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[No. 4.

ART. XVII.—ON THE STATE IN WHICH THE MERCURY EXISTS IN THE HYD. C. CRETA. AND PILL-HYDRARG.

By W. B. NICOL, Esq., M.T.M.C.S.

Read before the T. M. C. Society, January 6, 1847.

The great uncertainty prevailing with respect to the state in which the metal exists in the mechanical preparations of mercury, and the difficulty of arriving at any satisfactory conclusions on the subject, must, I should imagine, have struck every person whose attention has been at all directed to the inquiry.

On referring to the works of different writers on materia medica, we meet with the most contradictory statements; nor are we more fortunate in obtaining a clearer insight into the matter, when we review the results of experiments made for the purpose of ascertaining this point, the experimenters having too often arrived at opposite conclusions. Neither does physiology, in this instance, lend us any assistance, but on the contrary, rather tends to make the matter more obscure; for although we find that in most cases fluid mercury may be taken in repeated doses without producing the peculiar physiological action which usually follows the frequent exhibition of its oxides or salts, yet it has occasionally caused this effect.

It is, however, admitted by most authors, that fluid mercury is usually destitute of all action upon the system, and that it may be taken without inconvenience, more than arises from its mechanical properties. Many are also of opinion that it is equally inert when minutely divided, while some, on the other hand, regard it in this state as a most energetic substance. The former consider the mercury in the apparently mechanical preparations as oxidated by the processes employed in making them; the latter maintain that the metal is merely finely divided. Although writers on materia medica and pharmacy are thus divided in their opinions, chemists are generally agreed in considering these preparations as containing chiefly the finely divided metal.

It has always appeared to me that if the activity of these preparations does not depend upon their containing finely divided mercury, but upon the presence of its oxide, the methods of making them are most faulty and objectionable. It would surely be better to mix the previously prepared oxide—if it alone be the active con-

stituent—with the other ingredients, as was done in preparing the ointment of the grey oxide. This method of mixing blue pill and mercury with chalk, has been proposed and followed by a few persons in England of late years, with what success I cannot say, but the ointment is well known to have failed, and is now scarcely ever used.

From these considerations I was led to make a few experiments upon the mercury with chalk and blue pill, more for my own satisfaction than with the hope of throwing any new light upon a subject which has engaged the attention of many more able investigators than myself. I did not think it worth while to include the mercurial ointment in my researches, as I consider it has been satisfactorily proved that in this preparation nearly all the metal is in a state of minute division, a small portion only being oxidated. That this oxidized portion is not the only active part of the ointment I think I shall be able to prove hereafter. At present I will proceed to lay before the Society the results of my experiments, and the deductions I have drawn from them.

The samples of blue pill were made the subject of investigation. They were all treated successively with water at 170° or 180°, rectified spirit and æther; the mixed liquors acidulated with acetic acid, were not precipitated by sulphuretted hydrogen. The residues were treated with diluted acetic acid at 150°; the liquors filtered and treated with the same re-agent gave no precipitate.

One of the specimens of blue pill I have had in my possession for some years, and I have always found it very active. The other specimens were recently obtained from respectable druggists in this town. All these are, I believe, of English manufacture.

The same number of samples of hydrarg. c. creta., were next submitted to investigation; they were obtained from druggists in this city who had procured them from England.

Sixty-four grains of No. 1, (about 2 or 3 years old) were treated with successive portions of warm diluted acetic acid, the mixed liquors filtered and precipitated with hydrochloric acid; this precipitate, after being carefully washed and dried, weighed 2.5 grs., which give 2.2 grs. as the quantity of sub-oxide (protoxide of the

pharmacopæias.) The filtered liquor gave a precipitate of sulphuret of mercury with sulphuretted hydrogen, the weight of which was not ascertained.

Sixty-four grains of No. 2, (obtained from England last November) treated in the same manner as No. 1, gave 3.2 grs. of calomel, the quantity of sub-oxide estimated from which is 2.8 grs. The fluid filtered after precipitation and separation of calomel gave with sulphuretted hydrogen gas 0.75 gr. of sulphuret, indicating 0.697 gr. of protoxide (peroxide of the pharmacopæias.)

Sixty-four grains of No. 3, (3 or 4 years old) treated as Nos. 1 and 2, gave 5 grs. of calomel, calculating the sub-oxide, from this we have 4.4 grs. The filtered liquor gave a precipitate with sulphuretted hydrogen weighing 1.25 grs., the protoxide estimated from this quantity of sulphuret is 1.163 grs.

The presence of protoxide in mercury with chalk, is no doubt owing to the partial decomposition of the sub-oxide, which is partly resolved by keeping into protoxide and metallic mercury, as occurs with all this oxide met with in druggists' shops. If the protoxide be derived from this source, we may consider the .697 gr. of protoxide in No. 2, as indicating an original quantity of 1.367 grs. of sub-oxide, making the whole quantity of sub-oxide contained in 64 grs. of No. 2, 4.177 grs. In like manner we may estimate an original quantity of 2.27 grs. of sub-oxide as existing in No. 3, from the 1.163 grs. of protoxide, which added to the 4.4 grs. of sub-oxide calculated from the weight of calomel obtained, gives 6.67 grs. as the whole quantity of sub-oxide originally contained in 64 grs. of this sample.

The society will perceive from the results of these experiments, that the mercury with chalk, usually considered the mildest of all the mercurial preparations, contained a large proportion of oxides of mercury, while the blue pill did not show any traces of the presence of an oxide of this metal. We cannot, I apprehend, arrive at any other conclusion on the subject, than that the efficacy of these preparations does not depend upon the existence of an oxide of mercury in them, otherwise the blue pill would be inert and the mercury with chalk a certain and active mercurial, the reverse of which we know to be the case. It would also appear that in making these preparations, the presence of viscid saccharine substances far from facilitating the oxidation of mercury, as is I believe the general opinion, tends to prevent it although they no doubt favour its extinction; consequently the Dublin College is wrong in ordering the addition of manna in making mercury with chalk, if they suppose its activity to depend upon the quantity of oxide formed, but correct if it be ordered merely with the view of favouring the extinction of the metal.

It is not my intention to review all that has been written on this subject, nor to refer to all the experiments performed at different times and by various parties in order to bring this long-debated question to a satisfactory termination, as it would afford matter sufficient for several papers, but I will briefly notice the opinions of two recent writers, Dr. Christison and Dr. Thomson. The former, after stating that he has always found about 1-50th of the mercury of the ointment in the state of oxide, writes, "It is far from improbable that the small proportion of oxide, either present at first or formed during the process of rubbing the ointment into the skin, is the only active part of the mercury." If such be the case, why is not the ointment of grey oxide as effectual as the mercurial ointment? Again, Dr. Christison writes: "In regard to the pillula hydrargyri as well as the hydrargyrum cum cretâ, and hydrargyrum cum magnesia, the inquiries hitherto made rather tend to show that they do not contain any oxide. But the reverse may be presumed both from the mode of preparing them being somewhat similar to what is practised in making the ointment; and likewise from their activity as mercurials, compared with the inertness of mercury when unequivocally in the metallic state only." If, as Dr. Christison seems to consider, the oxide be the active constituent of the ointment, it must be a very energetic substance, since this ointment, administered internally, is, perhaps, the most powerful means we possess of producing mercurialism. According to some French physicians, 2 grs. of the ointment given every 2 or 3 hours, speedily produce salivation, frequently in the space of 24 hours. It is difficult for any but a homœopathist to believe that such certain and rapid effects can result from doses containing only the fiftieth of a grain of oxide, supposing the rest of the mercury inert. How does it happen that the black oxide of the pharmacopæias, is not equally energetic in its action? and how is it that the mercury with chalk is less active than the blue pill?

On the subject of the actions and uses of mercury, Dr. Christison says: "It is a general law in physiology—to which it would be strange were mercury the sole exception,—that metals do not act as such, but must be first converted into oxides or salts." I confess it would not appear strange to me if mercury were, as I incline to believe it is, an exception, since this metal differs widely from all others in many particulars; no other known metal is fluid at ordinary temperatures, and surrounded with its own vapour; nor is there, I imagine, any other which is capable of being so minutely divided;—witness for instance, the extreme fineness and minuteness of division of which it is susceptible, when a solution of

one of its salts is reduced by solution of protochloride of tin; the precipitate caused by this re-agent is so pulverulent that it requires some hours to subside.

In proof of the non-action of metallic mercury when finely divided, Dr. Christison mentions the results of some experiments upon animals by Dr. Samuel Wright. (Unpublished Prize Thesis—Edinburgh: 1840.) This gentleman administered finely divided metallic mercury, prepared by decomposing calomel with muriate of tin and washed with acetic acid, for a length of time to animals without the specific effects of mercury being produced. Dr. Christison does not mention what animals were made the subjects of Dr. Wright's experiments. If the experiments were made upon horses, cattle, or sheep, and mercurialism was not produced by full and repeated doses, I should be inclined to admit that metallic mercury even when minutely divided has no action upon the system, as these animals are easily affected even by comparatively small doses of the preparations of this metal. But if they were made upon dogs, I cannot consider them conclusive, as these animals reject medicinal and poisonous substances so readily from the stomach by vomiting, that no experiments upon them are decisive, unless the œsophagus is tied, which could not have been done in the present instance. I was informed some years since by a medical man, that he had given as much as a scruple of corrosive sublimate to a dog without any effect; there can be no doubt that it was speedily rejected by vomiting. Conclusions as to the actions of medicinal agents deduced from experiments upon the lower animals are often, for many reasons, far from satisfactory.

Dr. Thomson, in his "Materia Medica and Therapeutics," after stating that mercury, when long triturated, is supposed by some to become oxidized, and by others to be only minutely divided, and that he is almost convinced, from the experiments of Mr. Bell, that the latter is the correct view of the case, adds these words: "that it is not merely mechanically divided, is rendered probable from its solubility in hydrochloric acid, which metallic mercury is not." Now its solubility in this acid, allowing that it is so, alone proves that it is not in the state of protoxide (sub-oxide) as Dr. Thomson appears to suspect. "One proof," Dr. Thomson continues, "of its being an oxide, is its striking resemblance to the grey oxide," made by decomposing calomel with potassa or lime. In answer to this it may be said that the powder formed by triturating mercury resembles in appearance the precipitate of finely divided metallic mercury, made by decomposing a salt of this metal with protochloride of tin, fully as much as it does the grey oxide, while in chemical properties it has greater analogy

to the former than to the latter. Respecting its solubility in hydrochloric acid, I find that after removing all the chalk, sub-oxide and protoxide from the mercury with chalk by means of acetic acid, and the greater part of the liquorice and conserve of roses from the blue pill with boiling water and with rectified spirit, the residues when treated with strong hydrochloric acid, either cold or boiling, are partially and slowly acted upon, the acid when diluted and filtered, giving a precipitate of sulphuret of mercury when sulphuretted hydrogen gas is transmitted through it. On treating the residue again with hydrochloric acid, a further quantity of mercury is taken up as indicated by the same test. It is not impossible that by repeatedly acting upon the residue with this acid, the whole of the mercury, excepting what is unequivocally in the fluid state, (the globules being recognisable either by the unaided sight or by means of a lens,) would be dissolved. The fact of this residue being partly soluble in hydrochloric acid seems to prove either that mercury, when finely divided, is partially and gradually acted upon by this agent, or that the metal in these preparations is partly in the state of an unknown oxide. I have not as yet ascertained whether metallic mercury, as obtained by precipitation with muriate of tin when kept for some time in contact with strong hydrochloric acid and occasionally agitated, is perfectly insoluble.

In order to ascertain whether mercury, when administered in the metallic state, is without any action upon the system, I would recommend the adoption of the following plan:—wash the precipitate formed by muriate of tin with warm acetic acid, and test the washings for mercury, so as to ensure the residue containing no sub-oxide or protoxide, then make it into pills with very soft conserve of roses, and with as little manipulation as possible. Administer these pills to patients labouring under chronic diseases requiring the use of mercury, but where the loss of a few days in the treatment, supposing the pills to be inert, would be of no material consequence. The patients selected should be such as from previous experience we know can be affected by mercury without much difficulty. Pills made somewhat according to this method have, I think, on one occasion, been tried in England and found effectual; and an ointment, made in a similar manner, has been used and recommended, as answering a better purpose than the common mercurial ointment, by an Italian physician, Orosi. I am not certain, however, that in these cases sufficient care was taken to ensure the perfect freedom of the precipitated mercury from all traces of an oxide or salt of the metal.

Toronto, December 2, 1846.

## ART. XVIII.—ON THE YELLOW SEDIMENT ON THE MARGIN OF POOLS AFTER RAIN.

To the Editor of the British American Journal.

Very many of your readers have, no doubt, observed the yellow sediment, commonly called sulphur, which is occasionally visible on the margin of pools after rain. It is remarkable that it is never seen except in the month of June. Probably the sulphurous or nitrous smell which is sometimes developed in rain, and which M. Liebig has proved to be occasioned by the real presence of nitric acid, may have had something to do with the popular notion, which is, however, sufficiently disproved by the circumstance mentioned above, that the phenomenon is confined to the month of June. From the absence of any notice of it among the Meteorological Records of the very valuable Annual Reports of the Regents of the University of the state of New York made to the Legislature, it may be inferred that it is not observed in that state. It has been suggested that the substance is the pollen of plants, then in flower, and carried into the air by ascending currents. It appears deserving of close observation, and I therefore beg to call the attention of your readers to it. I subjoin a list of the dates on which it has been observed at Toronto.

1840.....	26th June
1841.....	not observed
1842.....	30th June
1843.....	24th June
1844.....	17th June
1845.....	14th and 15th June
1846.....	1st and 18th June
1847.....	19, 21, and 22 June

J. H. L.

Toronto, 5th July, 1847.

## ART. XIX.—METEOROLOGICAL OBSERVATIONS AT NICOLET.

By W. MARSDEN, Esq., M. D.

In the April number of your Journal, you say, "yet communications on physical subjects are still a desideratum; and we would earnestly call on our friends to record, in its pages, those matters of physical interest which must, when collectively considered, constitute a most important means of furthering our acquaintance with the physical development and resources of this important section of the British Empire." In furtherance then of your desire on this head, and with a view in some measure to supply that desideratum, I herewith enclose you a Meteorological Table, for the village of Nicolet, for nine years past, or from 1838 to 1846, both years inclusive, compiled from tables kept

by the Rev. Francois Desautiers, one of the professors of Nicolet College.

These tables contain only two daily observations, one at 6 a. m., and the other at 3 p. m.; whereas those for Montreal contain the results of three observations, viz.: at 7 a. m., 3 p. m., and 10 p. m.; but they have been kept with extreme regularity and precision. The minimum temperature, as we are aware, is before, at, or about sun-rise, and the experience of the Rev. Gentleman to whom I am indebted, proves that the lowest average is about 6 a. m., on which account he has adopted that hour for morning observations, and the maximum about 3 p. m.

The part of Nicolet whence these observations have been made, is situated about two miles south-east of the eastern outlet of the River Nicolet, near the debouche of Lake St. Peter, and about 10 miles S. S. West of Three Rivers, in the midst of a champaign country, to which cause the slight variation of temperature as compared with Quebec and Montreal is probably attributable.

The latitude I have set down  $46^{\circ} 14' N.$ , and is, I doubt not, correct, being the result of eighty different observations of my reverend friend; and the longitude  $72^{\circ} 39' W.$ , I think is very nearly correct.

My attention has been more particularly called to this object, from having perused with much satisfaction, Mr. Justice McCord's interesting communication in the May number of your Journal for 1845; together with its accompanying table of the mean temperature of Quebec. The remarks of that gentleman on this subject are so pertinent, that I will again refer such of your readers to them as take any interest in the matter, merely remarking, that Mr. Desautiers' tables embody all Mr. McCord's suggestions, having been kept most methodically and regularly throughout the intervening years from 1838 to 1846, the observations being made daily, and at fixed hours, and the means of the months and years being summed up; added to which, the instruments and philosophical apparatus used by him are generally of the very best description. It is to be regretted, however, that the barometer apparatus belonging to the Institution is very defective and imperfect, whereby we lose much valuable information.

I have already alluded to the comparatively slight variation of temperature here, and a reference to the table of the means of nine years, will show a variation of only  $2^{\circ} 23'$ ;—the greatest mean in 1846 being  $42^{\circ} 61'$ , and the smallest in 1844 being  $40^{\circ} 38'$ , whereas, Mr. Justice McCord's tables, before alluded to, show a variation on ten years of  $5^{\circ} 08'$ , and the

temperature as compared with Nicolet, is proportionally lower; the mean of the former on nine years being 41° 43', and that of the latter on ten years 39° 30' and the maximum and minimum temperature of Quebec + 92° and -28: whilst Nicolet shows + 87° and -27.

I have added to the table of the means, one containing some general observations on the wind, weather,

&c., which may prove useful as well as interesting; such as the first snow of the season, and the closing and opening of Lake St. Peter, which, as it forms the ice bound key to the free navigation of the river St. Lawrence from Montreal to Quebec, must be a subject of interest; as also the reinvigorating and renovating advent of vernal blossom.

TABLE OF THE MEAN TEMPERATURE OF NICOLET, FOR NINE YEARS.  
Lat. 46° 14' N., Long. 72° 39' W.  
Compiled from the MS. Tables of the Rev. FRANCOIS DESAMBERS.

	1838.		1839		1840.		1841.		1842.		1843.		1844.		1845.		1846.		
	Mean Temp.	Max. & Min. Temperature.	Mean Temp.	Max. & Min. Temperature.	Mean Temp.	Max. & Min. Temperature.	Mean Temp.	Max. & Min. Temperature.	Mean Temp.	Max. & Min. Temperature.	Mean Temp.	Max. & Min. Temperature.	Mean Temp.	Max. & Min. Temperature.	Mean Temp.	Max. & Min. Temperature.	Mean Temp.	Max. & Min. Temperature.	
January	18.3	-17	10.2	-23	7.7	-16	19.4	-18	11.5	-18	20.0	-21	3.7	-27	11.4	-11	14.1	-15	
February	8.9	20	17.0	24	19.6	12	11.5	15	16.3	12	6.8	20	13.9	16	16.7	21	8.6	14	
March	31.0	+17	26.6	6	28.6	+12	22.9	11	29.3	+13	23.6	1	26.3	+42	23.8	+54	23.7	18	
April	33.7	51	42.2	+7	40.9	65	35.2	78	39.3	69	39.4	65	42.9	65	38.0	60	43.7	+65	
May	50.9	65	50.1	68	56.6	82	52.0	81	51.1	71	53.1	72	53.5	68	51.5	77	55.4	73	
June	66.9	85	59.7	75	65.2	86	65.5	83	60.8	77	62.9	86	63.4	83	64.3	82	63.5	83	
July	72.8	89	70.1	83	70.3	87	68.8	86	67.2	84	65.3	81	65.9	78	66.7	82	63.4	83	
August	67.8	85	66.6	85	69.5	85	68.4	86	68.6	81	67.7	79	65.7	80	67.7	81	68.5	86	
September	58.3	73	56.8	77	57.0	74	60.0	76	55.0	72	57.6	79	60.9	86	54.6	70	60.9	84	
October	44.4	71	46.7	64	41.4	60	42.3	54	44.6	60	42.0	60	43.5	62	46.7	68	44.3	62	
November	27.0	49	32.3	45	33.4	46	33.7	58	32.0	45	39.0	43	39.9	41	34.9	53	37.2	50	
December	11.2	-16	25.4	39	11.4	-14	22.3	4	14.2	-15	21.9	-2	14.7	-11	12.1	-18	19.0	0	
Mn. of Yr.	40.93"		41.98"		42.10"		41.83"		40.82"		40.86"		40.38"		41.37"		42.61"		42.61"

RECAPITULATION, WITH OBSERVATIONS ON THE SEASONS, WEATHER, &c.

