we know not of. He was, therefore, ordered a preparation of potass, iodide, vin. colch. sem., etc., and submitted to a hypodermic injection of morph. acetat. one-fourth of a grain. To modify the exhausting and troublesome perspiration, he used, on the third day, a vinegar bath, with no appreciable relief. On the fourth day discovering no change in his condi-

tion, other than might be ascribed to the daily hypodermic injections, I requested him to suspend the mixture and have half a grain of the permanganate, three times a day. At my next visit, on the following evening, I was surprised at the marked abatement of all the symptoms. The tongue was quite clean, the perspiration no longer excessive nor disagreeable, and the pains were so far relieved as almost to preclude the continuance of an anodyne. His convalescence was now constant and rapid, and on the tenth day from the commencement of the attack he was again at his post.

Case 2. Mrs. G., aged thirty-five, of full habit and previously healthy, was attacked during the passage from New York. There had been a considerable amelioration of the more violent symptoms at the time of her arrival here; but some of the larger joints were still tumid and painful. The permanganate of potash was resorted to, and in a few days she was able to attend to her household duties.

The third case I regarded as, in some sense, a crucial test of the remedy. The patient, a man in middle life, had long been a victim distorted with tophaceous deposits, and the malady was so far incurable. This was varied, however, at intervals of two or three months with acute attacks, which apparently resisted all the usual remedies, and expended their force in from two to three weeks. I had previously attended him in several of these attacks, and found the common remedies, colchicum, acetate of potash in larger doses, &c., of but little avail. I now put him on the permanganate, and had the pleasure of seeing him on the street in seven days.

I find the raspberry syrup to be the best menstruum, as it disguises the somewhat nauseous taste of the medicine completely.—*Detroit Review*.—*St. Louis Medical Reporter*.

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#### CASES OF COPPER POISONING OCCURRING AMONGST THE OUT-PATIENTS OF ST. THOMAS'S HOSPITAL.

By EDWARD CLAPTON, M.D., Assistant-Physician to the Hospital.

About a year ago a sailor came under my care suffering from chronic gastro enteritis and other symptoms indicative of some metallic poisoning. He was a miserable object, and stated that he had been compelled during the whole time of a long voyage to drink lemon-juice which was kept in a copper tank. He informed me that all the crew suffered similarly to himself. I intended seeking out the vessel and making inquiries into the matter, but the man did not make his appearance again—the unsatisfactory and not uncommon occurrence amongst the out-patients, especially



in respect of the most interesting and important cases. One peculiarity in this man's symptoms, which I made a particular note of at the time, was the existence of a most marked green line on the margin of the gums, and for some little distance on the teeth.

Not long after I noticed a similar appearance in a young woman who was an artificial flower maker, and who stated that she was in the habit of inhaling the dust of verdigris and Scheele's green, which she was obliged constantly to use in her business.

Last week, again, a patient came under my care in whom the same appearance was observed—viz., a dark green line on the edge of the gums, and a similar stain along at least half of each tooth. He was a coppersmith, working at Penn's Factory, Deptford. His general symptoms, which were of a chronic character, were vertigo, gastrodynia, flatulence, dyspnœa, frequent vomiting, some degrees of wasting of the body, and a peculiar coppery taste. His tongue was moist and flabby, and pulse hard and full. He mentioned that there were fifteen others working in the same shop, and, in consequence of the information which he gave me I called at the factory to-day, and was permitted to inspect the premises, and to examine the rest of the workmen.

Even with the greatest care, it is impossible to prevent the inhalation of copper particles or fumes. The dust of the shop, when viewed in a bright ray of light, can be distinctly seen to be charged with bright metallic particles. Water, too, kept in any vessel in the room for a short time, can be shown, by tests, to be charged with copper. The fumes given off during the process of strongly heating the copper for the purpose of joining appear to be most injurious. The workmen say they have rarely suffered from any definite illness, but all complained of lassitude and giddiness, and a disinclination, when not at work, to take exercise or "to go about," as other workmen. Some of them were exceedingly thin and pallid. *All of them had a green stain on their teeth*, of different shades of colour, varying from a light bright green to a dark greenish brown. Their perspiration had a bluish-green tinge. I examined the flannel waistcoats of several, and found them deeply stained, especially under the arms. One of them stated that, even after a hot bath on Saturday night, his white shirt next day, if in hot weather, would be quickly discoloured. I noticed, too, that the wooden handles of all the hammers were stained green, from perspiration of the hands.

I briefly mention these cases now in the hope of gaining further information as to these appearances, which I have not seen noticed; but I shall recur to the subject in a paper on an allied disease (plumbism), which I have in preparation.—*Medical Times and Gazette.*

# Canada Medical Journal.

MONTREAL, JULY, 1868.

