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CASE OF TEMPORARY PARTIAL STAGNATION OF THE CAPILLARY CIRCULATION.

To the Editor of the British American Journal.

SIR,—The following rare case may be deemed worthy a place in the pages of your journal, among the "curiosities of medical experience" :—

I was called a few years ago to attend a gentleman of this city, who had been suffering for some time previously from extensively ulcerated sore throat, and severe pains, the consequence of ill-managed secondary syphilis. His constitution was broken down, between the disease and the injudicious and irregular use of mercury, and his spirits much depressed from his long illness.

I prescribed for him restoratives, as sarsaparilla and quinine, and treated the ulceration of the throat by local applications; under which plan he soon began to improve. In the beginning of October, (about a month after my attendance commenced,) he became affected with occasional painful tingling sensations in his feet, like those which accompany the return of the natural temperature to a part, after being very cold; the parts affected became of a dark blue or purple color, accompanied with stiffness and swelling; after a short space of time the sensation subsided, and the color disappeared, to return next day, on his getting out of bed; in general these attacks only came on once a day, but occasionally they were more frequent. The hands became similarly affected, and in a short time the tip of the nose, prominence of the cheeks and ears, were in the same manner affected; detached patches, resembling vibices, and tumefactions like erythema nodosum, appeared on different parts of the thighs and arms; these parts also occasionally assumed the blue color for a short time, like the other parts, and experienced the disagreeable tingling sensation, but again resumed their natural color, as it disappeared. Gentle friction was very perceptible in shortening the attacks, and cold had evidently great influence in inducing them. Although the general circulation was languid, there was no irregularity in the heart's action; the affection evidently depended on a partial stagnation of the blood in the capillaries. Although the exciting cause was not so manifest, under the plan pursued, the ulceration in the throat healed, and his general health became restored; and in about three months he was convalescent, and apparently free from his "morbus cæruleus." At this time he drove out for a short distance from town, on a pleasant mild day, when before his return his face had become completely blue, and even darker than that of the worst cholera, to the great surprise of those who saw him. An old experienced Physician visited him out of curiosity, and admitted that he had never seen such a case before. Stagnation of the blood in the capillaries, and even gangrene, occasionally follows bad fevers, and other debilitating diseases, or it may be consequent on old age, or the peculiar morbific operation of ergot; but cases of partial and temporary stagnation like the present, I am inclined to think are very rare.

Dr. Graves notices a consequence somewhat similar to the above, which followed a fever, of a very severe type, in Dublin, in which the nose, toes, and fingers became blue and painful, but unaccompanied by tingling or swelling; there was desquamation of the part, and a surrounding red margin or line of demarcation. These cases all terminated fatally. He also mentions a case of blueness of the fingers, arising from long and frequent exposure of the hands in cold water. Although the pathological state of the capillaries may be somewhat similar, (if not identical) in these cases, it is not so easy to explain how the stagnation in this case was induced in detached patches, at no great distance from the centre of the circulation, while the exciting cause at the same time was not so manifest. Dr. Graves admits the difficulty of explanation of the rationale, and I willingly follow his example.

I am, Sir, your obedient servant,

JAS. CRAWFORD, M. D.

St. James's Place, 6th May, 1845.

DEPRESSED FRACTURE OF THE CRANIUM.—DEATH FROM CEREBRITIS TERMINATING IN ABSCESS THIRTY-SIX DAYS AFTER THE RECEPTION OF THE INJURY.

The remarkable feature in the following case, which a few years ago formed the subject of a legal investigation, is the length of time which intervened between

patient, although extremely exhausted during the operation, rallied very speedily; the wound closed nearly throughout its whole extent by primary union, and at the end of three weeks, was completely cicatrized. The tumour weighed upwards of *nine pounds avoirdupoise*, and appeared to consist principally of hypertrophied and condensed cellular substance.

Although morbid growths of the scrotum are not of unfrequent occurrence in tropical climates, I believe such enlargements are rarely met with in Canada. During a twenty years' practice in this country, I have not seen or heard of a similar case.

Five years have now elapsed since the operation was performed; my patient has continued in good health, and his young spouse (by a second marriage) has cheered his old age, by presenting him with more than one living proof of his still possessing, unimpaired, all the functions of the generative organs.

CASE OF CONSTIPATION—EMPLOYMENT OF THE LONG TUBE.

To the Editor of the British American Journal.

Sir,—Should you consider the following case of constipation (which I give without comment) worth a place in the columns of your journal, by giving it publicity, you will oblige

Your obedient servant,

Henry Howard.

Kingston, *May 5*, 1845.

Tuesday evening, April 6, 1845, I was called upon to see Mrs. Murphy, aged twenty years, and married about two months. She complained of great pain in the bowels and head; said her bowels had not been moved since the Tuesday evening previous; never was in the same state before; was always particularly healthy; was by trade a dressmaker; lead rather a sedentary life; had taken within the last thirty-six hours, some pills which she got at the Druggists, also two oz. of salts and two of castor oil; but with no effect except to sicken her stomach; had no sleep for the last twenty hours.

On examining the abdomen, I found tenderness on pressure, particularly over the umbilical and left iliac regions; there was some tension in the upper part of the abdomen, but rather a solid feel in the umbilical and left iliac regions; pulse 100 small and easily compressed; tongue covered with a moist brownish fur; conjunctiva of muddy colour; countenance shrunk, and great prostration of strength; stomach very irritable.

Treatment—two grains of calomel, to be taken immediately, and an enema of oil and turpentine every two hours, till the bowels should be acted upon.—Counter irritation to be kept up all night by means of mustard poultices, and to take one teaspoonful of the following mixture every hour till she would sleep or get relief from pain. R: acetate morphia, one grain and a half, water six drachms.

Monday, 7th, 9 o'clock A. M.—Much worse; took the calomel, which relieved the vomiting; took all the morphine mixture without obtaining any rest; had five enema's but no action of the bowels; pulse 110; very weak; tongue brown and dry; slight clammy moisture on the skin; eyes sunken, and a woe-begone expression of countenance.

Treatment.—Counter irritation to be continued.—Repeat the enemas, and take one of the following pills every hour till the bowels should be acted upon—olei croton, gut. 6, submur. hydr. gr. 6, mica. panis Q. S. fiat. mass. divid in pilul, 3. At nine o'clock P. M., I saw her again and found all her symptoms much worse; her stomach rejected the first pill, and she had been constantly vomiting the last two hours. I then determined to pass up the rectum, and, if possible, to carry up as high as the sigmoid flexure of the colon, a large sized gum-elastic tube, which passed without difficulty for about ten and a half inches, when it met with some slight obstruction which was soon overcome by a slight rotatory motion of the tube with gentle pressure, when it suddenly passed about another inch and a half, which caused an escape of flatus giving her immediate relief from pain. I then injected through the tube, with a large syringe, a quart of tepid water with one oz. of salts dissolved in it. On removing the tube, about three inches of it was smeared with foecal matter. I remained in the house for upwards of an hour, and was astonished to find so rapid a change for the better in my patient: although up to that time the enema had been retained. On leaving, I ordered one of the following powders every two hours: submur. hydr. gr. 8, divid in chart 8.