YEARS.	Mean Temp.	Warmest day.	Coldest day.	O	O	First snow of the season.	Snow remains from this.	Lake St. Peter (Open.	Lake St. Peter Frozen.	Fruit trees in Blossom.	GENERAL REMARKS.	
											May 21	18th Dec.
1838	40.93	July 4.	+58 Jan 30	-17	Nov. 1	Jan 17	Jan 17	Apr 21	Dec 4	May 21	Venus visible to the naked eye until noon, 4th, 14th, & 18th Dec.	
1839	41.98	Aug 19	85 Feb. 7.	24	6	Dec 12	Dec 12	17	23	19	Remarkable for heavy thunder-storms & hard frosts.	
1840	42.10	July 16	87 Jan 16.	16	Oct 26	Nov 15	Nov 15	13	4	17		
1841	41.83	Aug 18	86 Jan. 5.	19	25	Dec 11	Dec 11	28	26	18		
1842	40.82	July 14	84 " 21	18	27	Nov 19	Nov 19	13	8	24	* On the 15th Feb, only one ft of snow, on the 16th two ft fell.—On 12th May, extraordinary luminous meteor referred to in the Quebec Gazette of 14th May. Nov. 7, smart shock of an earthquake, lasting several seconds, accompanied with great noise and oscillation, at 8h.50m a.m.	
1843	40.86	July 2.	87 " 4	21	22	Oct 27	Oct 27	29	14	20	† 20th to 25th March, great comet vis. 17 days in Jan. therm. below 0. 2d July, a hurricane. 21st Sept., tier, 86 deg. in shade, followed by a hurricane. 13th Oct., another hurric., tearing up the largest trees by the root, lasting about one second.	
1844	40.38	Sep 21	86 " 30	27	98	Nov 29	Nov 29	14	Nov 29	13	29th April—slight shock of an earthquake at 4h 45m pm, lasting about one second.	
1845	41.37	July 16	82 Feb. 3.	21	Nov 10	Dec 1	Dec 1	19	Dec 3	20	23d March—sowing on high lands. 25th March—sowing on carriage—	
1846	42.61	Aug 5.	86 Mar. 1	18	Oct 20	Nov 26	Nov 26	3	26	6		
Mn of 9 yrs.	41.43											

ART. XX.—I. *Geological Survey of Canada—Report of Progress for the Years 1845-6: and*

II. *Geological Survey of Canada—Report of Progress for the Years 1846-7. By W. E. LOGAN, Esquire, Provincial Geologist.*

While heartily congratulating the Canadian public and the scientific world at large on the appearance of the two small but valuable works, (containing little more than 190 pages of octavo letter-press), the titles of which form the heading of this article, we cannot resist a feeling of utter mortification, while comparing the pigmy as well as tardy efforts made by this gigantic scion of the greatest empire in the world—in behalf of so important a national object as that which they embrace—with what has been so well and *speedily* accomplished by the various American States in immediate contact with our wide-extended borders.

Let the reader for a moment carry his eye along the imposing line of noble inland seas, and majestic connecting rivers, which mark our southern frontier, through an extent of upwards of 30 degrees of longitude, or more than 1500 miles, from the Gulf of St. Lawrence on the East, to the confines of the long-disputed Oregon Territory on the West, and he will find no less than eight of the American States, besides embryo territories in the Far West, come under his observation in progressive succession, namely, *Maine, New Hampshire, Vermont, New York, Pennsylvania, Ohio, Michigan, and Wisconsin*. Without stopping to enquire what has been effected by the minor States in behalf of a thorough geological and topographical survey of their interior, let us for a moment refer to the four leading States, *New York, Pennsylvania, Ohio, and Michigan*, and we shall witness results that will both surprise and mortify us.

As, for instance, by an act of the Legislature of *New York* in 1836, the Governor was authorised to employ a suitable number of competent persons to make an accurate and complete *geological survey* of the State, accompanied with proper *maps and diagrams*; and to furnish a full and scientific description of the *rocks, soils, and minerals*, as well as of the *Botanical and Zoological productions*, together with specimens of the same; and further, that one set of such maps, diagrams, and specimens should be deposited in the State Library, and a similar set in such of the literary institutions of the State, as the Secretary of State should direct; and that the sum of \$26,000 per annum should be appropriated, during four years, to defray the expenses incurred. In addition to which, the eminent geologists, Messrs. Hall and Emmons, in the year 1839, suggested the erection of a *museum* for the proper deposition and arrangement

of all specimens in the different branches of natural history;—the zoological specimens to be preserved in glass cases; the fishes, and several of the lower classes of animals in spirits; the botanical specimens in bound volumes, lettered according to arrangement; and the meteorological and geological specimens, (which it was supposed would exceed 4000 in number,) including fossils, to be arranged in two sets, one conformable to the existing state of science, and the other geographically, with separate divisions appropriated to each county. And, for the completion of this truly noble undertaking was allowed an establishment of *four* principal geologists, with assistants, (whose labours were limited to an equal number of districts, into which the State was portioned off for that particular purpose), a botanist, a zoologist, a mineralogist and chemist, and, subsequently, a palaeontologist, devoted solely to the study of organic remains.\*

The geological survey of *Pennsylvania* may be described in fewer words, as having also commenced in 1836, under Professor Rogers, as principal geologist, with a corps of four geological assistants, one chemical assistant, and four sub-assistants.

The geological survey of *Ohio* may be equally briefly noticed, as having commenced in 1837, under Professor Mather as principal, with six assistants—the first assistant acting as palaeontologist, another as zoologist, and a third as topographer.

The geological survey of the then *infant* State of *Michigan* commenced in 1837, (with \$12,000 per annum allotted for four years for its completion), under the lamented Dr. Houghton, as State geologist, with instructions somewhat similar to those for New York, and consisted of four departments, viz., 1st, The geological and mineralogical; 2d, the zoological; 3d, the botanical; and 4th, the topographical:—the first comprising the State geologist and three chief assistants, viz., a zoologist, a botanist, and a topographer, and four sub-assistants, two of whom were allotted to the zoological department. And specimens were required to be collected and preserved as follows;—the State to be supplied with

\* Having given the above brief abstract of the highly creditable arrangements of New York for this great work, we deem it but justice to add that a large portion of the fruits of the united labours of the scientific men employed are already before the world, under the particular auspices of the Government, in the form of ten splendid quarto volumes, with numerous beautifully coloured and other plates, on the Natural History of the State. Of these the five first, denominated Part 1st, are devoted to the different branches of *Zoology*; the 2d Part, to be confined to *Botany*, we have not yet seen; and it may possibly not be yet published: the 3d Part forms one volume, restricted to *Mineralogy*: the 4th Part, devoted to *Geology*, consists of four volumes, each limited to a particular district, as above hinted: the 5th Part, we believe, is not yet published; but is known to be intended to be devoted to *Palaeontology*.

single good specimens; and if more could be found, sixteen more to be, if possible, procured, for distribution among the State University and its branches. And by an act of the Legislature in 1840, the State geologist was further directed to cause to be constructed a map of the State, and of the several counties therein, on a scale of four miles to an inch, and the sum of \$2000 was allotted towards defraying the expense; with joint instructions to the State geologist, Auditor general, and State treasurer, to adopt such measures for their general sale and distribution as to them might seem expedient.

Let us now compare any one of these liberal patriotic arrangements with what has been effected in behalf of the wide-spreading British Colony lying in contact with, and far outflanking the whole of these States. We blush to record the humiliating fact, but stern justice demands the avowal; neither more nor less than the tardy and reluctant appointment of a Provincial geologist, so late as the year 1842, with the magnificent permanent aid of *one* assistant, and the still more tardy addition of a mineralogist and chemist! What, therefore, do we find to have been the inevitable natural consequences? As yet an almost total ignorance of our mineral and other economic resources, beyond what has been gleaned from private researches along the immediate borders of our principal lakes and rivers; and that even in the long-neglected great mineral region of Lake Superior, the Provincial geologist, instead of having been sent forward as the public precursor and promoter of individual enterprise, seemed rather to have been reluctantly employed to bring up the straggling rear, and see that Government was not likely to be taken some paltry advantage of.

Compared with this truly miserable and undignified Provincial arrangement, what might we not have justly expected? Verily, that we should, at the least, have emulated, in generous scientific rivalry, the highly creditable example of New York or Ohio: nay, that a geological staff of double the strength of either of these States might not have been deemed too extravagant an allotment for at once laying open the varied resources of these two Provinces,—more than 5-6ths of which are yet a perfect *terra incognita*. Instead of which, the noblest colonial jewel in the British Crown is content to rejoice in the ability of three solitary individuals to undertake the scientific examination of a *trifling* area of about

350 to 400,000 miles, of which the greater part is spread over a wild and difficult mountain region, as yet unexplored by the foot of the white man, and therefore requiring the protracted labours of a whole lifetime! whereas a corps of scientific individuals, such as that of New York or Ohio, might have completed the noble work in the course of seven or eight years.

Dropping the language of irony, and appealing in sober sadness to that of reason and truth, we would say, that such are the impressions upon our mind, that we conceive that to do justice to this vast and important colony, a distinct geological corps should be appointed to each Province with the Provincial geologist as their general head, and who might conjointly occupy the position of *Provincial surveyor general*;\* and that these two branches should consist of at least one deputy Provincial geologist and two assistants, (one having charge of the botanical and the other of the zoological department), a topographer and draftsman, and a mineralogist and chemist, in connexion with palæontology, or the study of organic remains; and we at all events trust that it will not be long before our Government will be sensible of the actual necessity of so far redeeming our national credit, by the adoption of a far more liberal arrangement than that which we have felt it our duty to condemn and deplore.

While expressing our frank opinion of what ought long ere this to have been the case, it is far from our wish or intention to underrate the highly important and valuable, though *isolated*, labours of the *two* meritorious and indefatigable individuals to whom we are gratefully indebted for the interesting Reports now lying before us.

By a reference to the numbers of the *British American Journal* for August 1845 and July 1846, notices have been taken of the commencing labours of our highly respected Provincial geologist and his zealous assistant, and of the progress they had by that time made in their vast field of observation; and it was further remarked that "it was but seldom

\* Should the revival of such an office, *by name*, be deemed inadvisable, surely there should be a *non-political* deputy surveyor general to each Province, in immediate connexion with the Provincial geologist. Were there no other cause for such an arrangement, the great advantage that would be thereby derived by the country, from the latter officer being enabled to place himself at once in direct communication with every deputy surveyor in the country, for the purpose of acquiring or calling for useful preliminary local information of a geological or topographical nature, would be sufficient to warrant it; but there are other substantial reasons, among which would be having at the head of the surveying department of each Province, not only competent judges of the scientific acquirements necessary to form an efficient Provincial surveyor, but an *acknowledged* public officer, bound to certify to the qualifications of all applicants for such appointments; which no one will pretend to say is at present the case in *political* unprofessional Commissioners of Crown Lands. Should such appointments be found advisable, it is not necessary to go beyond the walls of the Commissioner of Crown Lands' office to look for talented individuals to fill them.

\* The valuable labours of the assistant geologist, Mr. Murray, have already spoken for themselves; and it must be gratifying to the scientific part of the public to be aware that, in the selection of the present talented chemist, Mr. Hunt, the geological department has secured the services of an individual whose well-earned credentials from the very first scientific authorities in America, do him the highest honour, and secure to the *Province* the most valuable and beneficial results.



that the cultivators of the arts and sciences had the satisfaction of seeing a work of this description undertaken and favoured by the Legislature here, and at the same time prosecuted with zeal and talents proportioned to its importance and magnitude; that the encouragement which the Legislature had bestowed upon the work was deserving of all praise; and that, apart from the immediate interest and advantage which the colony has in the accomplishment of it, it evinced a just appreciation of the spirit which now characterises all enlightened communities, adding its contribution to the grand stock of information in a department in which the enterprise of individuals requires to be facilitated and sustained by every public means, in order to secure a successful prosecution of such works. And further, that there is no doubt but that such works will be received with great interest in Great Britain and other countries, conveying, as they will be confidently believed to do, accurate views and details of the physical history of a very extensive and hitherto little known portion of North America. So much, even upon the principle of honour, every country is bound to undertake and carry out; but it also happens that its own interest is always concerned in the result. Its own resources are disclosed, and consequently its wealth and general prosperity are directly promoted; and though it should be found that these resources do not consist in a prodigality of the precious metals, and that there is no hope that

Here the molten silver  
Runs out like cream on cakes of gold;  
And rubies  
Do grow like strawberries;

yet the very 'saving' which authentic information upon the subject must occasion, by preventing fruitless searches and idle speculation, more than justifies the expense of a Provincial survey, *were that expenditure ten times greater than what the Government have undertaken to provide for.* There are few *States of the Union*, probably none, in which many thousands of pounds have not been sacrificed in speculations for minerals, and which a geological report, constructed upon accurate observation of the district, might have prevented. The disappointment and ruinous consequences of these speculations, render it matter of prudence to guard against them in *Canada*, where few will be found hardy enough to adventure in them, when authentic information on the subject shall have previously demonstrated the impossibility of success.\* If the revenues of the Province, and of indivi-

\* Among the delusive instances of this description, in which much ignorant speculation, as well as a good deal of money, has been uselessly wasted, even in *Canada*, may be reckoned various attempts at the working of saline springs; the expectation of finding coal where, according to the laws of nature, no such mineral

duals are thereby saved from the misapplication which the history of other parts of America shows to have been not unfrequent, the report of the Provincial geologist, when he shall have brought his observations to a close, we regard as an invaluable safeguard of the public wealth and of private property. In point of fact, however, the mineral resources of the country are such as cannot fail amply to repay the labour of investigation." —

Now, this may have been all very well at the time, as an encouraging beginning, and as conveying the grateful expression of thanks for unexpected favours received; but we do now confess, after all, that when we look enquiringly round, and make certain odious and mortifying comparisons, and find how little progress has yet been (unavoidably) made in the ample and almost boundless field before us, sheerly in consequence of the utter insufficiency of means, we are somewhat disposed to think that a great deal too much credit has been given our Legislature and our Government.— Having now, however, made these observations, we propose to invite our readers to the more agreeable task of accompanying us in at least two interesting geological rambles—the one amid the wild, unexplored, elevated regions bordering on the lake-spangled sources of the mighty Ottawa, until we arrive at the solitary banks of Lake Temiscamang, in company with Mr. Logan, and his temporary "aide," Mr. McNaughtan, an intelligent Provincial surveyor, very sagaciously half-borrowed from the Commissioner of Crown Lands; and the other, with his zealous assistant geologist, Mr. Murray, amid the still more elevated, mountainous, peninsular tract, lying between the Bay of Chaleur and the Gulf of St. Lawrence, some points of which attain an altitude of near 3800 feet above the level of the sea—from which two short trips some tolerable idea may be formed of the arduous bodily toils, and often imminent perils attending the weary wanderings of the scientific geologist's progress, altogether independent of the great mental and constitutional wear and tear to

can exist; and the search after several of the precious metals: nay, even the long reported and recently partially confirmed abundance of *copper* in the regions bordering on Lakes Superior and Huron, may not, on thorough scientific investigation, prove so exuberant as the golden hopes of our speculators would lead us to expect. There is an old and well-tested adage, which says, "All is not gold that glitters."

\* The highly commendable spirit of economy which reigns throughout our public departments is beautifully illustrated in this arrangement; by which it would appear that Mr. McNaughtan's services—not his unfortunate body—were bisected, and one-half carried to the debit of the cruel commissioner of crown lands, and the other to that of the stony-hearted Provincial geologist! Was the judgment of Solomon, or the pound of flesh of Shylock, at all to be compared with this? *Risum tenentis;—sed, verbum sat.*— See p. 93.

which he is subjected, while reducing his daily labours to accurate calculation and "projection," by the help of the often miserably sheltered lonely midnight lamp.

Mr. Logan commences his able report for 1845-6 by observing—

"In reporting to the Government on the Progress made in the year 1843, a short and very general sketch was given of some of the main geological features of a considerable part of the Province, as connected with the physical structure of the bordering States of the American Union on the one hand, and the Sister British Colonies, on the other. In this description it was considered convenient to divide the subject into two parts; and drawing a line in continuation of the Hudson River and Lake Champlain Valleys, to the vicinity of Quebec, to consider the area to the west of it separately from that on the south of the St. Lawrence to the east, in consequence of important differences in their geological conditions. Each area was represented as belonging to a great trough of fossiliferous strata resting on supposed primary rocks, and containing coal measures in the centre; but in neither case has it yet been found that the profitable portion of these measures comes within the limits of the Province.

"The conditions in which these two areas differ are the general quiescence and conformable sequence of the formations of the western division; and the violent contortions, and unconformable relations prevailing among those of the eastern; and as the Survey proceeds, the propriety and convenience of this division, for the purpose both of investigation and description, appear to me to be more fully confirmed.

"The eastern area, comprising all that part of the Province which lies to the eastward of the divisional line assumed, and to the south of the St. Lawrence, including, however, the Island of Anticosti, covers a space of about 40,000 square miles; the western—extending to the limits of the Province in an opposite direction, and bounded on the north by a line skirting the St. Lawrence, the Ottawa, the Mattawa, Lake Nipissing, and the French River to Lake Huron, and thence along the northern shore of this Lake to Saait Ste. Marie on Lake Superior—may spread over 50,000 square miles. These divisions, however, do not exhaust the Province. There still remains what may be termed Northern Canada, extending from the British limit on Lake Superior to Labrador, and lying between the northern boundary of the east and west divisions, and the height of land separating the Hudson Bay waters from those of the St. Lawrence. This portion, nearly three times as large as the other parts together, may comprehend 250,000 square miles.

"In the geological examination of extensive areas nothing is more essential for the economy of time in working out details than to obtain, as early as possible in the investigation, some approximate view, however defective, of the prominent relations of their general features, to be subsequently perfected as circumstances may permit. But over a surface so widely spread out as that of Canada, so much of which is still covered by primeval forest, even the most partial reconnaissance must necessarily occupy much time. In the western division, the section examined across the country from Lake Huron to Lake Erie by Mr. Murray, in the year 1843, and reported on by him, gives the sequence of the formations, in their order of supposition, and in some detail their subordinate mineral masses capable of economic application. His report supplies a partial knowledge of the boundaries of those formations for some distance on each side of the line of exploration: but their general geographical distribution throughout the district, though vaguely known, is still to be followed out and determined with precision. In the eastern division the sequence of the rocks, as displayed in the Gaspé District—where the coast section affords the fullest and best exhibition of them,—and their general relation to the coal deposit of New Brunswick, have been ascertained and pointed out. Their range has been partially traced, but the disturbed condition of the strata will naturally render the complete examination of the district difficult and tedious. In continuation of the previous season's labors in this division, the time of my Assistant, Mr. Murray, has been engaged during the past summer, and I have now the honour of transmitting to Your Excellency his Report of the progress effected.

"A section having thus been made across the western division, and another across the eastern, shewing the nature of the deposits that are to be sought for in each; it appeared to me expedient that one should be made across the northern country, for the purpose of ascertaining some of the prominent features which might characterise it. This great northern area is drained by many considerable rivers. Of these the Ottawa and the Saguenay are the largest. The Saguenay is placed more nearly in the middle between the extremes of the area, but several considerations induced me to select the Ottawa for the line of exploration. The Ottawa is the larger river of the two, yielding in magnitude only to the St. Lawrence itself, and it therefore promised greater facilities of navigation in remote parts. It is more extensively connected with the commerce of the country, and while its greater proximity to my starting point, and the steamers plying on the lower part of it, would save time, a supply of provisions, and Indians could be more readily procured, and more easily transported. I was influenced also by the feeling that should it become necessary for me, as seemed probable, with a view to geological results, to delineate topographically any part beyond the point to which the river had been previously surveyed, either for the purpose of Township settlements, or of Timber allocations, the map that might result would prove of greater utility to the interests of the Province than the produce of a similar measurement on the Saguenay.