## THE INQUEST ON MARY BOYD OF TORONTO.

On the 5th and 6th of May last, Wm. Hallowell, M.D., Coroner for the city of Toronto, held an inquest on the body of Mary Boyd at the Provincial Lunatic Asylum, in which institution she had died. She had been conveyed there in a state of mental derangement after an attempt to commit suicide by cutting her throat.

A post mortem examination disclosed the fact, that she had died from inflammation of the lungs which had resulted from the wound inflicted on the air passage. The Coroner's jury, which, it is stated, was a very respectable one, gave a verdict of "*Felo de se*, while labouring under temporary insanity." The Jury in addition submitted that they could "not part without recording their sense of the highly improper medical treatment pursued by Dr. Campbell towards the said deceased Mary Boyd. This action on their part is based upon the evidence of high medical authority adduced in the course of a long and painful investigation of a very melancholy case of suicide before Coroner Hallowell." This censure upon the practice of Dr. Campbell, who is a Homœopathic practitioner of Toronto, which appeared in the dailies of that city, with an account of the investigation, and in one journal with some animadversion upon the conduct of Dr. Campbell, was followed by a letter from that person in which he undertook to justify himself. In doing this Dr. Campbell cast reflection upon the course of treatment Mary Boyd had received in the Asylum. Dr. Workman, the medical superintendent, in replying said, "the communication of Dr. Campbell has imposed on me the unpleasant necessity of requesting space in your columns for a few observations on the mournful case of the late Mary Boyd, which I would gladly have been spared from presenting to your readers. But the ill-advised and untruthful statements of your correspondent, together with my conviction of official public responsibility, and a solemn regard to the interests of humanity and truth, appear to me to render it imperative that I should not pass over in silence the numerous untrue assertions and gross exaggerations of fact, involved in his communication."

Dr. Workman's communication had the effect of arousing Dr. Campbell to pen a lengthy dialogue, which, it is alleged, took place between Dr. Campbell and a Mr. Blank, in which the latter personage is made to say all sorts of unpleasant things, give utterance to foul assertions and insinuations respecting the medical gentlemen who had given testimony at the trial, and attribute motives of the most atrocious nature to those gentlemen; while at the same time he is conveniently made to laud homœopathy, relate the professional attainments of Dr. Campbell, and reiterate in fulsome language the great success of Dr. Campbell's practice. When we consider the length of the dialogue, the unmanly way in which gentlemen of well known integrity are maligned, and nothing less than perjury said to their charge, we do not wonder that the influential and respectable journal to which it was sent refused to allow it space. The result of this refusal has been that Dr. Campbell, has, in a pamphlet form, published not alone this extraordinary dialogue but an account of the whole matter, interspersed with numerous foot notes, and with a free use of *italics*. This, he declares, has been sent to every medical practitioner in the country. The burden of Dr. Campbell's effort is to make it appear that he is the victim of a *conspiracy*, because he is a homœopathic physician. The attempt to make this appear is apparent upon every page, indeed in almost every sentence. It is not our intention to follow the writer in his unseemly work of self-laudation. We do not desire to say a word about Dr. Campbell or homœopathy at this time. But we conceive it would be a dereliction of duty on our part if we did not refer to the charge which it is attempted to fasten upon the Medical profession. Had Dr. Campbell and other irregular practitioners alone assailed the character of the profession, it would have been but a matter of ridicule, but when highly respectable journals, such as the *Leader* and *Globe* of Toronto, reiterate the charges, and bring railing accusations against men who honestly perform their duty, we feel the time has come when we should indignantly protest against such direct insult and slander. The insult and the slander are not merely upon the professional honour of the educated gentlemen, but upon their veracity as sworn witnesses. The profession, in their daily course of practice, are accustomed to see the counterfeit passing current among the public, and utter not a word, being well assured that any attempt to expose the charlatan will be at once decried as a persecution, and the result of jealousy. The stereotyped phrase that new sciences are always subject to persecution will be called into use. But as here a medical man is placed in the witness box, he must needs tell the truth. And we submit that when he takes the oath to tell the truth, the whole truth and nothing

but the truth, his testimony should be received without his being exposed to gross charges, unless those charges can be substantiated. We think it ill becomes public journals to reiterate if not to actually make such charges.

The statement of the *Toronto Leader* that "Dr. Campbell has been made the object of a very bitter attack mainly because he is a homœopathic physician, and the President of the Homœopathic Board" requires proof. The declaration of the *Toronto Globe*, that the jury acted "under the promptings of a ring of doctors of a rival school," "that the charges against Dr. Campbell were trumped up against him by Medical rivals" is one that no conscientious journal would hastily make. If the writers verily believe these assertions so derogatory to the character of the gentlemen referred to, then we submit they are grossly partizan, and neglectful of the first principles they pretend in this connection to inculcate.