Tuesday, 8th, 8 o'clock A. M.—Bowels had been well acted upon three times during the night, passing at each time a large quantity of black fœtid fœces. She had a cup of tea and a little toast about an hour before I saw her; said she felt quite well; pulse 95, full and soft; tongue white and moist; some tenderness and fulness in the left iliac region.

Treatment.—Counter irritation to be continued, and to take one table spoonful of the following mixture every three hours:—liquor ammon acet, aqua font, of each four ounces; tart. ant. half a grain. She was to have a little oatmeal gruel in the course of the day if she felt inclined. At eight o'clock P.M., I found all her bad symptoms returned; bowels had not been moved since morning; the attendant declared my orders had been strictly attended to

but I doubted it; I gave two grains of calomel to be taken immediately, and two grains more at half-past nine. At ten o'clock I saw her again; there was no improvement—in fact she was worse; I passed the tube as before, which was followed with the same effects, but the second time I injected merely tepid water. I left her at eleven o'clock, after dividing ten grains of calomel into five powders, ordering one of the powders to be taken every two hours.

Wednesday 9th, 9 o'clock A. M.—Found her much better; bowels had been twice acted upon during the night and once that morning; had taken all the powders, and complained of her mouth being a little sore; pulse eighty-four, full; tongue clean; no abdominal tenderness except of the skin, which was caused by the poultices. I ordered her to take one table-spoon full of the above mixture every four hours, and to have a little arrow-root during the day. I saw her on the evening of the same day; she continued much better; bowels had been moved during the day, and she had got some sleep which she said refreshed her.

Thursday 10th, 9 o'clock A. M.—Continued better, slept well during the night, had a little arrow-root that morning and a little toast; ordered her a tea-cup full of chicken broth in the course of the day, with a little bread.

Friday 11th—Found her quite convalescent; ordered her a little wine; said I would not call again, but should anything go wrong to let me know.

On the 22d, I received a message from her, that she had enjoyed good health since she saw me, but that her bowels had been confined the last two days, which frightened her. I ordered her four grains of calomel that night, and an ounce of castor oil next morning. I called on the following day, and found her quite well, her bowels having been well acted upon by the medicine.

On the 30th, as I was passing her house, I called in, when I found her at her business; and, to use her own expression, "well and happy."

METEOROLOGICAL OBSERVATIONS ON THE MEAN TEMPERATURE, CITY OF QUEBEC.

To the Editor of the British American Journal.

My Dear Sir,—When I first turned my attention to the subject of the climate of Canada, I was induced to believe, from general opinion, that the climate, not only of Canada but also of North America, had within late years greatly improved, that is, that the mean annual temperature had become higher. In the investigation of this highly interesting subject, many documents and tables have come under my observation, and after a very careful examination of the meteorological *data* on record, I have long since become persuaded of the accuracy of the conclusion come to by Dr. Lovell, in his appendix to Keating's narrative, recorded as follows:—

"The truth probably is, that the mean annual temperature is about the same, but that the climate is (appears) much milder in consequence of the great reduction in the range of the thermometer; *that the quantity of heat is the same but that it is more equally distributed throughout the year.*"

My own experience fully corroborates this opinion, published in the year 1822.

But the object of my present communication is not to discuss a subject which has been so ably treated by my friend, Dr. Kelly, of the Royal Navy, and published in the transactions of the L. and H. Society of Quebec, but simply to request a place in your next number of the *British American Journal* for some of those tables which, with much difficulty, I have collected at different periods; they may prove useful to some future student, if published, whilst at present they are liable to be lost or destroyed.

The Meteorological tables kept till within a very recent date in this country, are very defective, not so much from the want of attention or perseverance on the part of the several observers, as from the very imperfect instruments used. The thermometers and barometers employed were constructed with little care, and were generally of an inferior description. I have selected only such tables as appear to have been the result of observations made with instruments reputed of tolerable accucary.

But I may, perhaps, be permitted to complain of another fault on the part of those who have undertaken the important task of recording the various phenomena of our climate. Tables without number have been submitted to my inspection, in many of which great apparent care seems to have been bestowed on the *daily* observations, but they have never been summed up, the *means* of months and years have never been attempted,—and the meteorologist who desires to form a comparison between the climate of this Province with that of other countries, is compelled to wade through an enormous mass of figures and calculations to obtain the monthly and annual means; this is much to be regretted, as very little trouble at the end of each month and year, would have rendered these journals of great value, and prevented the labours of their authors from being entirely thrown away.

I will mention a case in point—A late professional gentleman, who lived at Chambly, in this District, kept a meteorological journal, which was obligingly commu-

nicated to me by his son; this journal appears to have been kept with a degree of care and attention which nothing but a sincere love of science, and much leisure, could have attained. All the natural phenomena are duly recorded, such as the first fall of snow, the freezing of rivers, first winter roads, the breaking up of the ice in spring, the blooming of flowers, forest and fruit trees, besides the daily temperature, extremes of heat and cold, &c.; but, unfortunately, with the exception of the last mentioned observations (extremes) the whole, as a *comparative table*, is without value, *because the observer never adopted any one daily fixed hour for observation*; the hours of observation of no one day corresponding with those of any subsequent one. Thus, the observations of many years, made at a place admirably well adapted, from its situation, for giving a correct mean temperature for the district, uninfluenced by those sources of error inseparable from observations made in a city, have been rendered unavailable for the purposes of tabular comparisons. But in other respects, the table itself is a valuable record, and executed with the utmost care; the mechanical execution alone, is a curiosity. From some of the tables prefaced by this gentleman, I have compiled one, proving the matter of the fact above recorded, of the "great reduction in the range of the thermometer" at present, which, I think, will prove interesting. I will send it to you with others on a future day.

The tables herewith sent are compiled from manuscript tables kept by the Rev. Dr. Sparks, of Quebec, and kindly lent me for that purpose by the Rev. Dr. Wilkie, of the same place. These tables, running through a period of nearly a quarter of a century, were also without any *summary*; and after much labour, through several years, I found by a note in the journal, that the instruments used up to that period were defective. The years now forwarded you, may be depended upon according to the Doctor's statement, correct instruments having been substituted.

You will perceive that the results obtained by Dr. Sparks differ considerably from those given by Dr. Kelly, in consequence of the selection of times of observation by the Rev. Doctor, which do not give the mean of the twenty-four. On a future occasion, when I send you his barometric tables, I will shew that by applying the proper correction for those hours, as obtained by the hourly observations made at St. Helens Island, for the N. H. Society of this city, that there will not be much difference in the general result, thereby proving the correctness of Dr. S's observations.

I have the honor to be, your's,

J. S. McCord.

TABLE of the MEAN TEMPERATURE of QUEBEC, Lat. 46° 49' N., Long. 71° 16' W., for 10 years, compiled from MS. Journal of late Rev. Dr. SPARKS.