"Persuaded that the topographical part of the investigation might be made available for the purposes of the Crown Land Department, I was induced to propose to the Hon. D. B. Papineau, the Commissioner at the head of it, to unite with me, as an Assistant, at the joint expense of his Department and the Geological Survey,\* a Provincial Surveyor, familiar with those parts of the river already mapped, who might have paid some attention to the rocks of the district, and whose acquaintance with localities would enable him to save much time in the geological branch of the investigation, by pointing out facts known to him, which it might otherwise require much search to discover; and a communication made by Mr. J. McNaughtan of Bytown, in 1842, through the Surveyor General's Office, in reply to various questions circulated on behalf of the Geological Survey, and subsequent conversations with him, having made me aware that he could be of essential service on the Ottawa, with the consent of the Commissioner of Crown Lands, it was arranged that he should accompany me.

"Supplying ourselves with provisions, we were enabled to forward them up the Ottawa first by steam propellers to Bytown, and thence by steamboats plying on the Lakes Chaudiere and Chats, with the assistance of wagon conveyances established at the portages, as far as the Falls of the Calumet, a distance of about 175 miles. Four Indians were hired at Caughnawaga, and with the aid of the gentlemen in charge of the Hudson Bay Company's Posts, at Lachine and the Lake of the Two Mountains, we obtained a couple of excellent birch-bark canoes. I have to express my obligations to Mr. McTavish, in charge of the latter Post, who, in addition to the trouble he took with respect to our craft, materially assisted the objects of my research by presenting me with a collection of specimens obtained from the interior of the country on the higher part of the river in the vicinity of the Grand Lac, which are of value as shewing the nature of the rocks over a very considerable area, not easily visited; and to the Governor, Sir George Simpson, I was indebted for a general and very serviceable letter of recommendation to all the Agents in charge of the Company's Posts.

"Visiting several parts on both sides of the Ottawa for the examination of the strata, and making an excursion up the Rivière à la Graisse, and another a short distance up the Rivière du Nord, we proceeded in our canoes as far as Grenville; from this we took advantage of the steamer to Bytown, having on a previous occasion examined the interval. Spending a few days there it was my good fortune to enlist in my favour the aid of Mr. McDermott, Provincial Surveyor, who most obligingly undertook to keep a register of barometrical observations at stated periods of the day until my return, with a view to a more exact determination of such heights as it might be expedient to measure in the interior of the country; and for this purpose one of my instru-

\* See Note, p. 92.

ments was left in his possession. In investigating the vicinity, Mr. McNaughtan guided me to several points of geological interest in Nepean, and the assistance of Mr. Blasdell, and Mr. Hayworth enabled me to see others in Hull.

"Again taking to our canoes, we coasted along the north shore of the Chaudière Lake to the Chats, where a few days were spent in examining different spots in Fitzroy, Torbolton, and Bristol Townships; and having had the misfortune to lose one of my thermometers, and break another, I was accommodated at the Chats with the loan of an excellent pocket instrument, through the kindness of Dr. Dubord, without which much inconvenience would have been experienced in barometrical measurements. Ascending the Chats Lake, we made an excursion up the Mississippi River to Packenham, where Mr. Dickson, the founder of this thriving village, who takes an interest in geological phenomena, was so obliging as to accompany me to several spots in the vicinity, and to supply me with a small collection of specimens illustrative of the rocks of the Township; another excursion was made up the Madawaska River to the High Falls, a distance of about thirty miles from the mouth; a third up the Bonnechère to Jessop's Rapids, about the same distance; and having examined both shores of the Chats Lake, we proceeded by the Chenaux to Portage du Fort, the highest point on the Ottawa to which steam navigation at present reaches; thence we ascended by various rapids and portages to the Falls of the Calumet, where we were very kindly received by Mr. Gerrard Nagle, in charge of the Timber Slide constructed there by the Board of Works, who obligingly pointed out the locality of several minerals met with in blasting the limestone rocks occupying the river, for the seat of the slide. Having made a complete circuit of the Calumet Island by the Roche-fendue Channel, the Muskrat Rapids and Moore's Slide, we loaded our canoes with our provisions, which had arrived in safety at the head of the Calumet Portage, and continued our expedition, examining the shores of the Coulonges Lake, including the vicinity of the Fort, where we touched, to the mouth of the Black River, whence we proceeded by Pocket's Rapids and the Allumettes Falls, to the flourishing settlement of Penitroke, making a short excursion up the Muskrat River on our arrival there. From this we examined the south shore of the Upper Allumettes Lake to the mouth of the Petewawe, and crossing over to Fort William, where we were welcomed by Mr. Brown, of the Hudson Bay Company, in charge of this Post, we skirted the north side to the entrance of the Deep River. This splendid reach of the Ottawa was examined on the north side, and portaging at the Joachim Falls, we reached the mouth of Bennett's Brook, about five miles further up the river.

"This constituted the highest point to which the Ottawa had been surveyed. It is somewhat under 150 miles above Bytown, and in the investigation of the country, as we passed through it, I was indebted to Mr. McNaughtan for the use of a map on the scale of four miles to an inch constructed partly from his own original surveys and partly from compilation, which, being the only one I had seen representing the measured parts of the Ottawa and its tributaries with fidelity, proved of great value.

"With a view to connect the geological features which might present themselves in higher portions of the river, it was considered expedient, in continuing our exploration, to dial and measure our course. In the determination of our distances we availed ourselves of Rochon's micrometer telescope, the instrument which had proved so serviceable and expeditious a means of measurement, on my previous year's exploration across the Peninsula of Gaspé, by the Chat and Caspédia. A theodolite was used to determine our bearings; and proceeding from point to point on one side or other of the river, the sum of that opposite was ascertained by cross-bearings on fixed objects from the extremities of our lines. Where rapids existed, the difference of level between smooth water at the foot and head was ascertained by means of a pond levelling instrument and staff, with readings to the hundredth part of a foot; and the general rise in such parts of the stream as afforded no serious impediment to the progress of our canoes, was computed from the flow of the current. The quality and altitude of the rocks were registered as we advanced, after being minutely examined wherever occasion required, and Mr. McNaughtan materially aided the work, by entering in his field-book an eye-sketch of the river and banks, preserving many minor turns which would otherwise have been lost in the subsequent delineation. The measurements of the day were plotted in our

tent at night, by which means we were always prepared, by the inspection of our map the better to understand the geological relations of separate parts, and to take advantage of the conclusions such relations might suggest. This part of our Survey occupied seven weeks; and, notwithstanding the weather was of the most unfavourable description for upwards of one half of the time, there having been scarcely a day without rain, we were enabled to add to the topographical delineation of the country, 150 miles of the main trunk of the Ottawa to the head of Lake Temiscamang, thirty miles of the upper part of which required a double share of measurement, in consequence of its breadth, which widened out to six miles; and about fifty miles on the chain of lakes constituting the Mattawa or Little River, (a tributary falling in on the right bank, seventeen leagues above our starting point,) including the portage to Lake Nipissing, and a few miles on the shore of this on each side of the *déboché* of the Rivière à la Vase, which belongs to the Huron waters.

"In our excursion up the Mattawa to Lake Nipissing we were indebted to the Agent in charge of the Hudson Bay Company's Post at the mouth of the river, for the loan of a canoe of a size more easily managed than the larger one of our own, and its lightness saved our men some fatigue at the numerous portages we had to cross in ascending and returning. On reaching Fort Temiscamang, another of the Hudson Bay Company's Posts, situated about eighty miles above the mouth of the Mattawa, we experienced the attention of Mr. Severight, in charge of the Post, who, in addition to extending to us his hospitality, supplied us with much useful information, presenting us with a Register of Meteorological Observations, shewing the monthly mean temperature, with the state of the weather at the Fort for two years, to the end of October last; and permitting us to copy an eye-sketch of 200 miles of the main trunk of the Ottawa, from its sources to Lake Temiscamang, where our own Survey ceased; being the joint production of Mr. Cameron and Mr. McKay, gentlemen whose intimate knowledge of the interior renders their delineation of much value. Mr. Cameron, after having been many years connected with the Company, has, I believe, returned to Britain; but Mr. McKay is still in their employment, and his presence at the post afforded us an opportunity of obtaining from him an addition to the map, comprising a considerable area on both sides of Lake Temiscamang, including the sources of the Rivière du Moine and Keepawa on the east, and those of the Montreal and Metabeuchuan on the west, together with Lake Temagamang, the waters of which flow into Lake Huron by Sturgeon River and Lake Nipissing. On the sketches of this gentleman I am disposed to place considerable reliance. He appears to possess a remarkable precision of memory and facility of delineation in representing geographical facts. It is surprising to observe the close resemblance which his figure of Lake Temiscamang bears to that resulting from our admeasurements, and taking this as a criterion of the probable accuracy of other parts, I cannot but consider myself fortunate in the obliging readiness with which Mr. McKay has given me the benefit of his knowledge and skill. We were also indebted to Mr. Robert, and his brother, Mr. Naldo McConnell, the former residing about eight, and the latter about sixteen leagues above the Mattawa, whose avocations connected with the timber trade have carried them much into the woods, for sketches of some of the interior water communications in the country on the east side of the Ottawa, ranging some distance below and above their chantiers.

"As a test of the general correctness of the topographical part of our Survey, it may be remarked that there appear to be no discrepancies of any moment, between our latitudes, by observation and by account; they agree to within about thirty seconds at our starting point, the mouth of the Mattawa, the mouth of the Vase on Lake Nipissing, and the mouth of the Keepawa, about twenty-one leagues above the Mattawa on Lake Temiscamang, but we were not so fortunate as to obtain any observations at the most northern part of the Lake, to which our measurements extended. It gives me pleasure to state that these measurements on the Ottawa and the various geographical details we have been enabled to collect, have been made available to Mr. Bouchette in the construction of a new edition of his Map of Canada, shortly to appear before the public; the details will fill a space which has hitherto been a considerable blank in the representation of that part of the Province to which they belong; and the past season's work of my Assistant, Mr. Murray, will

contribute to the same map a correct delineation of the Matan, the St. Anne, and the St. John Rivers, three considerable streams in the District of Gaspé, in addition to the Chat, the Great Cascapedia, and the Bonaventure, in the same District, surveyed the previous year."

Having so far introduced our readers to the interesting preliminary details of Mr. Logan's progress in his laborious scientific investigations, amid the lonely *aqua*, as well as *terra-incognita* of the Ottawa, we find we have occupied so much space that we are reluctantly constrained to reserve, for the next number, a description of the equally interesting character of that noble river, as well as of the geological structure of the singularly wild and romantic elevated region through which it forces its broad volume, until its brown waters are at last reluctantly incorporated with the still more mighty yet limpid current of the great St. Lawrence, below the Island of Montreal.

L.

I.—*Charge to the Graduates of Jefferson Medical College of Philadelphia, delivered March 25, 1847, by Prof. Dunglison.*

II.—*Address to the Class of Graduates of the College of Physicians and Surgeons of the University of the State of New York, delivered at the commencement, March 11, 1847, by Alex. H. Stevens, M.D., President, and Emeritus Prof. of Surgery.*

III.—*Address to the Graduates of Geneva Medical College, by Charles A. Lec, M.D., Professor of General Pathology and Materia Medica, &c. Delivered January 26, 1847.*

IV.—*Valedictory Address to the Graduates of the Medical Department of Pennsylvania College—Session 1846-7—by Washington L. Atlee, M.D., Professor of Chemistry.*

The day of graduation is a period anxiously looked forward to by students of medicine. Having secured the acme of their ambition, their investiture with the honours of that profession to which their after lives are to be sedulously devoted, they little anticipate the troubles and the harassing difficulties which are to surround them, and which are inseparably incident to the life they have chosen. All is present sunshine; no cloud of evil import lowers; and they look forward to a bright and happy future. The period, however, is one of deep and anxious concern: in a few short minutes the link which binds the preceptor and his pupils is to be severed; and, in obedience to a time-honoured custom, the moment is seized of imparting to the young aspirant those lessons, which experience may have taught, to guide him in his future course with advantage to himself and profit to the

public, as well medical as non-medical. We have before us, in the four admirable addresses which head this article, a series of practical and useful lessons on the nature, duties, and responsibilities of the medical profession.

Professor Dunglison's charge is an eminently practical one, and is well calculated to sustain the reputation which he has already acquired, as a man of a highly cultivated mind. We are pleased to observe him dwelling so emphatically on the cultivation of the classic languages, and recommending to all an intimate acquaintance with the modern tongues of Europe:—

At the commencement of your professional life, your time cannot be fully occupied. Opportunity will still exist to improve your knowledge on educational topics, which ought properly to be preliminary, but which, owing to unavoidable circumstances, may not have received from you due attention. The rich stores of information contained in the classical writings of the Grecian and Roman fathers—*medicæ artis principes*—to be fully appreciated, should be read in the languages in which they were originally conveyed; yet in the pursuit of such a luxury, it would be unadvisable for you to dissipate that time which ought to be assigned to the attainment of what is strictly necessary. Even in the desirable there may be variety; and it may be a question with you, whether your future leisure moments may not be much more profitably devoted to the more immediately useful study of the productions of the moderns.

Where translations exist, the English language communicates to the mind of the inquirer, if not the words, the thoughts of the Greek and the Roman. Many, too—perhaps most—of the best works on professional subjects that appear in the various Teutonic and Romanic tongues are speedily transferred to it. Still what a treasure is contained in the literature, medical and general, of Greece and Rome, and in that of modern France and Germany more especially, which must for ever escape one who is unacquainted with the languages of those countries; and hence a knowledge of them, and, if practicable, of the Italian and Spanish, becomes, certainly not indispensable, but as certainly most advisable.

Dr. Stevens' address is more discursive, but not less instructive. After alluding in general terms to the nature and the objects of the science of medicine, it closes with some well-directed observations in reference to the habits, the conduct, and the duties of medical men.

Dr. Lec's address is characterised by sterling good sense. Some of his observations strike us with peculiar force. The whole address is tersely written, and abounds in judicious remarks, proclaiming the author to be possessed of good judgment and sound reasoning powers. The duties and responsibilities of the medical profession are thus detailed:—

And here let me add a word of caution. In this country, where every man is presumed to belong to one of the two great political parties of the day, the physician is expected to enlist in the strife, and become an active partisan in the field. But, in my judgment, the medical man should not be known as a politician; nor should his political preferences and dislikes be thrust forward and frequently proclaimed to the world. He is emphatically a public man, and should be a man of the people; his aim should be to recommend himself to all parties; to make himself useful to all, and not by active partizanship set one-half of the community against him. He should neither be known as a Whig nor a Democrat, but a philanthropist and patriot in the broadest sense of the terms—devoted to the common weal and the good of his patients. There is, indeed, something in the noisy pursuits of politics, which

seems to me utterly incompatible with the character of a man of science, and wholly ruinous to the professional advancement, and even mental improvement, of the medical practitioner. Politics, in our country, is the great maelstrom which swallows up time and character, morals, reputation, and money; and which makes no return whatever, but disappointment and vexation of spirit. It excites animosities; creates bitterness of feeling; separates friends and neighbours; introduces discord into families; wastes their substance; and confers no advantage. Shun politics, gentlemen, as you would the poisonous opus; and whoever tempts you to enter the political field, set him down as your worst enemy.

There is one duty which you owe to society, which you will not neglect, and that is to disseminate as widely as possible a knowledge of the laws and conditions of health; the great principles of hygiene on which the prosperity of towns and cities, and wide districts of our country, very materially depend. You can do much by conversation and lectures, to spread around you an acquaintance with the elements of popular anatomy and physiology, and in this way strike a blow at the very root of the wide-spreading tree of quackery, which will wither it at its source. To you, especially, will the community look, to inform and enlighten them, in relation to the best means of preserving the public health; of preventing the spread of contagious and infectious diseases; the influence of trades and occupations; the effects of different sorts of food, of dress and amusements; the nature, causes, and cure of those diseases, which attack the lower animals, and vegetable as well as animal life; the influence of soil, and climate, and season; of geological formations, and geographical localities; the question of quarantine; the best modes of warming and ventilating houses; the establishment and regulation of schools and seminaries of learning. You will be called upon to instruct judges, and lawyers, and courts of law, in relation to many important questions connected with hygiene, and medicine, and surgery, fractures and dislocations, and poisons; and your opinions will, if well sustained by facts and reason, be decisive, in turning the scale, and shaping the verdict of the jury. Besides all this, you are to act your part as good citizens, patronizing every worthy object; aiding in all public enterprises involving the welfare of the masses; taking a personal interest especially in all improvements calculated to benefit the sanitary condition of the people; contributing freely to the support of education and religion—the great bulwarks of our safety; in short, doing all that the broadest philanthropy or the most disinterested benevolence can suggest.

These considerations suggest that there are certain duties which you owe to yourselves; for the relations which you are to sustain to the sick, and to the public at large, imply the possession, on your part, of certain qualifications which can by no means be neglected.

Dr. Atlee's valedictory is eloquently and warmly written, breathing the sentiments of an enthusiastic admirer of his profession, of one almost sensitively alive to its importance, its responsibilities and its duties. From the following extract, and its truthfulness, there will be no dissentient voices; while it may serve to place the matter treated of so eloquently, in its proper bearing:—

There is one class of patients who will meet you at the very threshold of practice, as they generally fall into the hands of the young practitioner. *These are the poor.* In large cities medical services are secured to them through dispensary arrangements, public charities, and public clinics—but in country places they are wholly dependent upon the physician. And here let me pause to say, not in a spirit of boasting or complaint, nor with any pharisaical show, but in truth and self-gratulation, that there is no profession which bestows more time, more labour, more expense, and more attention upon the poor than our own. It is purely one of usefulness and of Christian charity. As such, gentlemen, always esteem it, always sustain it. It should have no other object. How true is it here, that it is more blessed to give than to receive! This application to our profession is peculiarly emphatic:—“You must benefit others first, or you cannot do good to yourselves.” This should be the motto of our profession, as it is the

secret of success. It shone forth in the life-time of the eminent Pott, and in these memorable words illuminated with a burst of glory the last flickering of his existence:—“My lamp is nearly extinguished; I hope that it has burned for the benefit of others.” In your early intercourse with the poor, exercise your profession as if you were the debtor, which you really are. Remember they willingly accept your immature services at a time, perhaps, when the more wealthy would not confide in you; at a time, too, when you are acquiring very important information—the manner of entering the sick chamber, the tact of examining patients, the method and order of interrogation, the mode of prescribing medicine, diet, drinks, and the knowledge of the numberless minutiae connected with the treatment of disease. They thus afford you valuable opportunities of clinical instruction, and of preparing yourselves for the proper exercise of your profession. You there acquire that practical knowledge of the power and application of medicines, that faculty of recognizing symptoms, that happy readiness, in the sick room, that promptness peculiar to the enlightened physician, which inspire confidence both in your patients and yourselves. Your success in treating the diseases of the poor, is the first and certain step to gain upon the confidence of the rich.