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#### THE REPORT OF THE TRUSTEES OF THE TORONTO HOSPITAL.

We give below the able report of the recently appointed Trustees of the Toronto Hospital, which will, we are sure, commend itself to the attention of the Ontario Government, and the general public. We would congratulate the Premier of Ontario, on the wise selection he has made in appointing the present Board, and the Board upon producing so clear and concise a statement of the condition of the Hospital. We have not space to speak at large upon the several points embraced in the document, and it would be far from pleasant to examine into the history of the past management of this charity. That an institution so necessary to the welfare of the public, and located in the capital of the wealthy province of Ontario, should have been closed for want of means to maintain it, must be regarded as a disgrace. But we feel strong hopes for its future prosperity. The spirit, energy, and thoughtfulness which pervades the report, leads us to believe that this important public charity will shortly be placed upon a basis which shall ensure its perpetual usefulness. We trust the Government will also afford to kindred institutions in the province the necessary aid to increase their usefulness. We heartily concur with the report that "it would be better to declare them," that is, the several hospitals in Ontario, "to be, what already they practically are, public general hospitals, and to provide for them accordingly."

Pleased with the report in its general nature, we are particularly so in respect to its bearings upon medical questions. The trustees took a

judicious step in consulting the medical profession, and evidently have profited by the information thus derived. The suggestions made by the Board as regards the medical arrangements are, we think, excellent. It is a cause of great satisfaction that in considering the whole question the interests of the Profession have not been forgotten; not merely that it is thought desirable to advance the interests of that profession, but because it will subserve the interests of the public to secure the best possible instruction for a class of men who are destined to become medical practitioners throughout the country. The recognition of this fact is invaluable. The report says, "since the closing of the Toronto Hospital many students have been obliged to go elsewhere in search of that teaching which they cannot acquire here." In thus looking for the advantages of hospital training the students have displayed a sound judgment. However desirable it may be for the schools of medicine at Toronto to retain within their walls the young men engaged in the pursuit of medical education, the student wisely consults his own best interests in seeking that essential aid to his studies, and that valuable information which a well appointed hospital supplies. And this brings us to another point upon which we design to speak.

We have reason to believe that the trustees intend, in appointing the medical staff to the Hospital, when it shall re-open, to select an equal number of the teachers from the two medical schools situated in Toronto and Yorkville, and a certain number from among the leading practitioners of the city. No other course could with justice be pursued. The student attending the hospital ought to enjoy the privilege of following his own teacher through the wards, and also the additional advantage of witnessing the practice of others with whom he is not so intimately associated. While there may be with propriety an intimacy between teacher and pupil, there should be a freedom of access between every member of the staff and every student who pays a fee for his hospital ticket. Justice can give him nothing less. The hospital should be neutral ground, as it is a public institution. The public provides for the maintenance and treatment of the sick, and desires that the medical student shall be profited thereby. The student purchases his privileges by the payment of a fee, and has a legal right to all the advantages which present themselves, and no medical attendant can deny the equal rights of all who attend, whether at the bed side, upon the operating table, or in clinical utterances.

Further, the students, as well as the patients, have a right to demand the regular attendance of the medical officer. We respectfully submit that every member of the staff in accepting his appointment engages to

serve the institution faithfully. He undertakes, for the honour the appointment confers, to give due and reasonable attention to the calls which will be made upon him, as a public officer. It is not just either to the sick and distressed patient to be left sitting in the waiting room hour after hour, or to the student who spends his time and walks no little distance to be compelled to wait in idleness hour after hour. We cannot look back complacently upon what we have experienced and witnessed in the Toronto Hospital with regard to vain waiting upon the easy movements of those who had assumed the duties of medical attendants. If the private engagements of any one will not allow him a reasonable portion of his time for hospital duties, he has no right to accept the post. We would, with the best intentions, respectfully suggest to the Board of Trustees to intimate to each gentleman appointed, that a failure on his part to attend to his duties will be considered equivalent to a resignation of office.

Under the new *regime* we earnestly hope there will never appear any indications of a petty jealousy on the part of rival schools. By all means let there be rivalry; but let it be to see which can furnish the most thoroughly educated gentlemen. Let the precincts of the hospital constitute a sacred ground whereon may be exhibited the kindlier feelings of the human heart.