	1803.		1810.		1811.		1812.		1813.		1814.		1815.		1816.		1817.		1818.		RESUME.				
	Mean Temperature.	Max & Min Temp.	Mean Temperature.	Max & Min Temp.	Mean Temperature.	Max & Min Temp.	Mean Temperature.	Max & Min Temp.	Mean Temperature.	Max & Min Temp.	Mean Temperature.	Max & Min Temp.	Mean Temperature.	Max & Min Temp.	Mean Temperature.	Max & Min Temp.	Mean Temperature.	Max & Min Temp.	Mean Temperature.	Max & Min Temp.	Year.	Mean Temperature.	Warmest Day.	O	Coldest.	O
January,	7.60	—26	10.21	—26	13.58	—14	8.55	—28	8.13	—26	12.87	—16	10.97	—20	12.74	—12	5.50	—19	8.82	—24	1809,	39.30	27th June,	+92	14 Jan.	—25
February,	8.43	—23	14.93	—22	18.46	—12	11.13	—26	16.36	—12	17.71	—16	13.55	—4	13.27	—16	8.03	—21	6.10	—21	1810,	41.49	18 & 19 June	+90	29 Jan.	—26
March,	18.56	—13	27.24	—16	31.58	+53	20.74	—8	21.22	—14	23.71	—6	27.21	—7	19.51	—14	25.87	+2	27.95	—5	1811,	42.93	25th June,	+93	24 Jan.	—11
April,	38.00	+62	41.28	+66	37.23	+76	37.10	+52	40.93	+62	37.20	+68	37.26	+58	36.91	+62	36.70	+52	37.43	+57	1812,	39.49	22d Aug.	+82	18 Jan.	—28
May,	52.51	+81	54.03	+87	56.32	+78	52.53	+78	52.53	+80	54.42	+70	53.50	+70	47.30	+79	49.35	+77	54.01	+81	1813,	41.06	3rd Aug.	+88	30 Jan.	—25
June,	64.80	+92	67.31	+90	64.90	+93	61.66	+80	63.23	+82	66.93	+87	63.50	+78	58.98	+86	60.55	+74	65.08	+86	1814,	41.12	2d July,	+88	31 Jan.	—18
July,	65.60	+90	65.45	+82	69.95	+90	66.42	+82	66.26	+98	65.67	+82	69.39	+88	61.01	+94	66.97	+90	69.72	+87	1815,	39.74	15th July,	+87	27 Jan.	—20
August,	64.32	+78	67.77	+84	67.11	+84	65.33	+76	67.48	+88	65.19	+82	64.10	+78	61.37	+84	63.20	+84	65.19	+82	1816,	37.85	24th June,	+86	9 Feb.	—16
Sept'r,	53.40	+70	58.20	+75	58.60	+86	55.00	+70	60.75	+76	55.75	+76	54. 5	+78	53.40	+66	55.50	+76	57.10	+75	1817,	38.61	19th July,	+90	15 Feb.	—21
October,	51.53	+75	42.71	+72	40.79	+59	31.90	+47	33.90	+52	45.56	+64	43 9	+64	40 79	+58	39.85	+62	45.76	+60	1818,	40.51	11th July,	+87	30 Jan.	—24
November,	25.50	+46	32.00	+45	31.38	+47	33.05	+32	45.42	+58	34.63	+52	38. 4	+40	30.83	+32	33.01	+65	33.86	+16	Mean of 10 yrs.	40.21				
December,	21.35	—10	16.80	— 6	19.45	— 8	17.77	— 3	16.71	—19	13.85	—10	15. 2	—16	18.29	—14	18.85	— 8	15.14	—14						
Mean,	39.30		41.49		42.93		39.49		41 06		41.12		39.79		37.85		38.61		40.51							

PRACTICE OF PHYSIC AND PATHOLOGY.

ON THE ACUTE FORM OF GOUT, WITH REMARKS ON ITS SIMILARITY TO ACUTE RHEUMATISM.

By Charles T. Mackin, M. D. Battersea.

Of a malady so distressing in its effects, so frequent in occurrence, as gout is known to be, it is much to be regretted that our knowledge regarding either its pathology or treatment is, as yet, involved in uncertainty and doubtful hypothesis. This disease presents to the observer so many shades of resemblance, throughout its different phases, to rheumatism, as well during the period of incubation as after its fullest development in the form of local inflammation, that we should, at a superficial glance, be almost induced, without farther inquiry, to acquiesce in the opinion, that the difference between rheumatism and the affection which forms the subject of this article, is merely a degree of intensity; that the morbid action, more diffused and divided amongst the larger joints in the acute form of auricular rheumatism, was, by some as yet unaccountable peculiarity, either in the constitution or hereditary tendencies of the patient, as it were, concentrated to a more limited sphere on which to exert its influence, thereby giving rise to the discrepancy and disproportion between the two diseases with regard to—1st, The number of articulations simultaneously affected; 2nd, Pain, accompanying fever, and general symptoms concurrent with the usual distinct local inflammation. In a well-defined attack of gout, the pre-existent and gradually progressive derangement of all the organs which subserve the purposes of digestion and nutrition, coupled with the very remarkable increase of nervous irritability observable (as far as my experience goes) invariably antecedent to a paroxysm, are sufficient, in a great measure, to warrant the conclusion that it is one of the most prominent examples of a local disease, depending solely for its origin on constitutional disturbance.

On an accurate analysis and comparison of the phenomena of rheumatism brought in juxtaposition with those of gout, we shall find sundry material differences, and a numerous train of minor points of distinction, interesting both to the pathologist and the practitioner. The following table will serve, in a general manner, to illustrate this assumption:—

GOUT	RHEUMATISM.
1. Is rare in females, if indeed, they are ever attacked by it, as a strictly defined and uncomplicated affection.	1. Is frequent amongst females, especially that class who are necessarily exposed to the action of those causes to which it is attributable.
2. Is scarcely ever seen prior to the age of manhood.	2. Is common, or at least may present itself, in all stages of life, except, perhaps, infancy, &c.
3. Is generally (though not always) superinduced by high living, free indulgence in the pleasures of the table, &c. &c.	3. Is more frequent among the lower orders, and those to whom poverty and privation are familiar visitors.
4. Is hereditary, descending, as is well known, from father to son, sometimes missing one generation to reappear in the succeeding. Query—Is the gouty diathesis transmissible in families, or does community or similarity of habits induce similarity of disease?	4. Is not hereditary—certainly not obviously so.
5. Affects the smaller joints, although the larger are often attacked; such is generally consecutive. The parts abounding in fibrous tissue, as, for instance, the sole of the foot, are not often the seat of true gout.	5. Affects the larger joints and the fibrous tissues.
6. Less frequently becomes chronic.	6. Chronic rheumatism one of the most frequent maladies of old age.
7. Subsequent to the paroxysm, the patient is improved in general health, that is, in comparison with the state of system previously.	7. Subsequent amelioration not so evident.
8. Metastasis, to other joints, (common;) to the stomach, (frequent;) to the membranes of the brain, (rare;) to the pericardium, (scarce ever.)	8. Metastasis, to other joints, (always;) to the stomach, (rare;) to membranes of brain, (frequent;) to pericardium, (very common;) to intercostal muscles, (pleurodynia.)
9. Cornea most frequently the seat of gouty inflammation of the eye.	9. Rheumatism attacks the sclerotic (sclerotitis atmospherica of Mackenzie) when it presents itself in that organ.
10. Localization of gout not generally preceded by rigor.	10. Rheumatic arthritis always? ushered in by rigor.
11. The copious perspirations characteristic of rheumatic fever are not present in any stage of gout.	11. Muscles in neighbourhood of joints affected, the seat of frequent and distressing involuntary spasms.