Nor do we think there are any who will dissent from the high moral and religious feeling which is conspicuous in the following:—

Gentlemen, there is another matter that I desire to impress upon your minds before we separate: *in your intercourse with your patients observe candour and sincerity.* Truthfulness of character is a jewel in every relation of life; but in the physician it is beyond price. I could never understand the policy, much less acknowledge the honesty, of deceiving a patient till the last moments of existence, and sustaining hope, by assurances of recovery, even until the hand of death has placed the seal upon the awful falsehood. Falsehood! the term may be too strong. For the honour of our profession I hope it is. There are times when our prognosis of recovery may be perfectly honest, yet fatally erroneous. Here we err and sin not. But when I hear a physician say of his departed patient, “I knew he could not live, yet I gave assurances of life to sustain him to the last.” I tremble for the fearful responsibility which that man violates. When patients or their family appeal to you, never deceive them wilfully—do not make the case worse or better than it really is—and, where death is certain and inevitable, even though it should be distant, never fail to make the fact known—never promise life and then permit them to die in despair. There is a terrible meaning in such a tragedy, which I need not here express. Sincerely and frankness will offend or injure none; and you must rigidly exercise these qualities, else you will compromise the dignity of your calling, and hazard your own professional integrity.—Permit me to say, that I believe my intercourse with the sick has always been thus regulated. I have never regretted it, either on my own or my patients' account. It has never made them worse, nor injured me. It calms the unsettled mind, and leads it to rely upon Him who holds the reins of life and death—thus securing that confidence, patience, and submission, which aid the physician in restoring patients to health, and which, should he fail, are so beautiful and consoling in death. There may be times and cases, however, where the result is necessarily doubtful, where the crisis is not yet passed, patients nervous and excitable, and where the least mental agitation might produce such an impression on the system, as to give an unfavourable, perhaps fatal turn to the scale. Here you must be careful not to inflict a wound which you cannot repair. An imprudent and ill-timed remark may destroy life, where encouraged nature, buoyed-up hope, would have preserved it. Your obligations to the patient, his family, and society, your duty to the profession, and your own inward peace, require you to employ every means for his restoration, while this is possible; and should you do ought to lessen the possibility of this result, you violate these obligations, you disturb the waters of a tender conscience. Thus you may be wrecked against a rock on one side, or engulfed in a whirlpool on the other—let professional honesty be your pilot, and you will pass the strait with safety.

We have seldom perused valedictory addresses which have given more unqualified satisfaction.

## PRACTICE OF MEDICINE AND PATHOLOGY.

*A Clinical Lecture on Purpura or Land Scurvy.*—By THOMAS LAYCOCK, M.D.—Scurvy is the old name for purpura hæmorrhagica, and land scurvy for purpura without hæmorrhages; the two diseases are allied; they are only varieties of the same disease.

A comb-maker (an employment in which the wages are very small) came to the dispensary two or three weeks ago, complaining of pains in his limbs, and particularly in his thighs. He had a very squalid appearance; was sallow, thin, and cachectic. I did not suspect scurvy, but rheumatism, and advised him to have a warm bath, more for the purpose of personal cleanliness than anything else. After a while his wife came to say that he had purple blotches on his thighs, and she was much alarmed about them. In fact, they had just been discovered at the time of his performing the ablutions I recommended. We went to visit him, and these are our notes.

W. P., aged 46, with sallow, dirty, pale complexion, has a contraction of the muscles of the thigh and rigidity in the joints, so that he cannot stand upright, and "a touch of rheumatism" in his shoulders. There are patches of purpura on the under surface of each thigh; bluish purple blotches, mottled with yellow, like extensive ecchymoses. The upper and anterior surface of the right thigh is covered with petechiæ or small purple spots. There is a patch of purpura about half a hand's breadth on the outer surface of the right foot near the ankle, and another small patch half way up the leg; another patch is to be seen on the inner angle of the left leg, and petechiæ on the upper half of the leg towards the knee; ankles œdematous. His gums are tender, of a livid red, swollen, and studded with fungoid growths; his throat is sore; has a slight cough; pulse 100—120, feeble and small; tongue pale, scabrous; bowels regular.

He has not been well for some time, owing, he thinks, to want. Has felt worse since Christmas. His diet has been principally bread and tea—perhaps once in every other Sunday a little bit of meat; no potatoes, except as a treat. His house is damp, low, and offensive, from defective ventilation and want of cleanliness.

As a pendant to these notes, I will read to you the description of "scurvy," from a writer on the practice of physic (Dr. Brookes), the fourth edition of whose work I hold in my hand, published in 1763:—

"The first sign of the approach of this disease is commonly a change of colour in the face, which becomes pale, or yellowish and bloated, with a listlessness and an aversion to exercise. The caruncles of the eyes appear of a greenish cast, and yet in other respects the patient seems in perfect health. However, the change of colour in the face does not always precede the other symptoms, though it constantly attends them. Then a universal lassitude supervenes, and a stiffness and feebleness of the knees, with a difficulty of breathing on the least motion. Soon after this there is an itching of the gums, which swell, and are apt to bleed on the least friction. Then they become livid, soft, and spongy, and afterwards extremely putrid and fungous.

"The skin is dry throughout the whole course of the disease, except towards the last, and in many it is rough. In some it appears like the skin of a goose, but it is most frequently smooth and shining. It is stained with blue, purple, livid, or black spots, some of which are small and others of a hand's breadth, when the disease is advanced. They are chiefly on the legs and thighs, but sometimes on the arms and trunk of the body. Some have a swelling of the ankles in the evening, which disappears in the morning."

Now there is a close resemblance between this description of scurvy, written ninety years ago, and the symptoms of the case we visited. But we left the squalid cottage of W. P., to proceed to that of J. B., an old pensioner, aged 74, and living in a low room in a damp situation. He was a sergeant and corporal in the militia for many years, afterwards worked as a sawyer. His face is pale and of a sallow waxen hue; this appearance of pallor has become most remarkable during the last fortnight, and for about the same period he has had certain appearances on the skin. A large livid reddish purple patch extends from the middle of the right leg on its outer surface to the middle of the right foot. The foot and leg are œdematous, shining, and hot. Higher up are scattered petechiæ (which extend also to the thigh), and a diffu-

sed yellowness. There is a hard livid tumour near to the insertion of the psoas muscle on the upper and inner part of the left thigh, which is surrounded by a yellow surface fringed with a circular line of purplish blue. Small petechiæ cover the thigh, and livid patches are on the under surface of the thigh, extending to the ham. Complains of feebleness, but of nothing else except pain between the shoulders, slight cough, and difficulty of breathing. Pulse 105, intermittent; heart's action unequal and intermittent, but no murmur or morbid sound audible. A slight wheezing or crepitous rattle in the infra-scapular regions, especially in the right. Urine, according to Mr. Brady's examination, high-coloured, specific gravity 1020, contains no albumen; tongue clean, except posteriorly; gums unaffected; appetite impaired; bowels confined. Has always experienced good health, and never took anything since he had a dose of salts when he had the ague in Lincolnshire, with blebs (pemphigus) all over his body, but which soon passed away. Has never tasted a potato since Christmas; had plenty before. Has not had butcher's meat oftener than once in a month. Has now and then eaten a salt herring, but has lived almost entirely on bread and tea.

This case resembles the preceding in several points: first, in the peculiar waxy complexion, and the vibices of the legs. These are leading symptoms of scorbutus. Sydenham says, "*Crurum sine intumescantia, nunc extenuatio; in isdem perpetuo macula livida plumbea, flava, aut violacea; faciei color plerumque ex livido fuscus.*" In the old man there were no muscular pains; in the comb-maker these were, and indeed are leading symptoms. The patient himself thinks he has rheumatism. Now Sydenham expressly treats of a species of rheumatism under the term rheumatismus scorbuticus. But I do not think much of the old man saying he has no pain; he is evidently very lame and infirm; his neighbours say he has failed in this respect very much lately. The fact is, very aged persons often have great disease with little suffering—pleuritis or peripneumonia, for examples—and will never complain of pain, or even of difficulty of breathing, although they are panting for breath. The greatest difference in the two cases is in the condition of the gums: the old man's are sound, or nearly so. In both there is some degree of bronchitis. In the old man the cardiac disease is nothing more than that which may be found in 95 per cent. of persons of his age. He has probably that atheromatous degeneration of the valves and endocardial membrane so constantly met with in old people, so that the cardiac disease has no immediate connection with the purpura, and the bronchitis is probably the result of the severe cold of Wednesday, the 10th inst.

These two cases of purpura are, in truth, cases of land scurvy. The two men are suffering from a lesion of the capillary system, and of the blood itself. If we dare venture to draw blood we should find it to be deficient in fibrine; the coagulium would be gelatinous; and if the disease be not checked it will go on through all the stages of scurvy, even to the formation of the gelatinous clot or fungus on the skin and gums, termed by sailors "bullock's liver," and the occurrence of spreading ulcers, anasarca, hæmorrhagic effusion into the serous sacs, and death.

The explanation of the symptoms is not difficult. The morbid condition of the blood has impaired the contractility of the vascular system. In the depending portions of the body the capillaries give way from the more gravitation of their contents: thus giving rise to the vibices in the legs, and in the under surfaces of the thighs. The petechiæ are really small inflamed or congested papillæ, or the mouths of seraceous glands. The muscular pains are those of fatigue; there is not enough of fibrine in the blood for the nutrition of the muscles and the maintenance of their action.

With regard to the etiology of the disease, it is doubtless that of scorbutus or scurvy. It is in this respect that the cases are interesting. We do not notice them because they are rare or curious, (although they are so in York,) but because it is probable that they will cease to be rare and curious. The potato has hitherto supplied our population with an abundance of fresh vegetable food, containing a small quantity of a vegetable acid (the tartaric) in combination with potass; and no doubt the free use of this vegetable has tended to render scorbutus much less prevalent than before its introduction into this country. The deaths from purpura in London during the quarter ending with December, for the last seven years, were in each respectively, 3, 2, 4, 4, 6, 8, 5, so that there has been an actual increase; but during the

first ten weeks of this year there have been fourteen deaths in the metropolis from purpura, or scurvy. This is a great increase; for during the thirteen first weeks in each of the last eight years the deaths registered from this cause were—3, 4, 0, 3, 2, 5, 2, 5; so that the deaths in this one quarter will probably amount to more than have occurred in the corresponding quarters of the last six years put together.

In the two cases under treatment potatoes have ceased to constitute an article of diet. The old pensioner anterior to Christmas almost lived on potatoes; since, he has not tasted one. The diet of both patients has been unvaried; there has scarcely ever been a change from the constant diet of tea and bread. The tea would doubtless be made weak, from the extreme poverty of the parties, so that in reality the two men have been living on a diet little better than bread and water, with sugar and a little butter. This ought not to have been—indeed, it need not to have been, for a most efficient soup kitchen has been open in York during the winter; but the pensioner was infirm, and lived alone, and the squalor of the other person's residence showed there was no management or help in himself or his wife. Everything was dirty; even the cat was smutty.

We need not, then, look for the cause of this form of purpura (as some writers recommend, in disease of the heart. The experiments of Dr. Stark on his own body (for he forgot the maxim, *experimentum fiat in corpore tibi*, and killed himself experimentally when he should have killed a monkey, or an ass, or a cow; these experiments show the effect of such a diet as our patients have had. Dr. Stark lived for thirty-two days on bread and water, and afterwards on bread and water and sugar. The result was purpura or scorbutus; that is to say, ulcers within the mouth, redness, swelling, and bleeding of the gums and nostrils, and vibices, or purple spots and marks on various parts of his person. In the second volume of the Transactions of the College of Physicians (published, by-the-by, seventy-five years ago), there is the history of two cases of scorbutus, communicated by Dr. Milman, in which the disease appears to have been caused by a bread and tea diet. More recently, Dr. Baly has shown that scurvy was most prevalent in prisons where no potatoes were used. Various other causes of scorbutus have been assigned. It has been observed to occur in persons with a sufficiently nutritious diet, and indeed in the volume to which I have just referred, there is a case, by Dr. Monro, of purpura hæmorrhagica, or inveterate scurvy, occurring in the person of a young man who had an ordinary diet, but possibly without potatoes, as he had "greens or roots" for dinner, meaning, perhaps, by "roots," turnips, carrots, or parsnips. In this case the pulse was strong and full. It is to be remembered, however, that there are persons in whom the tendency to purpura hæmorrhagica is congenital and hereditary, and is dependent upon the peculiarities of the male constitution, inasmuch as the disease appears only in the male branches of a family of "bleeders," as they are termed. An hereditary disease of this kind may undoubtedly be acquired; in the examples mentioned it cannot have been hereditary *per sæcula sævolorum* backwards, and consequently, as it may be acquired, it may appear independently of defective alimentation, or of the defective supply of certain chemical constituents of the blood. This form of purpura is, however, quite distinct from the one under consideration, which arises from the causes just mentioned.

If, then, you have persons living on a diet such that there is no variety, or no vegetables containing vegetable acids—as the tartaric, oxalic, malic, or citric—they will be in danger of suffering from scorbutus or scurvy. And those persons will suffer the soonest who have the least power of resistance to the evil effects of this kind of diet, whether from congenital or acquired debility of the system, from indigestion, or other disease impairing the power of assimilation, or from depressing external agencies in the *circumfusæ*, as they are termed—as cold, or a raw, moist, or impure atmosphere, or excessive heat. Other depressing agencies are, extreme fatigue, or the want of exercise, the depressing emotions, excessive watching, &c.

The treatment is obvious from the etiology. The diet must be regulated so that there shall be due variety, and that vegetables containing the acids named should enter into it. We have prescribed meat, porter, and potatoes, for both our patients, and they will, I trust, be able to attend to this part of the prescription. In addition, four grains of citric acid is to be taken every four hours. The pensioner is already improving; the comb-

maker has not yet had his diet long enough from the poor's board. I may mention, however, that citric acid, although the established remedy in these cases has sometimes failed in effecting a cure, or preventing the disease, on board ship. Nitrate of potass has been found to be an efficient substitute, and as gunpowder contains nitrate, the remedy can be extemporized during a voyage by pouring boiling water upon the powder, and filtering. Citric acid is, I fear, somewhat adulterated, and probably a spurious article has been used when it has failed to check the disease. Of course lemons and oranges are beneficial, but there are cheaper vegetables than these to be got as the spring advances. Rhubarb, cabbage, water-cresses, sorrel, horse-raddish, turniptops, all belong to the class of anti-scorbutics, and were taken extensively in the spring by our forefathers (who had few fresh vegetables, and little fresh meat, during the winter) as "purifiers of the blood." Formerly a spring course of vegetable alteratives must have been highly beneficial; in our forgetfulness of the social condition of our forefathers, we slight their experience, and the traditions thereof. I see "nettlebeer" advertised in a shop window as an anti-scorbutic, and I rather think the urtica, from containing the nitrate of potass, will be a useful addition to the spring dietary. Nettle tops boiled can scarcely be distinguished from spinach, if taken when young, and well-seasoned.

The results of the deficiency in the potato crop will not appear only in the outbreak of palpable purpura or scorbutus. People are continually coming to us, complaining of the premonitory symptoms: as lassitude, spongy gums, sore mouth, "flying" muscular pains, and with a certain waxy pallor. They have also anorexia, and epigastric pain, with slight feverishness. In these cases it is almost invariably stated that potatoes have ceased to be an article of diet, and that bread is "the staff of life." It is to be observed, too, that in case the typhus fever now prevalent in Ireland make its way into our large towns during the summer, we shall have the "spotted fever" of our forefathers, in addition to the "purples," as purpura was termed. In short, we shall have all fevers assuming the appearance of greater malignancy, which the outbreak of petechiæ, vibices, and venous hæmorrhage, gives to them, and these will characterize scarlet fever, small-pox, and measles, as well as typhus. Now the prophylaxis is all-important: no pains should be spared to encourage the daily consumption of such vegetables as I have mentioned; the reasons should be pointed out—their force will easily be appreciated by the public; a demand for fresh vegetables will be created, and the supply will follow as a matter of course. Thus medical science will fulfil its highest duty—the prevention of disease.

I ought to add, that in his last Quarterly Report, the Registrar-General called public attention to the necessity of substituting suitable vegetables for the potato with special reference to the prevention of scorbutus.—*Medical Gazette*.

*On the Cutaneous Eruptions Induced by Various Medicinal Substances.—Opium*—The eruptions which in certain individuals follow the use of the preparations of opium are always of an exanthematous nature. In general they consist of red isolated patches not unlike those of measles. This kind of eruption is rare.

*The solanææ*.—The eruption induced by the ingestion of the preparations of this tribe of plants are also of the order exanthematous, and are as uncommon as those which are the effect of opium. The patches are larger and irregular, resembling scarlatina.

*The oleæ-resinæ*.—All the medicinal substances of this class are liable to be followed by cutaneous eruptions, but none so frequently as turpentine and copaiba. The eruption very much resembles that produced by opium and belladonna, being sometimes mealy, at other times scarlatinous in its appearance. It is a rare exception to see either vesicles, pustules, or papules.

*Cad-liver oil*.—This medicine sometimes gives rise to a form of eczema, which appears generally about the fifth day from the commencement of its use; it is, however, rarely observed.

*Iodide of potassium*.—The eruptions which follow the use of this medicine are far from uniform, sometimes being eczematous, at others pustular, as in acne. It sometimes happens that the skin escapes the action of the medicine, and that the mucous

membranes are attacked instead; in such cases we observe coryza and conjunctivitis, which cease as soon as its use is suspended, but which will not yield to topical treatment as long as the medicine is persisted in.

The discrimination of the cutaneous affections which are induced by different medicinal substances taken internally, is of no slight practical importance; we have seen ignorance of these characters and causes give rise to very unpleasant mistakes.—*From Annaire de Therapeutique, in Provincial Journal.*

*A mode of Resuscitating Patients after Inhaling the Vapour of Ether.*—*Sir,*—For the last week I have been using, as a means of resuscitating patients, after inhaling the vapour of ether, pure oxygen gas, with the most perfect success. To-day, I operated in nine cases on the teeth: to each patient I gave a full dose of the ether vapour, and subsequently a few inhalations of oxygen. In not one case did the patient complain of debility, and all recovered perfectly in less than a minute and a half, timed by the medical men present. I will, by your permission, in a future number of your journal, furnish the details of these and other experiments with oxygen.—I remain, &c.,

JAMES ROBINSON.

Gower street, Bedford square, March, 1847.—*Lancet.*

*On the Effects of Ether on the different Classes of Animals.* Read before the South London Medical Society, by Dr. GULL.—The following is an abstract of the principal facts.

If a mammal or bird be made to inspire atmospheric air strongly impregnated with ether vapour, in from sixty to ninety seconds its muscular power is lost; it becomes totally insensible to pain; its respiration becomes slow and irregular in rhythm; the venous blood is of a vermilion colour; the heart beats with great rapidity; its rhythm is irregular, and its force diminished. If the experiment be made with a frog, the effect is produced in nearly the same time: considering, therefore, the slowness of its respiratory movement, the mixed nature of its circulating currents, and the lowness of its temperature, it becomes more rapidly affected than a mammal or bird. The state of etherisation, when induced, is also more perfect and lasting than in warm blooded animals, the respiratory movements in frogs being often arrested for six or seven minutes. Alcohol vapour produces similar effects;—they are slower in their accession, and more lasting in their effects—often fatal.

An increased flow of saliva is one of the ordinary effects of the inhalation of ether; this was observed in man, in cats, mice and birds. The irregularity of the muscular movements which come on amongst the early effects of etherisation, do not seem to depend so much upon want of muscular power as upon a loss of muscular sense; that is, the power of appreciating the force of the muscular contraction, and the exact locality of the limb.

The phenomena produced by the inhalation of ether vapour are allied to those which result from alcoholic drunkenness; the former are more transitory, and more speedily induced. If drunkenness either by ether or alcohol is extreme, it will terminate in asphyxia. Some of the phenomena of ether drunkenness are induced by concussion. In both states the surface is often cold, pulse irregular and frequent, respiration irregular in rhythm and force; no recollection of occurrences during the stage of concussion or etherisation; memory of events long past wonderfully recalled both by concussion and etherisation. Ether in some persons produces extreme faintness and sickness, with trembling and paleness; concussion does the same. In concussion as in etherisation, patients are occasionally violent, swearing and manifesting the phenomena of drunkenness.

It has been considered a remarkable fact that, by the inhalation of ether, common sensation should be lost, whilst the senses of hearing and seeing are so little impaired; such a state is occasionally observed in nervous exhaustion alone: two classes of such cases might be enumerated—bilious disorders, and after venereal excesses. In such cases the gait and other muscular movements may be awkward, arising from this diminution of sensation only, and not from muscular weakness.