#### TORONTO HOSPITAL.

##### REPORT OF THE TRUSTEES TO THE LIEUT.-GOVERNOR.

The trustees of the Toronto General Hospital have presented the following report on the condition of this Institution to His Excellency the Lieut.-Governor:—

*To His Excellency Major General Henry William Stisted, C.B.  
Lieutenant-Governor of the Province of Ontario, &c.*

The Trustees of the Toronto General Hospital beg leave to report, that when they met in the month of May last, for the purpose of organization after the appointment of the three new Government members, the affairs of the Hospital were in the following condition:

The Hospital was closed, the Steward alone being in charge as care-taker, from the time the patients were removed from it last autumn.

The unpaid debts for groceries and other necessaries, medicines, wages, firing, repairs, and insurance were.....	\$4,872 42
And the arrears of interest on Debentures amounted to.....	2,640 00

Making a total of.....	<u>\$7,512 42</u>
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which has since been paid.

The assets which the trustees believed they would have had at their disposal this year were—

The grant of the Ontario legislature.....	\$11,200	00
The half-yearly allowance for 1867, which it was supposed would have been voted by the Dominion legislature.....	5,600	00
Rents and interest receivable.....	\$5,181.98	
Less interest on debenture debt .....	4,320.00	861 98
Cash on hand.....		575 82
<b>Total.....</b>	<b>\$18,237</b>	<b>80</b>
Deduct payment as above.....	7,512	42

Leaving the sum of.....\$10,725 38  
to be applied in maintaining the hospital for the residue of the year and which would have been about sufficient for the purpose.

The Dominion Legislature did not, however, vote the half yearly sum, on which reliance was placed, that amount must therefore be deducted, viz., \$5,600.

Leaving only for the services of this year.....	\$5,125	38
But from this has also to be withdrawn the further sum for repairs already under contract .....	\$839	
And further repairs, estimated for, which must be done to preserve the building from actual destruction, say.	461	1,300 00

Leaving in hand for strictly hospital purposes only..... \$3,825 38

To ascertain the extent of repairs required the trustees visited the building, and found it, in many places, so seriously affected, by settling of the floors of the basement; the decay of the galleries from wet; the want of paint in many places; the bad condition of the drainage; the leakage of the roof; and in some other respects, that they were compelled to provide for these demands at once. The general strength and condition of the Hospital are quite satisfactory, but it is manifest that so many small defects in different parts of the building would very shortly have damaged the whole structure.

The trustees have arranged for the usual yearly supplies of provisions, groceries and other necessaries, at prices procured by tender.

The trustees also consulted with many of the leading professional gentlemen of the city, as to the best and most economical method of conducting the hospital. These gentlemen have, with great kindness, afforded us every information for our guidance.

From these communications and suggestions, the trustees are of opinion there should be, as heretofore, one experienced medical man, permanently

engaged as resident physician ; a matron, to have charge of the servants and nurses, and to carry out the directions of the house physician ; a steward, to procure, take charge of, and distribute the supplies ; and a proper staff of respectable women for nurses, to be well paid for their constant and trying services.

The hospital, when open, will be visited daily at a stated hour by one or more of the medical staff who are placed in charge ; and by at least one of the trustees.

No incurable cases should be received or retained in the hospital, for it is strictly a curative establishment. If necessary, another building, and perhaps under a special management, and of course supported by a distinct fund, should be procured as an asylum for that class.

There should be an isolated building for the treatment of small-pox and other contagious complaints, under the care of servants and others, who should not, while engaged there, have any communication with the general hospital.

The trustees have much to do, and but little to do it all with, for the sum of \$3,825.38, will not go far, after paying salaries and wages, in doing much for the sick. It will be necessary to provide, in the first place, for those serious infectious diseases, which are rarely quite extinct in large towns ; and secondly for cases of severe illness or injury among the destitute ; and thirdly, for cases of general sickness, so far as the funds will extend ; but the hospital, except in this limited manner, cannot, we fear, be made more serviceable during this year, under present circumstances.

The trustees regret to make this representation, but it is due to the public to be informed precisely how their charities are administered.

It is a reproach that such an establishment, with ample accommodation, in which all classes are interested, cannot be maintained in such a country, for the want of a few thousand dollars. The conclusion is forced upon us that there is something radically wrong in the present system of hospital management, and that a different scheme must be provided for their future maintenance. The sick, as a class, are entitled to quite as much consideration as the insane or the deaf and dumb, and it is very plain that if it be worth while to educate people at an enormous public cost, it is worth while to take care of them when they are educated and are struck down by sickness. It is a duty which we owe to the community not to suffer dangerous infectious diseases to remain among the healthy : their removal and treatment should, in most cases, be at the public expense. The basis of such a system must be public support, continuing regular, always ready for the emergency, and bearing equally upon all : not private alms, inconstant or irregular, too late for the occasion, and



pressing too heavily on the liberal, while many who are as able to give go free.

The present method of yearly legislative grants is not quite satisfactory. Some permanent self-working plan might be devised, to be corrected or amended by legislation, when necessary.