Such, then, are the distinctions.

A watchful attention to the growth and progress of this afflicting malady has, I must say, left no very satisfactory impression on my mind, either of the pathology or treatment of this, as well as its co-relative disease, rheumatism. It is, in the established rules of modern practice, to be taken by storm, to be driven from the system *vi et armis*, and all the means which an already overgrown materia medica places within our reach have been, and are, brought to bear against it.*

* The following short sketch of a case, illustrative of the power of medicine, which occurred to me whilst writing this article, may be not inapplicable, as elucidating the text:—

—— Turner, a strong and healthy child, nine years of age, was attacked by phlegmonous erysipelas of the left foot on the 30th of December. Apply fomentations, afterwards poultice, cathartics, calomel, and the usual diaphoretic plan of treatment internally.

January 1st.—Worse; inflammation extending up leg. Continue treatment.

2nd.—Worse; erysipelas at mid-calf. Apply nitrate of silver freely beyond the line of demarcation; continue medicine, &c. Eight P. M.—Worse; inflammation two inches beyond the cordon sanitaire. Re-apply nitrate of silver, &c.

3rd.—Worse; inflammation extending over knee. Make free incisions round the limb, from knee to toes; encourage bleeding by usual means. Continue medicine.

4th—Worse; inflammation beyond knee; other symptoms aggravated. Envelop the limb, as directed by Dr. M'Dowel, in lint smeared with mercurial ointment.

5th.—Worse. Re-apply the mercurial ointment, as before.

6th.—Inflammation up three-fourths of thigh. Apply compound iodine ointment (Reeves's practice) freely, as recommended in *The Lancet* of October, 1842.

7th.—Much worse in every respect; erysipelas extending to haunch. Discontinue and envelop in lint wet with cold lead

The premonitory signs of its approach are generally found to be of a well marked and definite character; so much so, that in many instances he who has undergone a previous attack can foretel with unerring certainty the coming of a "fit," as it is termed, some time anterior to the appearance of the unwelcome visitor. The first symptom which excites observation is, a considerable increase of nervous irritability, manifesting itself in sudden explosions of temper, without material cause, and a general peevishness, and hastiness of manner, during the day-time. At night, the sleep is restless and unrefreshing, disturbed with frightful dreams, tossing of the limbs, &c. &c. The appetite (though not invariably) falls off. There is gastro-intestinal derangement, with a sense of fulness and oppression subsequent to meals; dyspepsia and heartburn are pretty constantly present. As the symptoms become aggravated, the patient is annoyed with flatulence, accompanied with sour eructations; the tongue is foul, either coated with a thick covering of yellowish fur, or in case the irritation of the primæ viæ reach a greater height than *usual*, is of a preternaturally red tint, dry, and glazed at its edges; there is a bitter, or at all events, a vitiated taste in the mouth, especially on first rising in the morning; head-ach in those of plethoric habit; the bowels are costive or relaxed, in either case the secretions are dark and offensive.† The urine is of a saffron tinge, often scanty in quantity, and charged with lithic acid. These form the more remarkable prodromata, and, curiously enough, are observed to possess a distinctly remittent charcter, the exacerbation taking place in the evening; the remission in the early portion of the day, during which the sufferer is comparatively better; (indeed, all the phenomena of gout affect the periodic form certainly much more obviously so than any other disease of similar type.) The foregoing train proceeds, with or without increase of severity, for several days, or even, may, in some instances, be lengthened to the duration of a fortnight or more, prior to localization of the disorder. Of the near approach of the "fit," the patient is warned by being seized at intervals with flying or transitory pains in different parts of the body, mostly affecting those portions of the frame already weakened by previous illness; they are sudden and transient in their attack, not dissimilar to those aching sensations in the cheek, head, stomach, or joints, which are so frequently occasioned by cold, and, like them, are as rapidly transferred from one place or organ to another, and often as suddenly disappear altogether for a short period. (It is at this stage that instantaneous relief may sometimes be given by the administration of a stimulant, when the pain or spasm incident to the derangement of organic action is in a moment transferred from the head, stomach, bowels, or back, to the extremities.)

These phenomena, then, are the heralds of the inflammation, which, in the vast majority of cases, takes hold, in the first instance, of one of the smaller joints of the lower extremity, either the metatarso-phalangial articulation of the great or little toes, very seldom, except secondarily, of the intermediate ones. The seizure is, in nineteen out of twenty cases, during the night, or rather in the morning, between two and four, the patient being suddenly awoke by a violent pain in the part. Swelling does not in all cases immediately supervene, but the joint is exquisitely tender, the weight and heat of the bedclothes being nearly insupportable. The adjacent veins are observed to be somewhat turgid, and the integuments shining and tense. Partial relief from pain is experienced during the earlier part of the day; towards evening the symptoms undergo a material aggravation, and at the same periodical lapse of twenty-four hours, the exacerbation will have reached its height, pursuing a similar course of remission and increase for a time, the length of which I have observed to depend for its duration, first on the extent and severity of the attendant symptoms; secondly, on the interval which may have elapsed since the last attack. Supposing retrocession or metastasis not to happen, the course of the local inflammation will be the following:—Swelling of the joint and parts adjacent, accompanied with a considerable elevation of temperature; if intense, a circumscribed pale-pink flush is seen on inspection. This, however, is not always present, as the integuments often seem rather paler than natural, particularly if there be an imperfect or partial development of the local disorder. The pain is well known to be peculiarly agonizing, burning, and lancinating in its character, (different from the "gnawing" sensation of rheumatism.) Resolution is the usual termination; when this is at hand, there is a gradual subsidence of the heat and pain, into a sense of itching and tingling, followed by decrease of all the other local and general symptoms. The cuticle immediately covering the joint often desquamates to a slight extent, and the part is at length left free from gout, but weak, stiff, tender, and liable to be the seat of future attacks of a similar nature.

A most remarkable fact connected with the disappearance of the paroxysm is, that the patient, with the exception of being more or less crippled for a time, experiences a sort of general renovation of the system, and his state of health is better and more vigorous subsequently, than prior, to the fit. It seems as if the localization of this disease (if I may be pardoned a solecism) were a salutary process instituted by the "vis vitæ" for the more effectual and complete removal of the cumulative disturbance of the general economy.