The phenomena arising during the inhalation of ether are not at all dependent upon supercarbonization of the blood. Frogs are rapidly affected by ether vapour, whilst they may be kept for hours

in hydrogen and nitrogen without injury. Pure ether vapour killed a bird past recovery in twenty-five seconds. Ether probably permeates every tissue, but acts most upon the nervous, on account of its physical constitution, the grey substance of the brain containing 4.5 per cent., the medullary substance 14.5 per cent of fatty matter. The irritability of muscular fibre in frogs is not evidently diminished by ether. Ether probably produces its effects by direct action on the tissues, independently of the quantity of blood in the part. The first effect seems to be an increase of the function, or stimulation; whether this is followed by an increased supply of blood, according to the prevalent law of nutrition, it is not easy to say. If the action of the ether vapour be continued, a loss of function follows, or what is termed its *sedative* effect; this may be the cause of death, or the function of respiration may in the higher animals be depressed for so long a time, that asphyxia may come on. Congestion is not a direct result of the action of ether vapour on the brain, but, as in ordinary alcoholic drunkenness, so in ether drunkenness, asphyxia may be induced, and death follow.

*Effects of ether on the blood.*—The rigor mortis is well marked in animals killed by ether vapour. The blood has a strong odour of ether. After the inhalation of ether it may be detected in the breath for thirty-six or forty-eight hours. Blood drawn from a vein whilst the animal is fully under the influence of ether, has a vermilion colour, and coagulates firmly. The formation of the globules is unchanged.

All other things being equal, it is probable that the fitness of a patient for the inhalation of ether, if that should be desirable, would be determined with more certainty by observations on the nervous system; vascular plethora by no means so far contra-indicating its use as a feeble nervous system. This opinion is based on the known effects of ether on man and the lower animals, especially the cold-blooded. Frogs, when fully under the effects of ether, are yet strongly affected by a single galvanic current, as may be proved by laying the animal so affected on a glass plate, and placing a shilling under the lower part of the spine, and a plate of zinc under the head, and connecting them with a copper wire.

Equal parts of ether vapour and oxygen gas produce a compound as rapidly fatal as ether vapour only. If an animal be etherised and then made to respire oxygen, it does not recover more speedily than if it merely respired atmospheric air. In many cases the respiration of oxygen after ether retards recovery, and in some is rapidly fatal, death following at once on the respiration of oxygen. These results were proved in birds, which breathe oxygen for several minutes without injury. Oxygen, therefore, is not an antidote to the ether vapour. Nitrous oxide gave results similar to those of oxygen.

It is an error to suppose that the action of ether is necessarily allied to asphyxia.

Most of the above statements were verified at the meeting by experiments on animals. The author ended his communication by the following queries upon the surgical employment of ether:

1st, Is it useful to abolish pain during a surgical operation?

2d, Can this be done safely by ether?

3d, Does the presence of ether in the blood modify the healing process?

In answer to Dr. Munk, the author stated that, if immersed in pure oxygen gas for a short time, the animal would be merely excited, no other effect being produced.

Mr. Benjamin Travers, junior, remarked, that the proximate as well as immediate effects should not be overlooked, as he believed the effects of ether were progressive, and that a man having been under its influence might die in the course of five days as well as of twenty-four hours. He had known a limb five days after death smell strongly of the ether, the stump having become gangrenous. He believed it to be a poisonous and dangerous remedy, attended with the greatest risk, and requiring the most profound caution in its use.

Mr. Bransby Cooper, in reference to Dr. Gull's question—whether it was right in operations to alleviate or prevent pain, provided it could be done with perfect safety—remarked, that pain was a premonitory condition, no doubt fitting parts the subject of lesions to reparatory action, and therefore he should feel averse to the prevention of it. In parts operated upon under the influence of ether, there was no muscular contraction, no retraction of the larger vessels, and the small ones continued bleeding; he alluded to a case of lithotomy under the influence of ether. The operat-



ing surgeon remarked that, with the exception of the flow of blood, it was like cutting through dead flesh; the parts fell, as it were, asunder, and the sensations were quite different on passing the finger into the bladder. Dr. Gull's paper had more than ever convinced him that it was a poison, and unless other experiments proved it harmless, he should give his decided opinion against its use.

After some observations by the author on the interchange of particles in mixing gases, and their effects, it was moved by Dr. Barlow, seconded by Dr. Munk, and agreed, that as the time of the society had expired, the discussion on the author's paper be resumed at the next meeting of the society, on April 29.—*London Medical Gazette*.

## SURGERY.

*On the Use of Muriate of Morphine in Toothache, Frontal Neuralgia, and Neuralgia of the Fifth Pair of Nerves.*—M. Ebrard has always found toothache yield, in from half an hour to two hours, after friction of the gum on the affected side with muriate of morphine in powder. The first friction should be performed in the evening; at least three hours after the last meal, unless the severity of the pain prohibits delay. The patient should take a quarter of a grain of the salt on one of the fingers, previously moistened; rub it gently on the gum for about three minutes, then incline the head towards the affected side, avoid spitting or swallowing the saliva, so as to favour the contact of the salt with the affected part, and maintain this position for at least ten minutes. This process should be repeated in two hours if relief is not obtained. Should the pain return the day following the application should be repeated. Half or three quarters of a grain of the salt may be employed if necessary. The friction should not be repeated if headache, disposition to sleep, &c., occur.

When neuralgia occupies the forehead or any immediately adjacent situation, M. Ebrard recommends from a quarter of a grain to a grain of muriate of morphine to be snuffed up the nostril on the affected side daily. It is advisable to previously make use of an emollient fumigation, which cleanses the Schneiderian membrane, and facilitates absorption.—*Gazette Medicale*.

*Signs of Fracture of the Cervix Femoris.*—In allusion to a case recently occurring in the person of a woman, aged 53, M. Velpéau made the following remarks: "Pain and swelling are signs of little consequence, as they may equally exist in fracture or sprain. The impossibility of raising the heel from the bed is a sign. It may certainly be present, also, in a painful affection of the joint; but in the fracture of the cervix there is an absolute impossibility of raising the limb, while in this other affection this may be done if the pain be disregarded. Thus, in a luxation, the patient seems at first unable to raise the limb, but he can do so by perseverance. *Eversion of the foot* is not a pathognomic sign, as it may exist in other lesions, e.g., luxation on to the pubis; but in the case of luxation, not only is the limb everted, but neither the patient nor the surgeon can change its direction, while in fracture the surgeon easily turns the foot inwards. There are other affections in which the foot is rotated outwards, as in paralysis, and certain painful affections of the hip. The *admeasurement* of the limb is of great importance, but it is of much more difficult accomplishment than is generally believed. The inclination of the axis of the pelvis, or of the limbs themselves, often gives rise to apparent differences, against which we must be on our guard. We must never depend on mere inspection, but must carefully measure the limb after having placed the patient on his back, and take care that he lean neither to one side nor to the other. In these persons, and in those in whom the bony points is prominent, it is easy enough to measure from the iliac spine to the upper edge of the patella; but there are persons in whom the iliac spine is so rounded off, that we cannot be certain that we are applying the tape upon exactly corresponding points upon the two sides, and an apparent difference, amounting to some lines, may result. So also the patella is not only a fixed point, but its superior angle may be somewhat higher on one side than on the other. In this way several slight errors conjoined may give rise to the belief in a shortening, which has no real existence. By carefully

guarding against any obliquity of the pelvis, ascertaining exactly the position of the superior anterior spinous process, and carrying the tape down to the malleolus, instead of the patella, we shall avoid all serious errors.—*Medico-Chirurgical Review, January, 1847; from the Gazette des Hôpitaux, No. 68.*

*Treatment of Stricture of the Urethra by Hydraulic Dilatation.*—Mr. Goodman, of Manchester, in a late number of the *Medical Gazette*, relates the following case: A man applied to him for relief, having a stricture in front of the bulb, of old standing. Four months before, a small sized bougie could with difficulty be passed, and on the time of application to the narrator of the case, total retention had ensued, after drinking freely of beer. An attempt was made to reach the bladder by appropriate bougies, but ineffectually, and it was therefore determined to have recourse to the forcible application of warm water injections to the strictured part. After introducing a gum catheter as far as the stricture, where it was well secured by a band of tape, and compress placed upon the penis to prevent escape, a syringe full of warm water was injected with some force, and was found to pass with tolerable ease. On removing the apparatus, the man micturated immediately in a stream about the size of a crow quill. A second application caused a still further increase in the stream of urine, and the patient left, for the time perfectly relieved.—*Provincial Medical and Surgical Journal*.

*Diagnosis of a Mercurial Sore.*—In a valuable course of lectures on syphilis, Dr. Porter gives the following as the characteristics of the mercurial in contradistinction to the venereal sore:

1. Mercurial sores are not necessarily circular or oval in shape, neither are their edges regularly defined; on the contrary, they vary in these particulars, and assume different forms as they spread: their edges are often quite ragged, loose, and undermined, and their borders are often marked with a thin transparent cuticle, like that of a newly formed cicatrix, extending quite around them, and giving them a silvery white appearance.

2. The bases of mercurial sores are not hard, neither are their surfaces covered with the tenaciously adherent lymph so characteristic of venereal; on the contrary, the surface of the mercurial ulcer may present every variety of shape and appearance, sloughy at one spot, deeply excavated and rapidly ulcerating at another, with exuberant granulations at a third, and exhibiting a tendency to heal at a fourth.

3. But the most striking characteristic of the mercurial ulcer is, its tendency to spread, and the manner in which it enlarges itself. Venereal sores, when not affected by phagedena, increase slowly, and having reached a given size, remain so: the mercurial generally spread quickly, and there seems to be no limit to the size they may possibly attain. I have seen an ulcer as large as my hand in each groin of the same individual. Mercurial sores, too, are easily distinguished from the venereal when they assume an herpetic character, and heal in one part whilst they are spreading in another, which the latter never do. This latter diagnostic is often extremely valuable in ulcers of the throat and on the penis, where any extensive loss of parts may be most sensibly felt during the life of the patient. The mercurial ulceration, too, often attacks the cicatrix of a recently healed chancre, and a fresh sore is thus formed—a circumstance that does not happen to the true venereal sore, except by some accidental injury, or the application of a new infection.—*Dublin Medical Press*.

*On the Treatment of Scrofulous Inflammation of the Eye.*—By A. Jacob, M.D., F.R.C.S.I., Professor of Anatomy and Physiology in the Royal College of Surgeons, and one of the Surgeons of the City of Dublin Hospital.—When alluding to descriptions given by writers on diseases of the eye of deposits in the iris, and beneath the sclerotic, which I consider to be of a scrofulous nature, I omitted to notice the fact that in syphilitic inflammation of the eye such also take place. Dr. Farre, in a communication made to Mr. Travers, and published in the latter gentleman's essay on Iritis, contained in the first part of the essays published by him and Sir Astley Cooper, gives the following description of a case of this kind:—The patient was a delicate female, aged 25, and had been severely salivated for cutaneous eruptions, nodes of the tibia,

and ulcers of the tonsils, but as the mercurial action declined, the eye became inflamed, and "lymph was deposited on the iris and became organized." For this she again took mercury, and the iritis was subdued, but after the mercurial action subsided, "the inflammation of the internal tunics of the eye returned with an extent and duration of suffering rarely exceeded. The disorganization was progressive, the anterior and posterior chambers were filled with lymph, and all sensibility of the retina was lost. In one week from the recommencement of the inflammation the disorganization of the eye was completed. From the general appearance of the sclerotic coat, and a distinct pointing at one part of it, joined to the excess of coagulable lymph in the anterior chamber, it seemed to me, that contrary to my former experience, the iritis had terminated in suppuration." An opening was made into the posterior chamber of the aqueous humour, but no discharge of pus followed, and the eye was ultimately destroyed. This was, I think, one of these cases of scrofulous deposition in the iris extending beneath the sclerotic, the effused material being more of the nature of tubercular matter than coagulable lymph, and obviously not presenting any of the characters of pus. Mr. Travers himself, in the same work, relates the case of another young woman, aged 21, who had been treated with mercury for pains affecting the head and calves of the legs, and who had subsequently sore throat and a "rising upon the tibia." Her eye was attacked by inflammation a short time afterwards. "The pupil was contracted, irregular, and a very large mass of brown lymph covered the semi-diameter of the iris next the temple, projecting so as to occupy more than one-third of the aqueous chamber; the cornea and humours being hazy. The sclerotic conjunctiva had a leaden colour, and the eyeball appeared to have lost its spheroidal shape, as from interstitial absorption of the vitreous humour." After local bleeding by leeches and cupping, and a course of corrosive sublimate with hyosciamus, carried on to ptyalism, the eye was "surprisingly restored." Although the swelling on the tibia suppurated, doubts were entertained as to the syphilitic nature of the disease. In Mr. Saunders's treatise on Diseases of the Eye, a faithful representation is given of this projection of sclerotic from deposit beneath it, in severe inflammation of the eyeball, bearing a close resemblance to a pointing abscess. Mr. Hewson, in his observations on venereal ophthalmia, gives the following account of the form of disease to which I have been directing attention:—"I have had an opportunity of seeing a few cases of some years' standing, in which, from ignorance of their nature, no proper treatment had at any period of the disease been employed; in these there was no appearance of inflammation, nor was any uneasiness experienced; the aqueous humour had regained its natural transparency; and there was only to be seen the contracted and adherent pupil, the opaque capsule, and two or three enlarged varicose vessels, like veins, running through the substance of the sclerotic. About this latter period, or after the disease has for some time established itself in the eye, and where an irregular and inefficient treatment has been pursued, an abscess sometimes forms in the deeper-seated parts, which generally terminates in the destruction of the organ. The first symptoms which indicate a tendency to this, (as happened in a few cases that fell under my observation,) are some degree of œdema and swelling on the forepart, and on one side of the eyeball, immediately behind the ciliary attachment of the iris. At this place, a distinct tumour soon forms, which in a few days becomes pointed, and white and soft at the apex; when opened, the matter it contains oozes but slowly from the orifice, and will be found darker in colour, and more thick and tenacious in consistence than common pus. While the abscess is thus making its way externally, we shall at the same time observe it pointing towards the anterior chamber. A contiguous portion of the iris is protruded forwards, so as to come nearly in contact with the cornea; this soon gives way; and the same kind of tenacious matter which appears at the external opening is seen deposited in flakes into the anterior chamber, but does not subside in, or mix with the aqueous humour, as happens in common hypopion. Both iris and cornea are quickly destroyed by sloughing and ulceration; the aqueous humour, lens, and a part of the vitreous humour, are evacuated, the sclerotic contracts about the vacant space, and finally the anterior chamber is obliterated."

It may be argued that the form of disease which has been alluded to by the authors above quoted is truly syphilitic, and that there are not sufficient grounds for assuming that it is of scrofulous

nature; but when it is recollected that it is an unusual consequence of syphilitic iritis, and that it takes place in scrofulous subjects in whom no syphilitic disease ever existed, the objection becomes less applicable. It is also to be recollected that an inflammation which commences as syphilitic may become scrofulous in consequence of the prevalence of that disease in the system, or it may from the beginning be modified by the scrofulous diathesis, and thus influenced in its progress by the presence of two constitutional diseases. It even sometimes happens that the practitioner has to encounter the influence of syphilis, scrofula, and rheumatism, in the treatment of inflammation of the eyeball, and finds it to be one very difficult to resist or correct.

In providing for the treatment of an attack of inflammation of the eyeball in a truly scrofulous subject, the practitioner has to consider carefully the probable effect of the remedies he usually employs in ordinary cases when applied to this form of disease. When alluding to the treatment of simple, uncomplicated, or idiopathic inflammation of the eyeball, I suggested the necessity of reconsidering the opinions generally entertained respecting the beneficial influence of depletion; in treating of inflammation modified by a scrofulous diathesis, or even by that languid or defective condition of the nutritive functions which is often assumed to be scrofulous, or perhaps equivalent to it, I have here to suggest a similar or even a greater degree of caution. A patient presenting all the constitutional marks of scrofula, but otherwise in vigorous health, may be, and often is, benefited by local or even sometimes by general bleeding, but such a subject may also suffer from it, if it has not the effect of arresting the inflammatory action. The sudden abstraction of blood by weakening the heart's action and diminishing the activity of the capillary circulation will often cause local inflammation to abate or even to cease altogether; but if it has not this effect it often contributes to produce that state of the system which leads to the effusion or deposition of serum, pus, or lymph, or even of the peculiar material called tubercular; and more frequently in scrofulous than healthy subjects. In such subjects also bleeding appears to have less effect in causing the inflammation to abate or cease than in those not so affected, and this is, I think, especially to be observed when bleeding is resorted to after the inflammation has existed for some time and has been thoroughly established. Bleeding should therefore, if resorted to at all in this form of inflammation of the eye, be resorted to at the earliest period, and with the view of suddenly weakening the heart's action, and thereby diminishing the activity of the capillaries rather than for the purpose of suspending nutrition, or interrupting the salutary and ordinary functions of the circulating organs. The local abstraction of blood by leeches or cupping, be its effect on the disease what it may, probably exercises less prejudicial influence on the constitution than general bleeding, and may therefore be adopted with less risk of bad consequences; but in neither form is this resource, according to my experience, to be relied on to arrest inflammation in scrofulous as in healthy constitutions.

The practice so generally pursued of suspending the processes of growth and nutrition by denial of the usual quantity of food of proper quality, to arrest inflammatory action, also requires reconsideration when it comes to be applied in scrofulous subjects more particularly. It should be recollected that persons cannot continue to live without a renewal of the blood circulating in their vessels; and it is obvious that such renewal can be effected only by the administration of food capable of affording such blood. A sufficient supply of the ingredients necessary to sustain life is also required to maintain a healthy state of the system, and without such healthy state of the system inflammatory action cannot be controlled or prevented from proceeding to the extent of effecting destructive changes of organization. Acting on these principles the practitioner should not, in scrofulous subjects at least, interdict for any length of time the use of nutritious food in sufficient quantity to supply the incessant expenditure of its elements by secretion and excretion. I do not mean to say that either in quantity or quality the diet should be as generous as in a state of health, but the sudden and total discontinuance of animal and vegetable materials necessary to sustain life or preserve health, and the substitution of those incapable of doing so, such as are commonly called stops, should not be permitted. The peculiar character of inflammation in scrofulous subjects is its not yielding in a short time, or in a distinct way, either spontaneously or to remedies, but rather gradually diminishing in intensity or becoming

less active; in other words, not terminating so often in what is called resolution, but becoming chronic: we should therefore be prepared to encounter a protracted state of disease and to provide for its consequences by sustaining the strength and health of the patient. With this view animal food should not be interdicted, as it generally is, from a prevalent belief that it induces a predisposition to inflammation, or when it takes place exasperates it. Animal food should not be given, especially at the commencement, in such quantity as to risk even a temporary increase in the quantity of the circulating fluids, and thereby to induce increased action of the heart and corresponding activity of the capillary currents; in other words, the patient should not be allowed to make what is called a hearty meal, but he should have as much nutritious food as will secure the supply of the necessary quantity of blood of good quality to his system. Sudden and extensive change of diet should be avoided for another reason. The stomach and alimentary canal may have their ordinary functions disturbed or interrupted by the discontinuance of the usual digestible food, and the substitution of new and less agreeable aliments, and experience has fully proved that nothing contributes more to the destructive progress of inflammatory action than such disturbance. This, however, is a subject upon which I cannot venture to enlarge here, because it involves the whole question of diet and nutrition in relation to scrofulous disease generally; but I am induced to dwell so far upon it because I so often see the evil effects of undue depletion and defective nutrition in scrofulous inflammation of the eye, and observe so frequently the reliance placed on medicinal remedies in its treatment, regardless of this most important means of arresting its progress and rendering its consequences less destructive. It should be understood that these observations are applicable to the treatment of all forms of inflammation of the eyeball, although I have reserved them for the present occasion, because it is in the scrofulous form of disease the necessity of attention to the digestive absorbent and nutritive functions becomes more urgent.