The only way to provide efficiently for such establishments will, it is believed, be found to be by a public tax, the most beneficial and benevolent purpose for which a tax can be raised. No one will begrudge it, so long as all are made to contribute, because all will share in its benefits. The poor or friendless, by hospital care, and the wealthy by the removal from their neighbourhood of those who are afflicted with contagious complaints, or by taking the benefit of hospital treatment in any case, which can be better attended to at a such place. The probable cost of such a system may be ascertained pretty nearly from the statistical returns made to Parliament. Some of these details are here stated—the general expenditures of the hospital for the year 1866, was as follows:—

	Expenditure.	Number of Pat'nts.	Aggregate No. of Days in Hospital.	Cost per day.	Annual cost of each patient.	No. of outdoor pat'nts.
Toronto General Hospital....	\$16,663 00	585	33,854	\$0 50	\$28 00	3,992
Kingston General Hospital....	6,024 00	567	17,701	0 34	10 12	883
Hamilton General Hospital..	6,635 00	596	27,155	0 24	13 00	158
London General Hospital....	6,750 00	205	5,386	1 06	23 00	818
Ottawa General Hospital.....	2,000 00	100	3,237	0 62	29 06	
Hotel Dieu, Hospital and Orphanage and Asylum, Kingston. (The above is the Hospital Branch),.....						
The Orphanage Branch shews		218	3,729			
The general expenditure of the two is .....	2,049 00	48	11,750	6 13	8 00	
Sisters of Charity, Ottawa....	5,292 00	247	6,392	0 83	26 00	320
Lying-in-Hospital, Toronto..	1,156 00	83	2,548	0 45	13 14	
	<u>\$46,569 00</u>					

The general expenditure of the hospitals being..... \$46,569 00  
 The following deduction should be made from it, for private income, receipts from paying patients and other small resources, amounting to about, say.....18,569 00

Leaving the sum of about..... \$28,000 00

to be raised annually for the sick, on the present very limited and insufficient scale, without including any extraordinary charge which must be provided for at times, such as bedding and furniture for the hospital here, which had to be procured in 1866, which cost \$5,782, but which were paid for from a fund of \$6,988 23 raised by our citizens to meet a most pressing necessity.

It may, perhaps, be that as much as \$50,000 should be raised annually to afford the proper quantum of relief that is required and that should be given.

To raise this sum on the assessed value of the real and personal property of the province, which was in 1866, \$264,496.744, will take about the fifty-third part of a cent in the dollar.

To give effect to a well arranged hospital system, these establishments should be set free from debt, which would require for Toronto...	\$58,000
For Hamilton.....	5,000
And for the Sisters of Charity at Ottawa, if it be a public general hospital.....	2,000
	<hr/>
	\$65,000

In all, this would permit the whole private resources of these charities to be used for the purposes of their creation. That this might be done with advantage will appear from the following statement of assets of this hospital:—

The value of the hospital building, adapted for 300 patients,	\$95,000
Furniture, cost \$7,000, value, say.....	4,500
Yearly income of \$5,181 98, capitalized.....	86,366
Property on hand to be leased, probable rental will be \$14,000 per annum capitalized.....	23,333
	<hr/>
	209,199
Debenture debt.....	58,000
	<hr/>
Surplus of assets over all charges.....	\$151,199

If a different arrangement be made for the support of hospitals, so that hereafter they may be sustained by a rate to be levied annually, the question will be, what shall be done with the present debt? Shall it be paid off by an immediate sale of property, or shall the property be retained and the debts be discharged from the tax to be raised? The way to determine this is to ascertain which course will be the most beneficial to the hospital, or, what is the same thing, to the country, for what is to the interest of the one must be to the interest of the other.

If the hospital be supported, it is not of the least consequence to the

trustees from what fund the support comes. The property which they hold now it is of very little consequence whether it is in their name or in the name of the crown: it is in either case public property, and must be dealt with and accounted for as such by whatever body or functionary it may be held.

If the property be worth what its present estimate represents, and if there be no prospect of a further increase to it, it will be better to sell off as much of it as may be necessary, and pay the debt at once: but if it be likely to raise in value, and to bring an increased rent at the expiration of the present leases which are all at valuation rents, then, as these leases will mostly fall in the course of about seven years, and such a term is a short time in the lifetime of a corporation, it will be better to relieve the property and to receive the income when it arises.

That the current rent will be improved very much by the future valuations to be made, no one can doubt, when the present low rentals and the favourable situation of the properties are considered. Under these circumstances it is manifestly better to preserve the property than to sell it; but the trustees speak in no selfish spirit in saying so. They will be equally satisfied whichever course may be adopted; they are only anxious that the wisest decision shall be come to.