Mr. ——, a middle-aged man, of irritable temperament, spare yet muscular frame, and otherwise healthy habit, is subject to periodic attacks of acute gout, which of latter years have returned pretty regularly about the midsummer months. His father had been subject, in a slight degree, to

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lotion; change often.

8th—No change. Continue applications and medicine.

9th.—Better.

The case recovered at the usual period, in young subjects, of twelve days, without let, help, or hindrance, from any medical treatment put in force by me. Query—Will any one say this case was cured. No; the patient "got well." This is the philosophy of the matter. From the first recipe traced on sand by the staff of Anaximander or Pherecydes (the inventors of writing) up to the "fiat *misturæ*" of Dr. —— (who has studied Latin grammar in a very *peculiar* manner indeed,) have we one which we can positively say *will* produce a certain and definite effect? No; not one. Medicine is then, as yet, nothing, save a nice balance of contingencies.

† Dark and offensive dejections are commonly present at the commencement, and during the progress, of this as well as most other disorders connected with lesion of the functions allotted to the organs of assimilation and nutrition, &c. The pathology of the gastric intestinal, and biliary secretions offers a wide, though not a very inviting, field of research for some inquiring disciple of the Liebig school of investigators. Let me enumerate a few examples—In disorders of children, (particularly those affecting the head,) we observe the stools to be slimy, dark-green, and somewhat gelatinous. If calomel be given freely, it will also cause a greenish hue in the stools; why, we know not. Again, in some forms of chlorosis and dysmenorrhœa, the excretions are so dark as to nearly resemble tar in colour and consistence. In the Asiatic cholera, the "rice-water evacuations" are mentioned by every writer. The cause is not accurately known, and the fact is consequently left as it is found. In lientery, the food passes in a great measure unchanged. In jaundice, the stools are like mortar in colour and consistence. In dysentery, the latter stage is characterized by discharge of a fluid resembling nothing so much as the washings of raw flesh, accompanied with shreds, either of coagulable lymph or epithelium, probably both. Again, there is a striking difference in the motions of a patient suffering under diarrhœa, and another with mucous enteritis. In melæna, the state of the stools is pathognomonic of the disease. If we administer the carb. ferri., the dejections speedily become of inky blackness, &c.

the same disorder. Its first appearance was about the age of twenty-one, since which time, although a person of regular and methodic habits, as to diet and regimen, he has each year a more or less severe fit; some summers as many as two or three, at successive intervals of one, two, or three months. Warning of the visitation is invariably given by the following symptoms:*—First, increased irritability; second, functional derangement of the abdominal viscera, accompanied with disordered bowels, high-coloured urine, slight feverishness towards evening, dryness of skin, and some acceleration of the pulse, followed by, third, "flying pains," referrible to various parts, principally joints previously attacked, and at (as nearly as may be) two, three, or four A. M., the seizure takes place (without previous rigor) in one foot. The pain is agonizing and incessant, until swelling appears, when the suffering undergoes a slight mitigation. The inflammation passing through the several stages (before described) and leaving the sufferer, excepting the consequent lameness, in a state of convalescence, which rapidly terminates in (for the time) complete restoration of health. When a longer interval than usual elapses between the fits, or should it assume an erratic character, several joints will be attacked in succession. The speedy (almost instantaneous) departure of the affection from the toe to reappear in the knee, elbow, or shoulder, as the case may be, I have frequently witnessed, and it is a phenomenon remarkably interesting and curious, involving, as it does, several unexplained and mysterious points connected with that extraordinary vital process, metastasis. On one occasion, towards the decline, when recovery was thought to be close at hand, he incautiously walked, with the affected foot unprotected by covering, along a damp, flagged, passage. Before the lapse of half an hour, erratic pains were felt "flying" about different parts of the trunk and head, accompanied with alarming depression, relieved by at once administering a strong dose of brandy, and immersing both feet in a mustard-bath, by which means the disorder was speedily repelled to its former seat.

In the case of this gentleman I have also observed that very slight causes will bring about the development of the elements of gouty inflammation, with which the system appears in a manner to be charged. I have known so trivial an accident as striking the great toe against a stone in walking, produce a paroxysm. This peculiarity is often witnessed in those who are of confirmed gouty diathesis. Indeed, a man constitutionally subject to the disorder, appears to "wear his heart upon his sleeve," slight accidents, otherwise of no moment, being sufficient to induce an attack of this extraordinary disease.

Is it to be considered a modification of rheumatism? Is it a branch, of which the latter may be the root?—a species, of which rheumatism is the genus? Most certainly they are nearly allied, and assumed affinity of origin is borne out by their being commutable with each other in a remarkable manner, the extremes of both presenting dissimilarities the most striking, yet passing or merging, by imperceptible shades, one into the other, rheumatism in different cases presenting more or less of the characteristics of the correlative disease until we have a sort of compound or "hybrid," popularly termed rheumatic gout.

Again, the power of translation, or metastasis, so much more obvious than in other disorders, and which gout and rheumatism both possess in common, the former, however, in a more marked degree, must suppose that connective relation of origin which leads to similarity of phenomena.—The study of what is pompously styled pathological anatomy has shed no ray of light on this intricate subject. The inspection of the traces which disease leaves after death gives but feeble hints with regard to vital morbid action, being nothing more than a careful examination of the battered and worthless casket from which the contained jewel is reft.

What, then, are the channels by means of which gout changes its seat? Is it carried by the arteries? No; for it is frequently transmitted from the extremities towards the trunk, in direct opposition to the blood current. Is it by the veins? For a similar reason we must presume the negative. Is it by the lymphatics? The lymphatics permeate, we have every reason to believe, all the living tissues. How, then, could the morbid element, whatever it be, be circumscribed in its action if transmitted by a continuous channel? Is it by the nerves? Is it an instance of reflex action? This is the more probable, or rather plausible, way of accounting for it. That the sentient extremities of the nerves are not mediately, but directly, implicated in gouty inflammation, is certainly less than doubtful, for the following reason—the pain is altogether referred to the part affected.

Let us compare this with other known facts, by which we shall obtain, at least, indirect corroborative evidence of local neuritis. In most forms of hip-joint disease, pain is felt at the inner part of the knee, which is often somewhat puffy and tender. The nerves of the articulation, actually the seat of disease, are not affected, as is well known, until we produce a shock, either by striking the sole of the foot or the trochanter. The sentient extremities of the nerves are thus, though probably in a state approaching to hyperæmia, still not actually inflamed. In synovitis, pain is felt at the inner and posterior aspect of the thigh, at a point corresponding, as nearly as may be, to the insertion of the short adductor. Here, again, we have negative evidence to the same purpose. In some varieties of hepatitis, pain is referred to the point of the corresponding shoulder. In calculus vesicæ, whatever be the uneasiness felt in the viscus, (which is more or less in a state of sub-acute inflammation,) the torture, the characteristic "stabbing," is at the extremity of the penis: the sole of the foot in calculus is sometimes even the seat of pain. Again, pain, as a symptom of inflammation, may be altogether absent, as in that obscure class called "latent" diseases; for instance, pneumonia, pericarditis, &c., may be so masked and insidious in their progress as to proceed to an alarming height before detection, or even to terminate in the death of the patient; and the nature of the morbid lesion is only found on a post-mortem examination. In the foregoing short list, (which space compels me to abbreviate,) we cannot, without striking at one of the fundamental axioms of physiology—viz., that sensation has no existence independent of innervation, —assume that the terminal nervous fibrillæ can be the seat of phlogosis, without coetaneous derangement of their peculiar function—causing pain.