The practitioner should not confine his attention to diet alone in providing for the improvement of his patient's constitution by means not merely medicinal. Respiration of pure air frequently changed, the maintenance of the necessary amount of animal heat and exposure to sufficient light, should not be neglected or forgotten. It is not only in the close, crowded, and uncleanly dwellings of the poor that attention to respiration of pure air is demanded, the sleeping-rooms and nurseries of affluent persons frequently require as much care badly constructed as they generally are, for the attainment of this object, and encumbered, as we frequently find them, with window and bed curtains, carpets, and unnecessary furniture. A volume might be written on the ventilation of sleeping apartments, and on the contrivances which might be adopted to correct the defects of construction in our houses which render a free circulation of pure air impossible, the measures to be pursued with the same view in the crowded rooms of the poor in large towns, or of their cottages in the country, would require an equal amount of space for their suggestion. I can therefore do no more here than direct the attention of the practitioner to the subject, and leave it to his judgment and opportunities to apply a remedy. The maintenance of a salutary amount of heat in the system, especially in young persons, requires attention also, difficult, as it often is, to secure it in consequence of the direction of the currents of air flowing from the doors and windows to the fireplace. A temporary screen, with the necessary clothing and bed covering, and in winter a fire of sufficient strength, will enable the attendants to effect this object. The exclusion of light or immersing the patient in total darkness is generally considered an essential part of the treatment in all inflammations of the eye, yet I am convinced that the practice is founded on erroneous views. It appears to be assumed that light must necessarily cause pain, and consequently irritation if admitted into an inflamed eye, but this is a mistake. Light, it is true, often does produce this effect, especially in the advanced stage of disease, and in peculiar forms of it, but as often do we find no inconvenience experienced by its presence. I therefore do not exclude light by closing the shutters or drawing the curtains, but merely as a precaution let down the sun-blind, or I direct the patient to sit with the back to the window or candles, as long as no complaint is made of pain from exposure; being convinced that in the majority of cases distressing intolerance of light is induced by rendering the eye more sensitive to it by the use of shades and

curtains. These observations respecting diet and general management are more applicable to what is called the after-treatment than to the first attempts to arrest inflammation, but I have made them here because I so often see the evil consequences of a disregard of such means followed by the worst consequences. The rule from the very commencement should be to avoid as much as possible making the patient an invalid, and in all cases where the practitioner can venture to do so, he should treat the patient without confinement to bed or bed-room, and even, if the weather be fine, allow exercise out of doors in shaded situations. The principles which I thus suggest to be applied in the treatment of scrofulous inflammation of the eye have been advocated by writers on disease of this nature, both ancient and modern, and are therefore not advanced as original. Mr. Carmichael long ago inculcated similar doctrines in his essay on the Nature of Scrofula.

While treating of the other forms of inflammation of the eyeball, I entered at such length into enquiries respecting the value of the various remedies proposed for its relief, that it is unnecessary to reconsider them here in detail. Antimonial, mercury, iodine, turpentine, iron, cinchona, sarsaparilla, guaiacum, and even colchicum, may, I conclude, be made as available, with the necessary limitations which circumstances demand, in scrofulous as in the idiopathic, syphilitic, or rheumatic species. It is necessary however, to suggest some modifications of these agents to adapt them to the treatment of this form of disease. In a well marked acute attack of iritis or inflammation of the eyeball occurring in a scrofulous subject, mercury must be given as under similar circumstances in other varieties, but the practitioner should not forget that he has to deal with a constitution which will not ultimately bear with impunity the effects of this remedy as well as the ordinary or healthy one; and also that in such a state of constitution the beneficial effects of a full and free course of mercury are not so apparent or decisive as in a sounder state of the system. The medicine should be more slowly and cautiously introduced unaccompanied by that debilitating treatment so often adopted in other cases, and it may even be given in combination with tonics and during the use of nutritious food. The preparation to be used requires consideration. The blue pill, with or without opium, as the state of the bowels demands, will generally prove sufficient, and in less acute cases the compound calomel pill, commonly called Plummer's pill, may be found preferable. Corrosive sublimate (the muriate or bichloride of mercury) has been much extolled, and I believe extensively employed in this city in the more chronic or protracted forms of inflammation both of the eye and conjunctiva, but as the advocates of it generally direct it to be dissolved in tincture of cinchona, by which it is of course decomposed, no evidence of its superiority is afforded. The value of iodine as a remedy in inflammation of the eyeball has been considered when treating of the other forms of this disease. It is, however, in scrofulous inflammation that its influence should be more relied on, if confidence is to be reposed in the opinion entertained respecting its virtues in this disease generally. I do not think that a practitioner would be justified in relying on iodine in any form as a means of arresting in its first stage acute inflammation of the eyeball caused or modified by scrofula, but I think he may place reliance in it as an aid in the more advanced stages of the disease, either in combination with or following mercury. In cases of this kind, the plan I pursue is to give mercury in moderation, until it begins to produce its usual effects, and then to commence with the iodide of potassium. Five grains of the pulva hydrargyri is given three times a day until the gums become affected, and then continued in five-grain doses, at night only, giving from five to ten grains of the iodide of potassium in the morning and middle of the day. After this has been persevered in until the mercury has had a fair trial, the pill at night is discontinued and the iodide substituted for it, either alone or in decoction of bark, if the stage of the disease and the state of the constitution demands it; or the iodide of iron in syrup in the dose of three or four grains daily is given. In those cases in which the inflammation is a repetition of former attacks, or a relapse, or where it has become refractory and chronic, mercury having been freely and repeatedly used before, the iodide of potassium or iodide of iron affords an obvious resource, and under such circumstances I have seen it, I think, effect as much as could be expected from any other remedy.

In the more advanced stages of the disease, or even at an

earlier period if it does not yield to the remedies above enumerated: tonics and nutritious food, removal to a more healthy locality, and every other means usually resorted to in scrofulous affections must be adopted. Cinchona or other vegetable tonics in such form as the practitioner may consider best suited to each individual case may be employed with advantage, and iron, either alone or in combination with other remedies, should have a trial. Patients residing in large towns, should be removed to the country, and even from one locality to another differently situated. As to local treatment little remains to be added to the observations already made under this head in treating of the other species of inflammation, except enjoining more caution as to the application of blisters which in scrofulous subjects so often are the cause of enlargement of the cervical glands.—*Lublin Medical Press.*

*Opium in Strangulated Hernia.*—[The following case, reported by Dr. Richard Long, of Arthurstown, appears in the *Dublin Medical Press* for May 12, 1847, and will probably interest our readers.]

On the 11th of January, 1847, I was called to Mrs. P., aged 47, whom I found suffering from intense pain in the lower part of the abdomen; thirst insatiable; incessant vomiting of a brown coffee-coloured fluid; pulse small, 110; extremities cold; countenance anxious and sunken; bowels constipated. This had been her state ever since the evening of the preceding day, now 16 hours.

On examination I found a firm inelastic tumour, about the size of a large egg, in the right groin, not very painful to the touch; the abdomen was slightly swollen, and very tender. It appears that she has had an inguinal hernia for several years, for which a truss used to be worn, but this for some time past had been laid aside.

As it was evident the gut was strangulated, I had the woman placed in a warm bath and bled her, and then tried reduction of the protruded bowel by the taxis without effect; a tobacco enema was thrown up, and the taxis again tried ineffectually. As I was now obliged to leave my patient, an anodyne draught was given, a pill containing half a grain of opium, and one grain of calomel ordered every hour, effervescing draughts occasionally, pounded ice to be kept continually on the hernial tumour, and the bath to be again used during the night.

I was prevented from again seeing Mrs. P., until noon of the 12th, when I found her situation most alarming. The pulse was at 126, small and hard; countenance still more sunken, and of a leaden hue; vomiting incessant and stercoraceous; abdomen more swollen and tender; hernial tumour unaltered; occasional hicough. A tobacco enema of full strength was thrown up, and the patient again placed in a warm bath. Whilst she was under the complete influence of the tobacco, every prudent effort at reduction was patiently, but ineffectually tried. The necessity of an operation seemed now inevitable, but the patient or her friends would not hear of it. I therefore as a *dernier resort*, determined to try what opium in large doses would do.

A pill containing three grains of opium and two grains of calomel was directed to be given every hour, and an enema of strong chicken broth thrown up every fifteen minutes, in order to support her failing strength. The three pills first given were speedily rejected; the fourth and fifth were retained; a cessation of pain and vomiting followed, and by the time that 8 pills were given, an urgent desire to evacuate the bowels followed the administration of one of the broth injections, which led to relief and perfect recovery.

[Cases of the successful employment of opium and its preparations in the treatment of strangulated hernia, have been reported also by Dr. A. W. Davis of Presteign, (*Provincial Medical and Surgical Journal*, Aug. 28, 1841.) Dr. David Bell, of Carlisle, (*Monthly Journal of Medical Science*, Sept. 1841; *Braithwaite's Retrospect*, v. 4., p. 149.) Mr. George Cooper, of Greenwich, two cases, (*Medical Gazette*, Feb. 18. 1842.) Dr. James Ross, (*Monthly Journal of Medical Science*, Jan. 1843; *Braithwaite's Retrospect*, vol 7., p. 232.) Mr. J. M. Walker, of Newcastle or Tyne, (*Medical Gazette*, Jan. 12, 1844.) Mr. J. W. Rowlands, of Ironbridge, *Provincial Medical and Surgical Journal*, Feb. 5, 1845.—Ed. *Provincial Medical and Surgical Journal.*]

*Case of Nasal Calculus.*—By HENRY COOK.—The following case came under my treatment not long since, and being one of rather rare occurrence, I have thought it might not be unworthy a place in your valuable Journal.

Mrs. H., aged 25, of good constitution had been suffering for the last eighteen months from severe headache. The pain most intense over the frontal sinuses, accompanied by an offensive discharge of a muco-purulent character from the left nostril and throat. The pain in the head had increased to such a degree, as to materially impair her memory, causing at times dimness of sight, particularly of the left eye, giddiness, with loss of appetite and a disordered state of the digestive organs; in fact, her general health began to be seriously affected, and in this condition she applied for advice.

On examination, the nasal passage, on the left side, appeared to be completely blocked up. I was first led to suppose that the obstruction might be owing to a polypus, or other morbid growth, but on passing in a probe a hard substance was encountered, about two inches from the orifice, feeling to the touch like a portion of bone in a state of necrosis. The septum was forced over to the opposite side, causing the right nasal passage to be somewhat contracted. The left lachrymal duct was obstructed, and pressure made at the inner canthus was followed by a discharge of purulent matter from the puncta. Stilicidium lachrymarum existed, and the conjunctiva of the eye was somewhat injected. The probe being withdrawn, a pair of polypus forceps were then introduced and with some difficulty I succeeded in grasping and extracting, a hard body through the nostrils. Considerable hæmorrhage followed but it was soon checked by the application of cold. The foreign body was of irregular form, rough, about an inch long by half an inch in diameter, hard, brittle, and evidently of a calcareous nature.

The patient was not aware of having introduced anything into the nose, but stated that she first observed some obstruction about eighteen months since.

Inflammation of the mucous membrane of the nose and throat followed, but yielded readily to the antiphlogistic treatment.

In Rankin's Abstract several cases of nasal calculus are recorded, but I am not aware of any that have been published in this country.—*Boston Medical and Surgical Journal.*

## MATERIA MEDICA AND PHARMACY.

*Observations on the comparative utility of the Bromide and Iodide of Potassium in the treatment of the secondary and tertiary forms of Syphilis.* Read at the Surgical Society of London, May 1, 1847, By JOHN C. F. GAN, M.D., F.R.C.S.I., Surgeon to the Westmoreland Lock Hospital.—Mr. President and gentlemen—To every practitioner whose field of investigation leads him beyond that which is generally allotted to the surgeon engaged in mere private attendances, and who enjoys the indisputable advantages and paramount privileges which the wards of an hospital present, whether considered in relation to the opportunities afforded of studying the forms or varieties of any particular class of diseases, or testing the efficacy of those remedial agents employed in their cure, it must have occurred to him, how insufficient are the data, and consequently how fallacious likely to be the deductions drawn from a few isolated cases, which on a more extensive scale might probably but form exceptions to the general rule. It is thus that the hospital surgeon is enabled patiently and perseveringly to follow up any suggestions that may tend to the alleviation of human suffering; and whilst he is ever ready to appreciate the labours of those who, even in the most remote degree, may have contributed to the improvement of medical science, he is alike prepared to discard the opinions, and reject those therapeutic means and appliances which the result of experiment fails to confirm.

The grouping together of symptoms with a view to the classification of disease, the minute and accurate study of the local and constitutional indications present, or likely to arise in the course of treatment, whether these abnormal alterations are the natural products of disease, or have assumed their peculiar features from the effect of constitutional or (what is more likely to occur in syphilitic ulcers) from topical interference, are points which can

be only satisfactory and fairly determined by reference to the facts which fall under the observation of those who are conversant with the daily extensive and practical returns deducible from the source referred to.

It has been urged as an objection to investigations carried on within the walls of an hospital, that the inmates having had their constitutions shattered with repeated accession of disease, and having had their system undermined by various privations, and deteriorated by intemperate excesses, are not in a suitable position to afford results which might prove advantageous in private practice. Is, let me ask, the votary of pleasure, the sensualist, whose easy circumstances only pander to his unbridled lusts, upon whom no reliance can be placed for the accuracy with which he follows the advice prescribed, and who, in order to give a chance to the triumph of nature over art, is but too anxious to evade those restrictions required by his attendant, to be selected in preference to the hospital patient, who affords daily, and if requisite, hourly opportunity of inspecting the progress of symptoms, and observing the different phases under which they present themselves? What has rendered immortal the names of the illustrious individuals who have long since passed from amongst us? What gives weight to the opinion, and stamps as undoubted authority the works of those of the present day, is it not the institutions to which they are attached, and are not their works merely the records of their labours as performed in them?

I have been led to these preliminary remarks from similar objections to those which I have endeavoured to refute, having been made against a communication which on a former occasion I had the honour of reading before the society, the materials of which were composed exclusively of matter collated in hospital practice.

The observations which I purpose offering this evening shall be for the most part confined to the comparative utility of the bromide and iodide of potassium in the treatment of the secondary and tertiary forms of syphilis—a subject which, as far as I am aware, has not as yet been brought before the profession.

Some months have now elapsed since the attention of the profession in this city was directed by Mr. O'Reilly, in a paper read before the Dublin Society, to bromine and its preparations, who from opportunities afforded him during his stay in the United States of America, was enabled to collect and import a considerable quantity of that mineral to this country. The mode of procuring it, its physical properties and action on the animal economy, have been so fully dwelt upon in the paper to which allusion has been made, as to render it unnecessary for me to detain the society with any further particulars. At the period referred to, from the exorbitant price iodine had attained, a substitute was eagerly looked for, and to supply this desideratum, bromine was introduced as possessing properties almost analogous to those of iodine, and with this recommendation in its favour, I commenced to employ it in those cases in which I had been in the habit of using the iodide with the most beneficial results, but which from the circumstance just stated had been nearly put beyond my reach in hospital practice.

To form anything like a correct estimate of its effects, I selected for trial patients similarly affected with those whom I had been accustomed to treat with the iodide of potassium, and have drawn up a statistical table of the results which has enabled me to institute a comparison between the two modes of treatment. The varieties of disease which I have arranged into four classes were as follows:—

1st. The eruptive form, comprising the papular, rupial, and scaly varieties.

2nd. Affections of the throat, comprising increased vascularity, ulceration at back of pharynx, and excavated ulcer of the tonsil.

3rd. Osteocopic pain.

4th. Ulcers of legs.

In the first or eruptive class there were eighteen cases of the papular variety, of which a cure was accomplished in fourteen after a protracted period. In the remaining four it appeared to exert no effect, and the iodide was eventually substituted.

In the two cases of rupia, one patient died, worn out by frequent epileptic attacks, in whom the bromide had been used with little benefit for six weeks. In the other, no perceptible alteration was manifested in the symptoms which presented.

In the scaly variety it failed in one; the other recovered, after a lengthened period, desquamation appearing to be the result more of time than the operation of medicine.

In the second class, consisting of affections of the throat, its

use was attended with success in two cases of increased vascularity in which it was employed: on one case of excavated ulcer of the tonsil (the only one from the rarity of this form of disease in which I had an opportunity of testing its effects,) it produced no beneficial result; and out of six cases of ulceration of the pharynx, its protracted use was only productive of advantage in three.

In eighteen cases of syphilitic pains, success followed in fourteen instances; in the remaining four the iodide was resorted to, to effect a cure. During its administration in this form of the disease, I was frequently obliged to have recourse to anodynes, in order to render the patient insensible to pain, over which for a considerable period it appeared to exert no salutary influence.

In the fourth class, comprising ulcers of the lower extremities, which might be more properly termed syphilitic cachexia, it produced a beneficial effect in two, but failed in three. The minimum dose employed in these several instances was five grains, the maximum ten, three times a day, beyond which I found it impossible to push it: the vehicle selected for its exhibition was water, with the addition of a little simple syrup.

In taking a retrospective view, extending over a period of four years, of the cases of secondary and tertiary syphilis treated with the iodide of potassium, and those just detailed in which the bromide was substituted, I think the former line of treatment most strongly recommends itself to every impartial mind for the following reasons:—

Firstly. The iodide exerts, in the majority of instances, an instantaneous, decided, and always a beneficial action, contrasted with the bromide, whose effects are slow, unsatisfactory, and frequently unsuccessful.

Secondly. The iodide seems to act favourably, not only upon the disease for which it is prescribed, but also upon the constitution in general, by increasing the appetite, improving the powers of digestion, thereby enabling the patient to gain flesh while under its influence, whilst the bromide not unfrequently produces nausea, impairs the appetite, and deranges the digestive organs.

And lastly, every form of secondary and tertiary syphilis (with the exception of iritis) is amenable to the action of the iodide, whilst that of the bromide is extremely circumscribed. A very general impression prevails among the profession, that in order to obtain favourable results from the exhibition of the iodide of potassium, it is requisite to administer it in large doses. From the experience which I have had in its employment in the Lock Hospital, I should say that far more desirable consequences are likely to ensue from moderate than excessive doses; it has seldom occurred that every wished-for indication was not fulfilled by five-grain doses, and in no instance did it appear necessary to increase it further than ten grains thrice a day.

The vehicle most commonly selected for the exhibition of the iodide of potassium, which, by the majority of writers, is considered materially to assist its therapeutic qualities, is some preparation of sarsaparilla, usually the compound decoction. From repeated experiment, I feel convinced that the beneficial effects of the iodide are in no way assisted by these preparations, as to the utility of which, either directly or indirectly, reasonable doubts may be entertained.

As it may be a matter of considerable importance to detect the adulteration of the iodide with the bromide of potassium, my friend Mr. Emerson has kindly furnished me with the following simple method of ascertaining the admixture. Take of the suspected salt one drachm, dissolve in two ounces of distilled water, of sulphate of copper two drachms, dissolved in the same quantity of distilled water, mix, and put both into a clean oil flask, and boil till the vapour from the flask will not produce any effect upon a piece of paper, to whose surface a solution of starch has been applied, the fluid remaining in the flask, if impure, will immediately, on the addition of a few drops of a solution of chloride of lime, give the usual orange colour of bromine, which will be rendered more apparent by the addition of a little starch. Bromide of potassium is not precipitated by sulphate of copper, in which it differs from the iodide.

I had purposed offering a few concluding remarks upon the comparative utility of mercury and iodine in the secondary and tertiary forms of syphilis, but as I hope at a future day, and in another form, to be enabled to enter more at large upon the subject of syphilitic diseases in general, I will not further trespass upon the time of the society.

Dr. Stapleton felt pleasure in being able to confirm Dr.