The assessment before mentioned for hospitals might be raised over the whole province, and be distributed among them according to the number of patients they maintained, and the extent of service they respectively rendered; or a certain area might be assigned to the support of a particular hospital, and be taxed for that hospital only. The only objection to this latter plan is, that some one or more of the hospitals would be resorted to from the reputation of the medical faculty attending them, by persons not residents of the area which supported them, and it would, therefore, not be fair that any such locality should, at its own expense, be obliged to provide for the sick of another locality without any kind of compensation.

At the present time it is notorious that what is called the Toronto Hospital, and which is therefore supposed to be the hospital of Toronto, is not the hospital for this place, but is the receptacle for the sick poor from all parts of the country, who flock to it because there is no such place for them in their own localities, and this is no doubt the case with the Kingston and the other hospitals before mentioned. It would be better to declare them to be, what already they practically are, public general hospitals, and to provide for them accordingly. The incidental advantages of hospital practice, and of what is called "walking the hospital," are not

to be lost sight of in the consideration of this subject, for unquestionably the practitioner becomes more experienced, and the students better instructed in their profession by the variety of ailments exhibited and the convenient gathering together of them in one place for treatment. The skill and knowledge so obtained re-act for the general good, for the medical man who becomes more expert, or more scientific, becomes better qualified to serve the public. This kind of institution is an essential part of a student's education, and many of them, since the closing of our hospital, have been obliged to go elsewhere in search of that teaching which they cannot acquire here.

Municipalities which raised by voluntary assessment the magnificent sum of \$676,740, and which paid nearly as much more in other ways for education alone in 1866, should not, and, it is believed, would not, object to contribute the comparatively small sum that would be required for the maintenance, and even, if necessary, for the erection of hospitals for the care and cure of the sick whom we have with us always. But we are bound to act from duty, and not merely from benevolent impulse, and our duty to the sick is contained in that sublime saying and in the passage connected with it, "I was sick and ye visited me," a saying which every one should remember, but especially those among us who have assumed the responsibility of ministering to this class.

The trustees have fully stated the situation of the Toronto hospital, and they have shown the inadequacy of their means to maintain it as it should be; they have also respectfully suggested their views for remodeling the hospitals of the province, because that which it is conceived is necessary for this hospital, it is probably just as expedient should be extended to all the other hospitals.

The trustees will do all they can with the funds at their command, in carrying out the trust reposed in them, but they would consider it a calamity if, after opening the hospital, they should have to close it again, and as there is a risk of this happening in consequence of the refusal of the Dominion Legislature to grant the \$5,600 which was justly due to the hospital, and had been counted on, the trustees will be glad to be informed whether the government will be able or disposed to aid this charity in the present year to the extent of about \$5,600, in case it may become necessary for the trustees to make the request.

The trustees sincerely hope this may be the last year that such an establishment will have to appeal for relief in this manner, and that all the hospitals of the province may be ranked hereafter among those public charities which it is considered to be an honour as well as a duty to maintain.

(Signed,)

ADAM WILSON, Chairman T. G. H.

Toronto, 8th June, 1868.

TRIENNIAL MEETING OF THE COLLEGE OF PHYSICIANS AND  
SURGEONS OF LOWER CANADA.

The Triennial Meeting of the College of Physicians and Surgeons of Lower Canada, was held in the Court House, at the town of Three Rivers, on Wednesday, the 9th July instant, in conformity with a resolution passed at the last Triennial Meeting. There were present Drs. Chamberlin, Brigham, Peltier, R. H. Russell, Jackson, Tessier, H. Blanchet, J. B. Blanchet, Marsden, Rousseau, Belleau, Bardy, Lindsay, Robillard, G. E. Fenwick, Howard, Hingston, Trudel, O'Leary, Rottot, Scott, Hamilton, Badeau, Ross, A. G. Fenwick, Giroux, Landry, and Fleury. The President of the College, Dr. Chamberlin, took the chair at 10 a.m., and called the meeting to order.

Dr. Peltier, the Secretary for the District of Montreal, read the minutes of the last Triennial Meeting, which were duly approved.

Dr. R. H. Russell, Secretary for the District of Quebec, read a report of the proceedings of the College during the past three years, which was unanimously adopted.

Drs. J. B. Blanchet, Lindsay, McFarlane and Fleury, were severally proposed as Members of the College. Having completed the probationary period of four years as Licentiates, the ballot having passed, they were declared duly elected.

The following motion, notice of which had, in accordance with the by-laws, been submitted at a former meeting, and duly published, came up for discussion.

Drs. Marsden and Howard hereby give notice that they will, at the next Triennial Meeting of the College of Physicians and Surgeons of Lower Canada, move "that the by-law be altered and amended by substituting the following for the third section of the regulations" having reference to the preliminary examination of candidates.