Now, in all the known examples of neuritis, the derangement of sensation is referred to the seat of inflammation—sciatica, for instance, occurs to me,—in which the sensation of pain commences at the point where the inflammatory process begins—viz., where the nerve makes its 'debouchée' from the pelvis, passing along its own course, and, if intense, that of its branches. Here the seat of phlogosis is the seat of pain. From these and other known data I infer, that *as inflammation in each of the larger organs* (taken *en masse*) *assumes diversity of appearance and diversity of symptom, so may the same process in the ultimate molecules*

* An observation here occurs to me which may not be altogether unworthy to record—viz., that as the different organs, or systems of organs, allotted to innervation, circulation, digestion, excretion, are not stricken by disease together, but successively, (or singly,) so the same subdivisional systems of organs (during convalescence) recover their healthy function, or tone, not at the same time, or in the same rhythm, but successively. The first function which regains its normal healthy state of action is that performed by the excretory organs; next, probably, the balance of the circulation is restored, and so on of the rest.

of the constituent parts of the body cause diversity of appearance and diversity of symptom. For example :—as arteritis, phlebitis, neuritis, inflammation of the lymphatics, &c., &c. —morbid actions taking place in certain masses performing definite functions,—are manifestly within the scope of our powers of reasoning, *so there are analogous transformations and disarrangements of the ultimate molecules of the vital tissues, and as the ultimate molecular arrangement is beyond our present power of investigation, so the changes which take place in the same are equally unknown* in their exact nature, though admitting of a vast range of inductive argumentation.

In order to perceive the extent to which this mode of reasoning may be carried, we must consider--1st, the mutual adaptation and dependence of each ultimate molecule on its fellow ; 2nd, the adaptation of masses formed by molecular aggregation ; to, 1, the purposes of its own individual economy ; and, 2, the function which it fills in the general economy of the frame.

By tracing the *unity of design* from the summit to the foot of the scale, from the animal organism, taken as a whole, to the ultimate molecule, the dependence of which on its fellow is not less real and absolute, than the dependence of a limb on its nerves, arteries, veins,—the dependence of a *visible* nerve of that limb on the centre from which its influence is derivable, or the dependence of the principal vein on the integrity of the function of the lungs and heart—we may suggest to ourselves many curious analogies, and account for numerous hitherto unexplained morbid phenomena, which the Protean forms of disease present to our view ; as thus (take one or two illustrations.)

1. *Arteritis, the analogue of phlegmonous erysipelas.*—Inflammation in a large blood vessel is arteritis : phlegmonous erysipelas is the *same process* in the terminal or penultimate ramifications of, as the case may be, the same blood-vessel, the tendency to spread being attributable to their freedom of anastomosis, and resulting continuity of channel. The terminal extremities of the nerves are secondarily affected, giving rise to pain, &c.

2. *Sciatica, the analogue of acute rheumatism.*—Sciatica is inflammation of the covering or neurilemma of the nerve ; acute rheumatism is *the same process* in the terminal or penultimate fibrillæ of, as the case may be, the same sheath. The molecules of the contained nervous matter are secondarily affected, causing pain ; the ultimate ramifications of the blood vessels are tertiarily affected, causing the pink flush visible externally, &c.

3. *Inflammation of the substance of a large nerve, the analogue of gout.*—Inflammation of the nervous matter aggregated, as in a large nerve, is neuritis. Gout is the same process in the ultimate or penultimate nervous molecules of, as the case may be, the same nerve—the agony, or exaggeration of pain, is caused by the unyielding texture of the containing sheaths—the ultimate ramifications of the blood-vessels are secondarily affected, giving rise to the pinkish flush, &c. We can now account for metastasis : *metastasis is effected by repulsion or attraction of the current of the nervous molecules*—1st, repulsion by application of an external stimulus, as cold, when the current is repelled, carrying along with it the diseased atoms, from the periphery to the centre ; 2nd, attraction, when, by immersing the previously affected part, as the foot, in a hot mustard bath, the current is attracted in the opposite direction, or from the centre to the periphery—the existence of a nervous current being allowed, this explanation must, more or less, hold good.

The immediately foregoing remarks, founded on the received doctrine of the "general unity of design" are capable of almost universal application, and I shall adventure, probably, some future observations in elucidation of the same. In the crude and undeveloped state that they are here put forth, they must be received with that liberal indulgence which men of true science well know must be allowed in the discussion of subjects which have hitherto eluded all research, and are yet involved in the darkest shades of uncertainty and doubt. An analysis of the treatment of gout will form the subject of another paper.—*Lancet*, March 22, 1845.

MEDICAL EFFECTS OF THE LIQUOR HYDRIODATIS ARSENICI ET HYDRARGYRI.

By M. Donovan, Esq.

[In a previous number of the *Dublin Journal*, Mr. Donovan gave some account of a new chemical compound, consisting of iodine, arsenic, and mercury ; and the diseases in which it would be found beneficial, namly psoriasis, lepra, and lupus. He now presents to us the experience of some of the most eminent men in Dublin. Mr. Carmichael states thus :]

I have tried the liquor hydriodatis arsenici et hydrargyri, in five or six cases of lupus, and in one case of psoriasis, with decided benefit in all.

In one case of lupus, of ten years' standing, in which great deformity had been occasioned by the disease on the features of a young lady, on whom all the usual remedies had been tried, it produced most decided benefit, and seemed to put an immediate check to the progress of the malady. She is not yet perfectly well, but sufficient advantages have ensued to promise recovery.

In one of my lectures, reported in No. 61 of the Dublin Medical Press, I stated the case of a man who had lost a great part of the vomer, and in whom much deformity had consequently ensued from an obstinate attack of lupus, who in the course of a few weeks so far recovered, as to be discharged from the hospital apparently well. I perceive there has been no relapse of the disease, as he was told to return to the hospital should any suspicious symptoms make their appearance.

In another case, of a respectable shopkeeper, in ——— street, in whom the nose was affected, and not only the turbinated bones but the vomer had exfoliated, a perfect recovery took place after a three months' perseverance in the remedy during which he was not prevented from attending to his usual occupation.

In the case of Mr. ——, affected with psoriasis, although the disease had existed for years, most decided benefit generally followed the use of the preparation in question, so that nothing but discoloration of the skin remains where scaly spots were formerly manifested. Some other instances of psoriasis and lepra also occurred, in which benefit followed its use, but we are still trying it, in similar cases to those I have detailed, in the Richmond Hospital, and you shall know in due time the result.