Egan's views respecting the properties of the bromide of potassium. In comparison with iodide of potassium he had found it, in fact, almost inert. The latter medicine he had been in the habit of using for the last ten years in hospital practice; its beneficial action being more particularly manifest in syphilitic rheumatism—with the addition to the mixture of ʒij. to ʒviii. of water—where there was excessive pain, of a grain of muriate or acetate of morphine; while in using the bromide in similar proportions, and even with the same addition of morphine, it produced hardly any effect. Dr. Stapleton was of opinion that in the majority of scaly syphilitic affections mercury is the most beneficial agent; but in many cases of violent perierianal pains, &c., he had known the iodide of potassium to act like a charm. Its combination with tonics, as iron, quinine, &c., he had also known to be most efficacious in broken down constitutions, much more so than when administered alone.

Dr. Egan was happy to find his own experience so well borne out by Dr. Stapleton, who had so extensively used both remedies. He agreed with Dr. Stapleton regarding the class of cases most likely to be benefited by the hydriodate of potass; though, perhaps, he could not entirely agree with him respecting its entire inefficacy in the scaly and rupial forms of eruption. Such cases are rarely to be met with, and perhaps we have not as yet sufficient experience of them. No doubt, tubercular eruptions of the face, and scaly eruptions, are often difficult to be got rid of with hydriodate of potass, and disappear to a great extent under the use of mercury. He had not tried a combination of narcotics with the iodide or bromide of potassium.

Professor Apjohn had heard Dr. Egan's paper with very great interest indeed. In testing the efficacy of this new remedy he had directed his attention to a very interesting topic, and he (Professor Apjohn) was rather sorry to find that the result went to prove the inferiority in point of efficacy of the bromide as compared with the iodide of potassium. Mr. O'Reilly, who had introduced it here in a speculative spirit, had given Professor Apjohn a specimen which he found remarkably pure; Mr. O'Reilly having, it appeared, discovered a fertile source of the drug in certain salt springs in America. Dr. Egan had alluded to an important point, one which acquired additional importance from the results of the action of the remedy—viz, the testing the freedom of hydriodate of potass from any mixture of the bromide. The mode of proceeding, however, appeared to be rather rough and inadequate. Professor Apjohn proposed as a mode of ascertaining with accuracy the relative quantities of iodine, or iodine and bromine, in combination with potass, to obtain a precipitate with nitrate of silver, weighing the latter, then adding chlorine to separate the silver, and finally, comparing the loss of weight of the precipitate with the relative quantities of the elementary gases. He would beg to ask Dr. Egan whether he had given the remedy a trial in any but syphilitic affections. Dr. Williams of London, an authority of high character, had stated that he found it extremely useful in chronic affections of the spleen and liver; and in the London pharmacopœia there is a formula for the preparation of the bromide.

Dr. Egan perfectly agreed with Professor Apjohn as regarded the roughness of the analysis set forth in his paper, but it was the only one that suggested itself to himself and Mr. Emerson, the apothecary of the hospital, some days ago. He was aware that some of the continental writers had used the bromide in scrofula, affections of the spleen, liver, &c., and that it had been tried also as a substitute for iron, but in this respect was totally inefficacious.

Dr. Geoghegan begged to say that he had rather extensively employed the bromide of potassium, and was disposed to concur in great measure in the statements made by the previous speakers: however, he must say that in some rupial affections, he had found it decidedly advantageous, even administered alone. In venereal rheumatism also it had been extremely serviceable, but in most other respects its action was probably inferior to that of the hydriodate.

Dr. Bigger thought that at a moment when our relations with America have assumed a character so exceedingly philanthropic, we should not too readily fling down the gauntlet of defiance against a product that as yet would scarcely seem to have had time enough for a fair trial in the medical world. It might be in the memory of many present that the hydriodate of potass on its first introduction had for a long time been treated with nearly

similar suspicion. He Dr. Bigger had seen the bromide of potass used with great efficacy in many scrofulous cases and some eruptive affections of the scalp. Dr. Bigger spoke in high terms of the favourable effects produced by bathing in some salt springs on the borders of the Rhine which were found to contain this salt in small quantities. Those springs were first employed for washing horses in, but on being discovered to contain bromine were resorted to by thousands of scrofulous subjects. At one of these places, Creitznach, a young lady a friend of his had got rid of scrofulous tumours of the neck which had long resisted every means of treatment.

Dr. Benson said he thought we should not altogether condemn this remedy, though he might observe, notwithstanding our present kindly relations with America, it must be confessed that its efficacy was not at all equal to that of the iodide. He had lately an opportunity in the City of Dublin Hospital of testing its effects in a case of enlarged thyroid gland in which the iodide had previously been for a good while employed both externally and internally; yet the woman herself declared after she had used the bromide for some time that the improvement was much greater than while she was using the iodide, and so it decidedly was, as observed by the pupils and others. The case, too, was such as one would say when the woman presented herself was of a very obstinate character: one lobe of the gland was indurated and encysted.

Mr. Butcher suggested the possibility that in the foregoing very interesting case, though unperceived by the woman herself, the absorbents may have received an amount of stimulus which the slight action of the bromide was subsequently sufficient to keep alive, and thus the result ascribed to the latter medicine.

Dr. Benson mentioned the fact as just stated, without any desire to enter into possibilities. Mr. Butcher's suggestion was ingenious.—*Dublin Medical Press.*

*Death by Strychnine—Report on the Case of the Late Dr. W. C. Warner.*—At a late meeting of the Addison County Medical Society of Vermont, the undersigned were appointed a committee to ascertain the facts in the case of one of their members, the unfortunate William Cullen Warner, M.D., of Bristol, who deceased, suddenly, at Montpelier, October 11th, 1846, in the thirty-ninth year of his age, while he was a member of the Legislature.

On account of there having been considerable discrepancy in the published reports in relation to this melancholy event, the committee addressed letters of inquiry to the Hon. Daniel O. Onion, M.D., of the Vermont Senate, and to Charles W. Horton, M.D., Member of the House, each of whom, they had learned, were present during most, if not all, the period of the sudden and tragical event. To the inquiries of the committee each of these gentlemen has given prompt and satisfactory replies, which in substance are here subjoined.

1. In your opinion how much sulphate of strychnia was taken?

To this Dr. Onion answers, "I think probably from one-fourth to one-half a grain. As he intended to take, and supposed he was taking, morphia, he would be likely to use the same quantity he was in the habit of using of that article, although there was no evidence at the time of the quantity taken." To Dr. Horton, who was called into the room immediately after the accident, Dr. Warner said, "Dr., I have taken by accident an over dose of morphine; help me if you can," at the same time handing him the phial enveloped in paper.

2. How soon after was any effect produced?

Dr. Horton says, "It is my opinion, from facts subsequently obtained from Gen. W. Nash, who occupied the same room with him, that he felt the effects in less than five minutes."

3. What was the first symptom?

Dr. H. replies, "constriction of the throat and tightness of the chest, with rigidity of the muscles in attempting to move." Dr. O. says, "He first complained of a want of

air, and requested the window to be raised; whether it was from faintness or a constriction about the respiratory organs, I do not know, although I think the latter."

4. What symptoms ensued from the first till death occurred?

Says Dr. O., "When I first saw him, he was lying upon the bed in a complete *tetanic convulsion*; his head somewhat drawn back; his countenance completely livid, with some frothy matter issuing from his mouth, with frequent moans. The palpebra constantly in motion. This first paroxysm may have lasted some five minutes, which was succeeded by an interval of partial calm." "During this interval," continues Dr. O., "it was somewhat difficult for him to articulate with distinctness. He made several attempts to vomit in this interval, by exciting the fauces with his finger. There seemed to be some constriction about the throat, as it was difficult for him to swallow." "This interval lasted perhaps five minutes, when another paroxysm commenced by a little starting and stiffening of the extremities, and immediately the whole body was thrown into a tetanic paroxysm, in appearance like the first, and lasted two or three minutes, when death ended the struggle."

"In about three minutes from the first paroxysm," says Dr. H., "the tetanus again returned, and in the space of two minutes death closed the scene, with terrible spasms of the entire system. The pulse remained unaffected till the last struggle. It is my opinion that the immediate cause of death was suspension (?) from spasm."

"His appearance," says Dr. O., "led me to believe that death ensued from asphyxia or suffocation. There must have been great congestion of the brain, which of itself might have proved fatal."

5. How soon after taking the article did death occur?

Dr. H. says, "From the best information which I could obtain, I should judge that death ensued in four or five minutes." "The time from taking the article till death ensued," Dr. O. remarks, "could not have been over twenty minutes."

6. Did his mind remain clear till the last struggle?

"I think," replies Dr. H., "that he was perfectly conscious from the first to the last, except in the paroxysm of tetanus, from the following facts:—1. His appeal which he made to me, as noted in the first article. 2. On loosening his cravat, he requested me to unbutton his vest, at the same time desiring me to take out his gold watch and take care of it. 3. An emetic having been administered, he applied his finger to his throat to provoke a nausea. 4. And, from the last words he uttered, 'I fear, I fear, O God, deliver me.'"

7. What means were used to prevent the fatal result?

Dr. H. says, "On witnessing the first symptoms, I left the room for the purpose of obtaining medicine. I procured an emetic of sulphate of copper and ipecac; but returning and finding him in a tetanus, I immediately dashed cold water on his head, face and breast, and used the most powerful friction on the extremities. He returned to a state of perfect consciousness. I then proceeded forthwith to administer the emetic, making use of diluents copiously. I sent a messenger for some vinegar and ground mustard, and another for a stomach pump. I used the ground mustard, in warm water freely, to all of which the patient submitted, seeming to be very grateful for the efforts which I was making for his relief. The means were used without any apparent effects." "When death had ensued, a number of the medical fraternity being present, we retired into an adjoining room; when the fatal bottle was produced, with the wrapper still around it. On removing this, it was found labelled 'strychnine.'" Dr. O. states, that "till this time, we were in ignorance of what he had taken." Dr. H. avers, "that here I wish definitely to state, that before the last paroxysm came on, I was fully convinced in my own mind

that the fatal drug was not morphia, but strychnia, and I so declared to those present at the time."

From facts before the committee, derived from reliable sources, it appears that on the afternoon of the second day before the fatal accident, Dr. Warner called at an apothecary store in Montpelier, and asked for and purchased what he supposed to have been a bottle of sulphate of morphia. This was handed to him by the apothecary, enveloped in a brown paper and twisted at both ends. That on the fatal morning Dr. W. tore off the envelope surrounding the mouth of the bottle, and took a portion of what he supposed to have been morphia. He then proceeded to pour some of the supposed morphia into a small phial in which he had been in the habit of carrying sulphate of morphia, when he was suddenly arrested by the symptoms narrated. It is quite clear that he never entertained any idea of the fatal drug he had taken. "I am certain," says his afflicted brother, "that he never for a moment suspected that he had taken strychnia, and was wholly unconscious of the agency which had produced his awfully unprecedented sufferings."

Dr. W. had never possessed very firm health, and for about two years before his death he had suffered from an inordinate action of the heart, for which he had occasionally taken morphia. This affection of the heart had been the sequence of an inflammatory affection of the chest, which he had early in the year 1844.

The committee have taken considerable pains to ascertain the facts in this melancholy instance of death from a mysterious mistake. The mistake was certainly a singular and mysterious one, both in relation to the apothecary and the unfortunate man. It appears that Dr. W. asked for sulphate of morphia; the apothecary intended and supposed he had sold him morphia till after the fatal event, when he found, through mistake, he had given him, enveloped in a paper, a bottle of sulphate of strychnia in lieu of morphia. This exposition of facts appears to be demanded in justice to the character of the deceased, to the apothecary, and to the medical profession.

In a medical point of view the case is one of much and deep interest, since it so clearly manifests the true and energetic character of this somewhat new medicinal agent. And in a medico-legal consideration, it may prove of immense importance. In the suddenness of the effects, and in the quickness of the fatality, from the use of strychnia, this case is probably without a precedent. Christison, Pereira, and several monographical writers, in the periodicals, have recorded some bad results, and some fatal cases, from overdosing with this agent; but no instance has fallen under our notice in the human subject in which its administration, either accidentally or otherwise, has so speedily and terrifically proved fatal.

"No poison," says Christison, "is endowed with more destructive energy than strychnia." "I have," he adds, "killed a dog in two minutes with the sixth part of a grain, injected in the form of an alcoholic solution into the chest. I have seen a wild boar killed in the same manner with the third of a grain, in ten minutes; and there is little doubt that half a grain thrust into a wound might kill a man in less than a quarter of an hour. It acts in whatever way it is introduced into the system, but most energetically when injected into the veins."

With the exception of prussic and oxalic acids, there is probably no agent possessing an equally destructive power. Strong prussic acid is well known to be sufficiently energetic to destroy cats or dogs, when properly administered, in less than a minute. And Pereira examined the body of a man who had accidentally taken oxalic acid in lieu of Epsom salts, and died in twenty minutes.

JONATHAN A. ALLEN, M.D.  
ERASMUS D. WARNER, M.D.  
WM. P. RUSSELL, M.D.

## MIDWIFERY.

*On the Food of Children.*—By Dr. THOMPSON.—After some remarks on the relative quantities of nutritive matter in various articles of diet, Dr. Thompson makes the following useful observations on the appropriate food of children.

"Milk, in some form or other, is the true food of children, and the use of arrow-root or any members of the starch class, where the relation of the nutritive to the calorific matter is one to 26, instead of being as 1 to 2. In making this statement, I find that there are certain misapprehensions into which medical men are apt to be led at the first view of the subject. To render it clearer, let us recal to mind what the arrow-root class of diet consists of. Arrow-root and tapioca are prepared by washing the roots of certain plants until all the matter soluble in water is removed. Now, as albumen is soluble in water, this form of nutritive matter must in a great measure be washed away; under this aspect we might view the original root before it was subjected to the washing process, to approximate in its composition to that of flour. If the latter substance were washed by repeated additions of water, the nitrogenous or nutritive ingredients would be separated from the starchy or calorific elements, being partly soluble in water, and partly mechanically removed. Arrow-root may therefore be considered as flour deprived as much as possible of its nutritive matter. When we administer arrow-root to a child it is equivalent to washing all the nutritive matter out of bread, flour or oatmeal, and supplying it with starch; or it is the same thing approximately as if we gave it starch; and this is in fact what is done when children are fed upon what is sold in the shops under the title of "Farinaceous food,"—empirical preparations of which no one can understand the composition without analysis. Of the bad effects produced in children by the use of these most execrable mixtures, I have had abundant opportunities of forming an opinion, and I am inclined to infer that many of the irregularities of the bowels, the production of wind, &c., in children, are often attributable to the use of such unnatural species of food. It should be remembered that all starchy food deprived of nutritive matter is of artificial production, and scarcely, if ever, exists in nature in an isolated form. The administration of the arrow root class is therefore only admissible when a sufficient amount of nutritive matter has previously been introduced into the digestive organs, or when it is unadvisable to supply nutrition to the system as in cases of inflammatory action. In such cases the animal heat must be kept up, and for this purpose calorific food alone is necessary. This treatment is equivalent to removing blood from the system, since the wasting of the fibrinous tissues goes on, while an adequate reparation is not sustained by the introduction of nutritive food. A certain amount of muscular sustentation is still, however, effected by the arrow-root diet; since, according to preceding statements, it contains about one third as much nutritive matter as some wheat flours. The extensive use of oatmeal, which is attended with such wholesome consequences among the children of all ranks in Scotland, is, however, an important fact, deserving serious consideration, and it appears to me, is strongly corroborative of the principles which I have endeavoured to lay down.—*Experimental Researches on the Food of Animals* 1846, p. 169—171.

*On the Natural Periods of Delivery.*—Dr. Leroy has observed the following circumstance in connexion with the period of delivery:—1st, the natural term of delivery, as well as premature delivery, has a certain connexion with the monthly periods; 2dly, the return of these periods during the whole duration of pregnancy agrees with the period of the month corresponding with the date of the day on which the catamenia commenced to appear for the last time, whatever may be the number of days reckoned to each month; 3dly, the premonitory symptoms of delivery at the natural period commence, in the majority of females, at the date mentioned, or during the succeeding seven days; 4thly, nevertheless, the commencement of the expulsive pains may still occur in the normal manner, at the fifteenth day of the tenth month; 5thly, every delivery which occurs before the date mentioned may be considered to be accelerated; 6thly, every delivery which occurs after that date may be considered to be retarded; 7thly, the accelerations are proportionably much less numerous than the protractations;

most commonly they do not precede the time specified by more than 5 days; 8thly, the protractations, on the contrary, are not limited by any period; 9thly, in either case the causes of the accelerations and protractations are very appreciable in the greater number of instances.—*Journal de Loire, in Monthly Journal of Medical Science, July, 1846.*

THE  
British American Journal.

MONTREAL, AUGUST 2, 1847.

SANATORY MEASURES FOR THE IMMIGRANTS.

A question of exceeding moment, as far as this city and the Upper Province are concerned, has arisen out of the concomitants of immigration this year. It is the establishment of a sanatory depot for them below this city. While we admit the desirableness of as great an afflux as possible of immigrants into this Province, it is at the same time our duty to see that that afflux is not attended with destructive consequences to the population of the Province. Now it is notorious, that this year, on the route usually pursued by the immigrants, disease and death have followed closely on their progress; and this disease, in the majority of instances, as far as the immigrants themselves are concerned, and invariably so as far as the resident population on the route are concerned, was ship or typhus fever. Now a majority of the adult immigrants who arrive in this country, undergo a process of acclimatation, of which fever, usually of a typhoid type, is one of the phenomena, but which this year is more aggravated in its character than usual, due undoubtedly to the distresses incident to their protracted voyages, and their probably enfeebled constitutions anterior to embarkation; and this we assert, without in the least attempting to controvert the well ascertained fact that such a type of fever has acquired its peculiar malignancy from the confinement, bad ventilation, &c., incident to their voyages. As far as our observation extends, and we think we have had some experience in the matter, these cases of fever most usually develop themselves, in a majority of instances, within the period of a few weeks after arrival in this country. It would hence follow, that to prevent the spread of a contagious disease in the Province, a quarantine of at least three weeks or a month should be insisted upon by the Government.

But there is a Quarantine establishment at Grosse Isle; and this would be sufficient to the end, did its temperature attain the altitude of that of the country in which the immigrants intend to settle. But its temperature is very considerably below that of the in-



terior of this Province, a circumstance due entirely to its geographical position. The mean temperature for the city of Quebec, for the months of May, June, July, and August, extracted from the results of ten years, is 62°.42, while that of Montreal for the same months, over a similar interval, is 68°.6; that of Grosse Isle must be lower still, in consequence of its position and its distance, (about 30 or 35 miles) from the former city. The process of acclimatment cannot then take place in a locality so much below that of the country which it may be supposed to represent, and as the disease, which is but one of the phenomena, will generally manifest itself, under the favouring circumstances of temperature, &c., some locality should be selected in the interior of the country, in which these changes may take place; and as the disease, especially that of this year, is a contagious one, the locality ought to present every possible obstacle to unlimited intercourse with the inhabitants. Some insular position below this city would subserve the end; an end, too, the consequences of which would be experienced by the whole Province, as it would tend most materially to restrict the disease to its peculiar *locale*, and prevent its dissemination over the country, an inevitable consequence of the rapid transit to the interior of the immigrants as they arrive—a method of management based upon a total ignorance of the nature and effects of those acclimating changes which the immigrants necessarily undergo.

#### BILLS OF MORTALITY FOR THE CITY.

The inaccuracy of the mortality returns of this city for the last two years, consequent upon the method adopted to obtain them, having been pointed out to the City Council by the Medico-Chirurgical Society of this city, that body has lately repealed its by-law in this respect, and adopted another, by which the important object of accuracy will be, as far as possible, secured. We publish the by-law, as well for the benefit of the members of the profession in this city who are influenced by its provisions, as for the purpose of directing the attention of medical men in the other incorporated towns of the province to the subject, that they may get the good example followed by their own civic authorities. Accurate mortality returns are of the highest advantage to every community; and one good result, at least, must flow from those even of which we are at present possessed, namely, a reduction of the rates of life insurance, which are disproportionately high for the middle ages of life, as far as this city, at least, is concerned; the

mortality at such periods being at a lower ratio than that in most cities of Great Britain.