"At the preliminary examination the candidate must furnish proof of his possessing a good moral character and a competent knowledge of the Latin, Greek, French and English languages, History, Geography, Mathematics and Natural Philosophy."

Dr. Marsden said that, with the consent of the seconder, he would beg leave to withdraw this motion, inasmuch as this subject would come up for discussion before the Canadian Medical Association in September next.—Granted.

The following notice of motion, which had been published in due form, was then submitted to the meeting:

Moved by Dr. G. E. Fenwick, and seconded by Dr. R. P. Howard, That inasmuch as there are persons holding the license of this College,

who have acted, and continue to act in a disgraceful manner in a professional respect, that this College shall seek to obtain from the Legislature such amendment to their Act of Incorporation as shall entitle them to remove from their Register the name of any such offender, and that the removal of the name of any Licentiate from the Register of the College, shall by law, deprive said individual of all the rights and privileges granted by such License.—Carried.

Moved by Dr. Marsden, seconded by Dr. Brigham :

That whereas, the law as it exists in the Province of Quebec in relation to persons practising Physic, Surgery, or Midwifery, without license, is almost inoperative, it being next to impossible to obtain "two witnesses" to establish any one given fact; inasmuch as the professional services rendered are for the most part of a personal and private nature, and do not always admit of a witness; it is therefore expedient and necessary to amend the law in this behalf. And, whereas, the habit has long prevailed among the members of the Medical Profession of rendering accounts for professional services, and especially for family practice, once only in each year, the law which permits Medical men in such cases to make personal proof of services rendered within a year and a day, has consequently become almost a dead letter; it is therefore expedient and desirable to amend the law, so as to extend the privilege to two years instead of one. Be it therefore

*Resolved:* That the mover and seconder, with Drs. J. J. Ross, Theo. Robitaille and Church, be named a Committee to bring these matters under the consideration of the Legislature, and to take the necessary steps to obtain the amendments suggested by this College.—Carried.

Moved by Drs. Smallwood and Gilbert, that at the next triennial meeting of this College they will submit for adoption: That the clause in the act, in reference to Students presenting for examination, as on page 12 clause 5 of the printed regulations, that all after the words *twenty-one years* be repealed, and that the following be substituted, and that he be indentured by a notarial deed to a duly Licensed Practitioner for the space of four years, and that during the last three years, the said Practitioner shall allow the said Student to attend the necessary lectures, demonstrations, Hospital and dispensary practice, necessary to present himself for an examination for the obtaining a Diploma or License, and that the same be published in the Canada Medical Journal, as required by the regulations of this College.

Neither the mover nor seconder of this being present, Dr. Scott presented a letter which he had received from Dr. Smallwood, requesting permission to withdraw this motion, which was granted.

Drs. Marsden and Smallwood gave notice of their intention to move at the next triennial meeting of this College for an amendment of the by-law of the College, now in force, by erasing the following words under the head of fees, Parchment \$5.—Carried.

The meeting then proceeded to the election by ballot of thirty-six governors to constitute the Board of the College for the ensuing three years.

Proxies were handed in from the following gentlemen, Drs. Bibaud, G. W. Campbell, F. W. Campbell, Codere, Beaubien, Craik, Fraser, Smallwood, McCillum, Taylor, Munro, Picault, Sutherland, Drake, Duchesneau, Gibson, Church, Tassé, Wilbrenner, Wolff, Sewell, J. P. Russell, Lemieu, O. Robitaille, J. E. J. Landry, Von Island, Forrest, Michaud, Tetu, Worthington and Gilbert.

Drs. W. E. Scott, H. Blanchet, and A. G. Fenwick, were appointed to act as scrutineers. The ballot having been taken, the members adjourned to allow the scrutineers time to make their report. After re-assembling the following gentlemen were declared duly elected Governors for the ensuing three years.

*For the City of Montreal*—Drs. Peltier, Trudel, Rottot, Scott, Howard, G. E. Fenwick, Robillard, and Smallwood.

*For the District of Montreal*—Drs. Chamberlin, Tassé, Wilbrenner, Brigham, Duchesneau, Gibson, and Church.

*For the City of Quebec*—Drs. Sewell, J. E. J. Landry, Marsden, Tessier, R. H. Russell, H. Blanchet, Jackson, O. Robitaille.

*For the District of Quebec*—Drs. Theo. Robitaille, Tetu, Marmette, Michaud, Lavoie, Dube, and Boudreau.

*For the District of Three Rivers*—Drs. Ross, A. G. Fenwick, and Landry.

*For the District of St. Francis*—Drs. Hamilton, Gilbert, and Worthington.