[Dr. Graves then relates the following very striking and inveterate case :]

Mary Cullen, a married woman, aged 60, had been affected with psoriasis for fifteen years ; the disease, at first mild and confined to a few parts of her body, gradually extended over almost the whole surface of her skin ; and when she was admitted into Sir Patrick Dun's Hospital, it presented all the marks of a most inveterate affection. On the tenth of November she commenced the arsenical compound, taking daily three draughts, each containing half a drachm of the liquor. After some days the medicine was discontinued as it disagreed with both the stomach and head. but it was shortly afterwards resumed in smaller doses ; and when the parient's constitution had become accustomed to it, the dose was gradually augmented, and finally she took half a drachm of the liquor four times a day for about two months, with the exception of two weeks, (at different periods,)

during which the above-mentioned symptoms caused its exhibition to be intermitted. The effects of the remedy exceeded my most sanguine expectations, for it caused an almost total disappearance of the cutaneous eruption; it is true that after the medicine had been for a short time discontinued, the eruption again began to increase, and consequently we were once more compelled to resume the use of the arsenical compound. Unfortunately my period for superintending the clinica wards of Sir Patrick Dun's Hospital expired shortly afterwards, so that the experiment was left incomplete; it had, however, lasted long enough to leave no doubt in my mind as to your remedy being a powerful agent of most useful application in chronic diseases of the skin.

[Dr. Irvine's case is the more interesting, not only on account of the virulence of the disease, but also because he had tried in different cases the separate ingredients of the liquor hydriodatis arsenici et hydrargyri without their having gained his confidence. In relating his case he says]

On examination, I found his legs and arms thickly covered with large spots of psoriasis, much inflamed and very itchy. He said they were increasing rapidly in number, and that some had made their appearance on his body and forehead during the last few days.

I directed that he should be blooded to twelve ounces, and ordered him some aperient medicine which he was to continue for a week. These means afforded him some relief; the eruption was less itchy and less inflamed. I directed him to continue the aperient medicine, and to take twelve drops of liquor potassæ three times daily.

It would be tedious to relate the entire history of this case, suffice it to say, that he took various remedies, Dulcamara and Plummers' pill among the number, without any benefit unless temporary relief from itching.

From the experience of many cases which I had treated without permanent benefit at the Maison de Santé, with Fowler's solution of arsenic, iodine, and mercury, separately administered, I was inclined to doubt their efficacy; I therefore determined to try the compound of these three, which you in conversation with me about this time, had mentioned. My patient had now been upwards of three months under treatment, and to say the truth was little the better for all the medicine he had taken. He was most anxious to try anything I could recommend, and this anxiety was most fully participated in by his wife, who had now been banished upwards of four months *de thoro marito*. On the 11th of February we commenced the solution, on which day I gave you an opportunity of seeing this gentleman, and examining his skin, in order that no doubt might exist as to the extent the disease had acquired.

He took a draught containing a ½drc. of liquor hydriodatis arsenici et hydrargyri three times a day from this date to the 28th April. Twice during that period I found it necessary to stop the medicine for two or three days, and to give an opening draught, from his having complained of headach and sickness of stomach.

On the 28th of April you again examined him, and the disease was quite cured, nothing remaining but a stained appearance of the skin. It appears then that during the period mentioned he took 114 draughts: the total quantity of the liquor taken was seven ounces and one drachm; and when we calculate the quantity of white arsenic contained in all, we shall find it to be about seven grains, with fourteen of protoxide of mercury, and forty-four of iodine.

Mr. Cusack states a new and different application of the arsenico-mercurial compound, which he employed with considerable success. He found that venereal eruptions rapidly yielded to scruple or half drachm doses three times a day, that is to *one quarter of a grain* of protoxide of mercury, and one-eighth of a grain of arsenic, or thereabouts, in the twenty-four hours. This indeed is a very small quantity of mercury to effect a rapid cure with; no one will deny, that the less of it that will answer the purpose the better for the patient; and here again we perceive the effect of chemical combination, assisted no doubt by solubility. Mr. Cusack writes:—

"I have unfortunately omitted to make notes of the cases in which your valuable remedy, the liquor hydriodatis arsenici et hydrargyri, was administered, and am only able to state generally that I have used it freely in secondary venereal eruptions, both papular and scaly. I found the eruptions yield rapidly to its administration in the dose of one scruple to two, three times each day. In two instances the mouth became tender, and a slight salivation followed: but in no case have I observed any unpleasant consequence even when taken in larger doses."

[The following case was under Sir Henry Marsh, and is reported by Dr. Burton:]

James O'Brine, æt. 12, admitted September 14, 1839, into Stevens's Hospital, under Sir Henry Marsh, labouring under a disease having the character of impetigo figurata, of strumous origin, covering the face, chest, arms, and thighs; but particularly well marked at the flexures of all the joints. Has been subject for many years to chronic bronchitis, with severe paroxysms of asthma. Curative means were employed, attended with more or less success; but whenever a mitigation of the cutaneous affection occurred, the cough and asthma returned with violence. Means having been employed to alleviate the bronchitic affection, Sir H. Marsh considered this to be a suitable case for an impartial trial of the solution of arsenic, mercury, and iodine, (brought before the profession and prepared by Mr. Donovan,) with a view to the removal of the skin affection. The dose administered was fifteen minims twice a day, increased gradually to one scruple, and finally given in half drachms. This mode of treatment was cautiously pursued for somewhat less than a month, with gradual amendment of the cutaneous disease, which entirely disappeared, without aggravation, but rather amendment of the bronchial irritation. After a short stay in the hospital, the disease re-appeared with all its former characters, and again yielded to the same treatment. It re-appeared a third time, and the remedy was exhibited in larger doses, and steadily increased until the patient was taking half an ounce of the preparation during the twenty-four house in divided doses. Its use was now attended with very mild insalivation, as well as gradual and total disappearance of all the symptoms both cutaneous and pulmonary. After remaining a short time in hospital he was recommended to go to the country, and left the hospital very much improved in his general health.—*Braithwaite's Retrospect, from the Dublin Journal of Medical Science, Sept.* 1840, *p.* 98.

ON THE USE OF ALKALIES IN CONSUMPTION.

By J. S. Campbell, M.D.

In the year 1841, I published a work on the subject of Tuberculous Consumption, which *The Lancet* reviewed with some degree of favour in the nineteenth number of that Journal for 1841-2.

I therein took occasion to enter on a good many points connected with the pathology, as well as treatment of that formidable disease, but one of my leading objects was to express a strong belief in the value of an alkaline treatment, when *perseveringly employed*. Since that period I have not published a line on the subject, though both my own additional experience and the reports I have received from others have gone far to confirm my former convictions.

In conformity with the usual practice, I then thought it proper to illustrate my views by recording some cases, taken from many others I might have printed; but I feel so perfectly convinced that no plan of treatment in this disease ought to be received with

any confidence, unless a certain amount of *permanence* can be connected with presumed benefit, that up to this period, as already named, I have entirely abstained. On these grounds you will oblige me by inserting this letter, chiefly intended to show how the cases, originally reported nearly three years ago, now remain.