BY-LAW

*Of the Council of the City of Montreal, to provide for Weekly Returns of the Interments in the City.*

Whereas it is expedient to amend a By-Law, No. 176, of the Council of the city of Montreal, passed on the seventeenth day of October, in the year of our Lord one thousand eight hundred and forty-five, providing for weekly returns of the interments in the city, and to make further provision to obtain more correct and regular statements of the interments which take place within the city limits: At a special meeting of the Council of the city of Montreal, held in the City Hall, of the said city of Montreal, this twenty-third day of June, in the now year of our Lord one thousand eight hundred and forty seven, under and by virtue of the authority vested in them, in and by the Act of the Provincial Legislature, 8 Vic. Chap. 59, in the manner and after observance of all the formalities prescribed in and by the said act, at which said meeting not less than two thirds of the members of the Council, to wit, the following members thereof, are present, viz.: His Worship the Mayor, John Easton Mills, Esquire; Aldermen Beaubien, Glennon, Bourret, Tully; Councillors Footner, Jayman, Gibb, Gorrie, Sims, Valois, Darwin, Gogy, Beaudry, Lynch.

It is ordained and enacted by the said Council, and the said Council do hereby ordain and enact:

Section I.—That the said By-Law, No. 176, be, and the same is hereby repealed.

Section II.—That the clerk, superintendent, headle, or other person or persons having charge of any vault or burying ground in the said city, shall hereafter, between the hours of nine of the clock in the forenoon, and noon, of Saturday in each week, make and deliver to the Chief of Police, or, in the event of his absence, illness, or removal, to the officer or person acting in his lieu and stead, for the time being, a return of the persons buried in such vault or burying ground, during the said week, in the form contained in the Schedule A, hereto annexed, under a penalty not exceeding five pounds currency, and an imprisonment not exceeding thirty days for each and every refusal, neglect or omission so to do.

Section III.—And be it further ordained and enacted, That it shall be the duty of the Chief of Police, to enter the returns mentioned in the preceding Section, in a book, to be kept by him for the purpose, and on or before five hour of four of the clock in the afternoon of Saturday in each week, to make out and deliver to the City Clerk of the said city, a general return of all the persons buried within the limits of the said city, during the said week, with all the particulars furnished to him in the several returns received by him from the clerks, superintendents, headles, or other persons in charge of the several vaults and burying grounds in the city, and also to furnish the clerks, superintendents, and other persons in charge of vaults or burying grounds with a sufficient supply of the forms in the annexed Schedule.

Section IV.—And be it further ordained and enacted, That no sexton, or other person having charge of any place of interment in the city of Montreal, shall, under a penalty not exceeding five pounds, inter or permit to be interred any dead body thereat, without having first received a certificate, stating the name, apparent age, birth place, date and place of death, and the disease of which he or she shall have died, signed by the attending Physician, which certificate the said Physician shall be bound to deliver under a penalty of five pounds currency; or in case no Physician shall have attended such deceased, then by some of the family of the deceased, and, in case such person cannot write or sign his name, such person may append his mark to such certificate in presence of two witnesses; and in case of an inquest having been held, the certificate shall be signed by the Coroner; and the said certificate shall be deposited, with the return, in the office of the Police Inspector, and the said certificate may be in the form specified in Schedule B hereto annexed.

(Signed)

Jno. E. MILLS, Mayor.

[L.S.] (A true Copy)

J. P. SERRON, City Clerk.

Schedule A, referred to in the by-law, contains the following particulars: The name; date of decease;

male, whether boy, married, widower, or bachelor; female, whether girl, married, widow, or unmarried; age, specifying years, months, and days; place of residence, specifying the number, street, and ward; the country of the deceased; the disease; and lastly, the length of residence in the city.

Schedule B, to be furnished by the medical attendant, specifies the name, date of disease, age, birth place, date of death, place of residence, the disease, and length of residence in the city.

This by-law will immediately come into effect; and printed schedules will be immediately furnished to all the physicians in the city, who, we doubt not, will cheerfully second the efforts of the City Council in this respect.

*The Incorporation of the Medical Profession of Lower Canada.*—The “Act to Incorporate the Members of the Medical Profession in Lower Canada, and to Regulate the Study and Practice of Medicine therein,” received the assent of His Excellency the Governor-General, at the closing of the Provincial Parliament on the 28th ult. As the profession is now governed by this act, it will speedily become necessary to adopt measures to carry its provisions into execution. The medical boards of this section of the Province of Canada are now abolished, their duties being vested in the Incorporated College. We are exceedingly happy that the profession is at last under what we certainly deem a salutary degree of control, and that its interests are now likely to be effectually preserved; and we hope soon to be enabled to record in our pages a case or two in which its provisions will have been made to bear on the quacks who infest this city, by way of example to those of the country who are much more presumptuous and more numerous.

In consequence of a strong remonstrance on the part of the Druggists and Apothecaries of this city, and the assurance given by them that they would forward a measure for their own incorporation as a Pharmaceutical Society, at the ensuing session of the Legislature, all the clauses of the Bill relating to them have been expunged. We have not the slightest objection to this proceeding on their part; for we have long thought that, considering their number, their respectability, and the specific objects of their pursuits, they should be specially endowed with powers peculiar to themselves. Being now publicly pledged to the attainment of this object, we sincerely hope they will carry it out, and this, too, at as early a period as possible; inasmuch as, by the repeal of the Act 28 Geo. III. c. 6, they are, as a body, uninfluenced now by any Legislative enactment whatever; and it is a duty

which they owe to the public, to the medical profession, and themselves, that such a state should exist but for as short a time as possible.

As the Bill has thus received some very considerable modifications, we will publish it in our ensuing number, as it has passed the several branches of the Legislature.

While on this subject, we may not inappropriately ask, what has become of the Bill for Incorporating the Medical Profession of our Sister Province? We have made frequent and anxious enquiries about it, but to no purpose.

*Health of the City.*—Such an extent of disease as has prevailed in this city during the last six weeks, has not been known for years. One prevailing cause is fever, and this of a typhoid type, attributable entirely to the direct and almost unlimited access which the immigrants have been permitted to the city. Since the arrival of these unfortunate creatures, disease—not only among themselves, but also among those who have administered to, or visited them—has tracked their course to the interior; proclaiming, in language too loud to be misinterpreted, the absolute necessity which exists for adopting some means of establishing an isolation of them, and compulsorily forcing a complete non-intercourse. To their introduction of it into the city, must be chiefly attributed the rapidly increasing rate of mortality from fever alone. For the six weeks, commencing on the 12th June, and ending on the 24th July, the mortality returns for this city afford, among the resident population exclusively, the following progressive ratio: 3, 4, 12, 55, 58, 72;—a ratio demonstrating too conclusively the cause upon which it depends. Other principal causes of disease are cholera (sporadic), and diarrhoea, diseases which usually are met with during our summer months. The weather has been exceedingly hot and oppressive, until within the last week; the temperature having been considerably above that which usually obtains at this period of the year; the thermometer having stood at 96° and 98° frequently, once reaching as high, we have been informed, as 102° in the shade.

In Quebec, we are also informed, there has been an unusual degree of sickness. Fever is equally as rife there as here. The Marine Hospital is crowded to such an excess, as imperatively to demand the temporary establishment of a fever hospital, for which purpose the cavalry barracks, on the Plains of Abraham, have been granted by the government.

*Proposed Fever Hospital in this City.*—In consequence of the prevalence of fever in the city, the crowded

state of the Montreal General Hospital, and the manifest impropriety of converting that institution into a fever hospital exclusively, the Corporation have voted to the Board of Health, on the representation of the latter body, the sum of £500 towards the establishment of an hospital exclusively intended for the reception of fever cases occurring among the residents of the city. A deputation from the Board of Health has been examining various localities; and a situation in Brock Street, Quebec Suburbs, presents peculiar advantages for this purpose. A report to this effect was presented to the Board of Health a few evenings ago, should the idea be carried out. The whole matter, however, is still *en delibré*, and dependent upon the subsequent progress of fever in the city. Under any circumstances, the existence of such an Institution in the city would seem to be demanded, and we anticipate that, before long, one will be established.

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#### OBITUARY.

In this city on the 15th ult., Dr. Bernard M'Gale, aged 45, from typhus, contracted in the performance of his duties as one of the medical attendants at the Emigrant Sheds, Griffintown.

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#### THE LATE DR. GRASETT.

"Why dost thou build the hall? Son of the winged days! thou lookest from thy tower to-day; yet a few years and the blast of the desert comes; it howls in thy empty court."

Died, on the 16th ult., of typhus fever, at the residence of his brother, the Rev. H. Grasett, A.M., Rector of Toronto, George Robert Grasett, Esq., Principal Physician of the Emigrant Hospital at Toronto, and one of the Physicians of the General Dispensary. Dr. Grasett was the son of the late Dr. Grasett, a military medical officer, some years since on service in this colony. The subject of this brief memorial was a young man of great promise, and in the enjoyment of an extensive and rapidly increasing private practice.

Surrounded by "troops of friends," and endowed in an eminent degree with those qualities of mind and person which bespeak for their fortunate possessor a favourable reception everywhere, the world seemed to present to him only its sunny side. In the midst of a career thus successful, he has been caught suddenly away to take his place among the sons of immortality. The decrees the Omnipotent are full of wisdom and of mercy; and the spirit of our amiable friend rejoiced, as its crumbling envelope gradually gave way in the glorious prospect set before it.

In the humble abodes of the suffering poor of this large town, in the reception room of the Dispensary where his benevolent smile was wont to greet them, his virtues are the theme of daily praise, and his death the subject of deep and lasting sorrow. At the table, too, of the Medico-Chirurgical Society, where he officiated for a long time as sole secretary, and latterly as joint secretary, with Dr. Nicoll of King's College, his absence will be

felt, and deeply regretted. In a word, Dr. Grasett was one of those men whose places in society it is very difficult adequately to fill. His death has furnished another evidence of the fatal efficacy of the exciting cause of the fever at present raging among the emigrants, the true character of which has been concealed under an unmeaning name.—(*Communicated.*)

Toronto, July 26, 1847.

At Vercheres, on the 22d ult., at the early age of 24 years, Alfred Malliot, M.D., fourth son of the Hon. F. X. Malliot, of the said place. This promising young physician graduated at McGill College two years ago, and we sincerely sympathize with his friends in the bereavement which they have suffered. His life is the forfeit of his zeal in favour of the unfortunate immigrants who have this year landed on our shores.

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#### BOOKS, &c., RECEIVED.

- The Illustrated Flora—Vol. 1. No. 2, 3.
- Geological Survey of Canada—Report of Progress for the years 1845-6. Montreal.
- Geological Survey of Canada—Report of Progress for the years 1846-7. Montreal.
- Proceedings of the National Medical Conventions, held in New York, May, 1846, and in Philadelphia, May, 1847. Philadelphia, 1847.
- Buffalo Medical Journal—July.
- Annual Circular of the Medical Institution of Geneva College, Session 1847. Buffalo.
- The Medical Examiner—July.
- The American Journal of the Medical Sciences—July.
- The Southern Journal of Medicine and Pharmacy—July.
- The American Journal of Science and Arts—July.
- The Annalist—July 1, 15.
- Annual Report of the Provincial Lunatic Asylum, Toronto—Toronto, 1847.
- Some Account of the Lethæon, or who is the Discoverer, by Edward Warren—3d edition. Boston, 1847.
- The Medical News and Library—June 25, July 29.
- London Medical Gazette—June 13.
- Triumphs of Young Physic, or Chroviothermal Facts, by W. Turner, A.M., M.D. New York, 1847.
- Provincial Medical and Surgical Journal—June 16.
- Report of the College Committee of the Town Council of Edinburgh, Patrons of the University, regarding the Statutes of the University relative to the Degree of M.D. Edinburgh, 1846.
- Inquiry into some points of the Senatory State of Edinburgh, &c., by James Starke, M.D. 1847.
- Report on the Mortality of Edinburgh and Leith for the year 1846, and January and February, 1847. By James Clarke, M.D. Edinburgh, 1847.
- Report of the College Committee on the Propriety of Altering the Regulations which require Attendance at University Classes exclusively as Qualifying Candidates for the Degree of M.D. Edinburgh, April 7, 1842.
- Copy of Letter to the Lord Provost, Magistrates, and Town Council of Edinburgh, from S. A. Pagan, President of the Royal College of Surgeons of Edinburgh. Edinburgh, 7th Nov., 1846.
- Report on the Mortality of Edinburgh and Leith, for the six months, June to November, 1846, by James Stark, M.D. Edinburgh 1846.
- Report on the Mortality of Edinburgh, Leith, and Newhaven for January and February, 1846, by James Stark, M.D. Edinburgh, 1846.
- Testimonials in favour of John Goodsir, Esq., F.R.S.E., Candidate in Favour of the Chair of Anatomy in Edinburgh. Edinburgh, 1846.
- Southern Medical and Surgical Journal—July, 1847.
- Boston Med. and Surg. Journal—June 30, July 7, 14, 21.
- The Western Lancet—July.
- American Journal of the Medical Sciences—July.

**BILL OF MORTALITY for the CITY of MONTREAL, for the month ending JUNE 30, 1847.**

DISEASES	Male	Female	Total	Under 1.	1 & under 3	3-5	5-10	10-15	15-25	25-35	35-45	45-55	55-75	75 upwards
EPIDEMIC OR INFECTIOUS	Small Pox.....	2	2	4	2	2								
	Measles.....	5	2	7	2	2	3							
	Scarlatina.....	1	2	3			1							
	Fever.....	35	33	68	2	5	2	4	2	12	23	4	6	8
DISEASES OF BRAIN AND NERVOUS SYSTEM	Dentition.....	5	5	10	5	5								
	Convulsions.....	4	1	5	5									
	Apoplexy.....	1	1	2										
	Paralysis.....	1	1	2										
DISEASES OF THE THORACIC VISCERA	Inflamma. of Brain	4		4	1	1								
	Consumption.....	21	34	55	12	9		3	2	5	8	4	1	4
	Croup.....	1	2	3	1		1	1						
	Disease of Heart		2	2										
DISEASES OF ABDOMINAL VISCERA	Inflam. of Bowels		2	2	1		1	1						
	Diarrhœa.....	34	29	63	23	18	5	8	1	2		1	4	1
	Dropsy.....	1		1								1		
	Dysentery.....	2	1	3	1		1	1						
	Jaundice.....		1	1										
	Childbirth.....		3	3							1	2		
	Unknown.....	15	7	22	12		1			3		2	2	2
	Debility.....	3	2	5										1
OTHER CAUSES AND DISEASES, AND DISEASES NOT SPECIALLY DESIGNATED	Inflammation.....	10	12	22	10	4	1	3	1	1	1			
	Cancer.....	1	1	2									1	1
	Stillborn.....	8	2	10	10									
	Accidental.....	1		1										
	Suicide.....	1		1										1
	Other Causes.....	5	5	10	1			3	1		1	2	1	1
<b>Total</b> .....	<b>161</b>	<b>150</b>	<b>311</b>	<b>85</b>	<b>46</b>	<b>16</b>	<b>26</b>	<b>8</b>	<b>27</b>	<b>37</b>	<b>15</b>	<b>25</b>	<b>20</b>	<b>6</b>

Among the above are included 130 Immigrants, 65 males and 65 females. Of these, there died from Fever 51=27 males and 24 females; from Diarrhœa 41=24 males and 17 females; from Dysentery 3=2 males and 1 female. At the ages recorded in the Table, the ratio stands as follows: Males, 1 to 14; 1 to 3, 22; 3 to 5, 9; 5 to 19, 15; 10 to 15, 3; 15 to 25, 14; 25 to 35, 22; 35 to 45, 8; 45 to 55, 14; 55 to 75, 7; 75 upwards, 1.

**MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR JUNE, 1847.**

DATE.	THERMOMETER.				BAROMETER.				WINDS.			WEATHER.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+55	+67	+53	+61.	29.70	29.68	29.50	29.63				Fair	Shwers	Rain
2,	" 59	" 68	" 60	" 63.5	29.46	29.58	29.66	29.57				Fair	Fair	Fair
3,	" 61	" 79	" 64	" 70.	29.61	29.57	29.48	29.55				Fair	Fair	Cloudy
4,	" 64	" 75	" 59	" 69.	29.39	29.37	29.41	29.39				Rain	Fair	Rain†
5,	" 54	" 61	" 52	" 59.	29.42	29.55	29.67	29.55				Fair	Fair	Show's
6,	" 59	" 75	" 64	" 67.	29.65	29.67	29.69	29.67				Fair	Fair	Fair
7,	" 67	" 82	" 63	" 74.5	29.69	29.74	29.73	29.72				Fair	Fair	Fair
8,	" 69	" 80	" 64	" 74.5	29.73	29.72	29.72	29.72				Fair	Fair	Fair
9,	" 67	" 66	" 65	" 66.5	29.71	29.58	29.47	29.57				Rain	Rain	Rain*
10,	" 71	" 86	" 71	" 78.5	29.47	29.50	29.51	29.49				Fair	Rain*	Rain
11,	" 72	" 84	" 64	" 73.	29.31	29.28	29.26	29.28				Rain	Rain	Rain*
12,	" 59	" 57	" 55	" 58.	29.27	29.37	29.41	29.35				Cloudy	Shwers	Fair
13,	" 58	" 76	" 68	" 67.	29.46	29.38	29.24	29.36				Fair	Fair	Rain
14,	" 69	" 73	" 49	" 71.	29.25	29.10	29.07	29.14				Fair	Rain*	Rain
15,	" 44	" 49	" 52	" 46.5	29.09	29.20	29.37	29.22				Rain	Rain	Rain
16,	" 53	" 72	" 57	" 62.5	29.50	29.51	29.64	29.55				Fair	Rain	Rain
17,	" 60	" 76	" 64	" 68.	29.72	29.78	29.81	29.77				Fair	Fair	Fair
18,	" 65	" 77	" 66	" 71.	29.88	29.80	29.72	29.80				Fair	Fair	Fair
19,	" 66	" 63	" 57	" 61.5	29.69	29.60	29.60	29.63				Rain	Rain	Rain
20,	" 65	" 80	" 67	" 72.5	29.62	29.61	29.59	29.61				Fair	Fair	Fair
21,	" 63	" 73	" 58	" 68.	29.61	29.60	29.64	29.62				Rain	Rain	Fair
22,	" 66	" 74	" 63	" 70.	29.70	29.72	29.73	29.72				Rain	Rain*	Cloudy
23,	" 67	" 77	" 66	" 72.	29.73	29.70	29.72	29.72				Rain	Fair	Fair
24,	" 65	" 80	" 72	" 72.5	29.73	29.69	29.71	29.71				Fair	Fair	Fair
25,	" 71	" 84	" 73	" 77.5	29.71	29.68	29.66	29.68				Fair	Fair	Fair†
26,	" 70	" 92	" 73	" 81.	29.66	29.63	29.62	29.64				Fair	Fair	Fair†
27,	" 75	" 91	" 75	" 83.	29.62	29.55	29.56	29.58				Fair	Fair	Fair
28,	" 77	" 89	" 77	" 83.	29.55	29.56	29.56	29.56				Fair	Fair	Fair
29,	" 71	" 80	" 64	" 75.5	29.55	29.57	29.61	29.58				Rain	Fair	Fair
30,	" 68	" 82	" 67	" 75.	29.63	29.65	29.69	29.66				Fair	Fair	Fair

THERM. } Max. Temp., +92° on the 26th.  
 } Min. " +44° " 15th.  
 Mean of the Month, +70°.  
 \* Rain and thunder.

BAROMETER, } Maximum, 29.88 Inches on the 18th.  
 } Minimum, 29.07 " " 14th.  
 Mean of Month, 29.563 Inches.  
 † Fair, with high winds.

‡ Rain, with lightning.