A vote of thanks was then passed in favour of the retiring officers of the College for the interest and ability displayed by them in the management of its affairs, and it was resolved that the next triennial meeting of the College should be held at Three Rivers.

This closed the business of the meeting. At a subsequent meeting of the governors of the College, held the same day and at the same place, the following gentlemen were elected, by ballot, officers of the College for the ensuing three years.

*President*—J. E. J. Landry, M.D., Quebec.

*Vice Presidents*—A. T. Michaud, M.D., and Hector Peltier, M.D.

*Secretaries*—R. H. Russell, M.D., and J. P. Rottot, M.D.

*Registrar and Treasurer*—H. Blanchet, M.D. The Board then adjourned.

*Half yearly Compendium of Medical Science.* Edited by S. W. BUTLER, M.D., and D. G. BRINTON, M.D.

We received the first number of the Compendium, and gave at the time an editorial notice of the work. The second number is in the press, and will appear during the course of this month. It has met deservedly with a cordial reception from the profession of the United States and Canada. It fills a void in American Medical Literature, as the selections are in a great measure taken from American Medical Periodicals. The foreign abstracts are content in selections from a few only of American journals, thus practically ignoring many of the best writers on this side of the Atlantic.

The Compendium contains about 300 royal octavo pages, printed on good paper and clear type. It is to be hoped that the profession will heartily support this undertaking. The subscription is \$3 per annum, and each part will be found to contain the cream of American Medical Periodical Literature, together with liberal selections from foreign journals.

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In the early part of June last, amputation of the foot (Chopart) was performed at the Marine and Emigrant Hospital, Quebec, by Dr. Landry. The patient was brought under the anæsthetic influence of Protoxide of Nitrogen by Dr. Pourtier of that city. This is the first time, we believe, in Canada, that this agent has been used as an anæsthetic, during the performance of a major surgical operation.

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*Personol.*—We understand that Dr. Lizars, of Toronto, late of the *Toronto School of Medicine*, has been elected professor of Surgery and Surgical Anatomy in the *University of Philadelphia*.

Dr. Lizars, who, we believe, is a nephew of the distinguished Lizars of Edinburgh, ranks among the most skilful Surgeons of Canada.

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Dr. Canniff, who for several years was professor of General Pathology and Surgery in Victoria University, the Medical Department of which is in Toronto, has resumed the chair of Surgery.

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#### TO CORRESPONDENTS.

We cannot publish any anonymous communications. A communication signed "A." is for this reason withheld.

Dr. Phillip, of Plattsville, Ont., has our thanks for his kind interest in



the Journal. His list of subscribers with enclosure came to hand in due course. Their subscriptions will commence with volume 5.

"A. B." Perth, Ont., is informed that good reliable vaccine matter can be had from either Kenneth Campbell & Co., Medical Hall, Montreal, or Ebenezer Muir, Place d'Armes, Montreal. The order must be accompanied by a remittance of \$1.

Letters containing money are requested to be addressed to the publishers.

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ERRATA:—At page 329, Vol. 4. line 8 for "Society" read "*Institute*"; line 10, for "American Association" read "*American Medical Association*."

At page 531, line 27, for "physiologist" read *philologist*.

Vol. 5, page 14, line 30, "but in spite of the evils of which we speak. We"—read—"but in spite of the evils of which we speak, we," &c.

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TORONTO OPHTHALMIC DISPENSARY:—A correspondent in Toronto informs us that the Ophthalmic Dispensary, which was started in that city in May, 1887, has proved a success. Its officers are, A. M. Roseburgh, M.D., Surgeon; R. A. Reive, B.A., M.D., Assistant-Surgeon; W. H. Cummings, M.D., Consulting-Surgeon. The Institution is conducted by a Board of Directors.

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### MEDICAL NEWS.

In the New York *Medical Gazette*, Dr. Bliss reports three cases of spermatorrhœa cured by the use of sounds dipped in iced water, and then introduced in the urethra. These happy results are referred by the Doctor to the sedative effect of the cold.

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### INCOMPATIBILITY OF POT. IODID. AND POTASS. CHLORAT.

This is an important point in practice, for in Syphilis, to act at the same time upon the ulceration of the mouth and the general malady, chlorat. potass. and pot. iodid. are frequently given. This practice is dangerous, as has been demonstrated by M. Véc; for the chlorate of potash, absorbed simultaneously with the iodide of potassium, may part with its oxygen, and transform it into the iodate, a poisonous agent. The recent experience of M. Melsens proves the possibility of this transformation.

This ought to suffice to prevent, were it only as a precautionary measure, the simultaneous administration of the chlorate of potash and the iodide of potassium.—*Gazette Med. de Paris*.