They were then arranged under three Heads.

The first head contained eleven, presumed to be fair examples of phthisis in its early stages. The sympathetic as well as physical evidence on which I rested was there given.

The second contained three only, my object being to *hint* at the *possibility* of tubercular absorption, while the adventitious deposit was as yet unsoftened.

And the third contained three cases of consumption in its very advanced stages, and were reported only to show how, at times, very unexpected results arise, even late in this intractable malady. Against any imputation of absurd assumption, I thought I had pretty well guarded myself by the few lines which succeeded the report of these three cases; but as it apparently suits certain parties in our profession to be inspired with a holy horror of the man who thinks that medicine, beyond the mere treatment of symptoms, can be of the least use in consumption, you will much oblige me by here appending, as a note, the paragraph I refer to.*

Of the eleven cases reported under the first head, *one* died in October, 1842. Three of them I have been unable for a long time to trace. The remaining seven are alive, and comparatively well, subject only to the occasional inconveniences which result, and ever must result, from a condition of lung, partially impaired, and always prone to disease.

In the majority of these seven, the physical state of the lung appears to remain stationary. The advantage gained has seemingly arisen form the non-extension of disease. One exception to this alone occurs in the case of *Mary Lucas*. The physical signs before reported are in character the same, but so far as the ear can contrast sounds at such a distance of time, they are less marked, and the inference from them less decided. At all events, she is robust and well. The last time I saw her was three weeks ago; she then applied, in consequence of a slight but acute "cold," from which very simple treatment speedily freed her.

Of three cases, contained in the second class, I can give an account of two only. The first, named Bull, was a gentleman's servant, and consequently of migratory habits; I have not heard of him for two years. The second and third (Stanley and Vivers), are alive, and in the enjoyment, the one of good, the other of tolerable, health Stanley was a young girl, who has since gone to service, and though still slender in form, and sallow in complexion, fulfils somewhat laborious duties without discomfort, and is free from pectoral symptoms. The second of the two (Vivers) is a highly nervous person, and liable to occasional attacks of hysteria, but presents no symptoms of pulmonic disease. In neither instance do the physical signs essentially vary now from those originally given.

It would appear, therefore, that of fourteen cases which I reported nearly three years ago, and described as fair average examples of *phthisis in its early stages*, one only is known to be dead, nine known to be living, and four whose fate is entirely unknown. Since then I have treated about four hundred more of the same kind, on the same principles, but must, at present, be content to say, simply that results have, in my own belief, been highly satisfactory.

I need scarce add, that one and all of the cases named have been *essentially* treated by the *caustic alkali*, superadding, as far as circumstances permitted, a close attention to the various points of accessory practice, which I before attempted to lay in detail before the profession. In the majority of examples there might be recommended—without much hope of execution—pure air, light but nutritious diet, proper clothing, and, equal to all, perhaps, a due regulation of stimulants, both in quality and quantity, but these are one and all, often by necessity, frequently by prejudice or habit, denied to the poor. In the small minority of examples, I have more or less been enabled, from the patient's position in life, and a due confidence in myself, to carry *all* my views into execution, and may fairly say, that just as the means and will of so doing existed in the patient, so has been the comparative success or failure of the attempt.

I write, Sir, with a sincere hope of impressing the members of our profession generally, with such an amount of confidence as may induce them to *test* the validity of the principles recommended. That they will, like myself, be often disappointed, is undoubtedly true, but they will often succeed I feel equally convinced of, and that to an extent greater than by the use of any other means at present known. But let me beg of them to draw the line between a merely fanciful success, founded on the alternation of symptoms, and those more permanent benefits which spring from a *limitation of the local malady*, in which, to a large extent, such symptoms originate.

I for the time conclude, not wishing to burden your columns, although the subject be one of deep interest, and one on which I have yet much more to say.

—*Lancet, August 10th*, 1844.

* "In reporting this and the two preceding cases, I would desire most emphatically to disclaim any wish to have them considered as examples of what usually occurs when an alkaline treatment is persevered in, or of what indeed occurs under any treatment whatsoever; so far from this, these three cases are by far the most marked examples of benefit I have seen from treatment, when this was commenced after the second, or reactive stage of phthisis had been fully established; but even these few may, if properly viewed, hold out to us a useful lesson, and direct our attention to a remedy, of whose efficacy when employed early, I cannot entertain any doubt whatever."—(Campbell on Tuberculous Consumption, p. 400.)

MIDWIFERY.

NATURE AND CAUSES OF PUERPERAL CONVULSIONS. By W. Tyler Smith, M. B. Londin.

(*Continued from page 22.*)

In this and many other diseases there has been a great tendency to consider any morbid change discoverable after death as the cause of the malady present during life. *Post hoc ergo propter hoc*, has had too extensive an application in pathological reasonings. It has been usual, in fatal cases of puerperal convulsions, to examine the brain, and to place all the lesions discovered in it on record, as causes of the disease. Yet what could be more unphilosophical than, in a case of convulsions from afflicting intelligence, followed by effusion into the ventricles, and death, for us to assign the effusion as the cause of the malady. The patient falls into the convulsion instantly, on the very moment, that she hears of the death of a friend; she recovers her sensibility, but the convulsion is repeated, and she gradually becomes comatose, and expires. In such a case there can be no doubt but that the emotion is the cause of the disease, and that the effusion is an effect of the obstructed circulation which the convulsion always causes.

To go a step further, and inquire in what mode the obstructed circulation is produced, with its sequelæ of cerebral congestion, effusion, hæmorrhage, &c. In the first place, the contractions of the uterus propel a certain quantity of blood from its parietes into the rest of the system. Dr. Rigby has noticed this; but it is a limited cause, inasmuch as it can only apply to convulsions occurring during labour. In the next place, the violent spasm of all the muscles of the body in connexion with the spinal marrow, must, in a similar manner, pour out a still larger quantity of blood into the arteries and veins. But the most efficient cause is the venous congestion which takes place from the spasmodic closure of the glottis, a point so characteristic of this disease, and which interrupts the return of the blood from the head.

These are, I believe, the efficient causes of the serous effusion, coagula and vascular distention, found after death from puerperal convulsions, and which are so often referred to as the causes of the disease. It will be seen that I have taken no notice of the pressure of the gravid uterus upon the abdominal vessels, on which some writers have insisted. It appears to me, that if the uterus pressed only on the abdominal aorta, we might recognise such pressure as a cause of vascular distention in the upper part of the body; but it presses equally on the inferior cava, nay, if any difference, still more than on the aorta, because of the different structure of the arteries and veins; so that we ought to look on

this variety of compression as an efficient tourniquet, taking off the pressure of the blood of the inferior extremities, instead of a cause of cerebral congestion.

But though physiological and pathological reasonings lead us to the conclusion that the hemispheres of the brain can have no direct influence in causing convulsions of any kind, yet in the true puerperal attack, and in epilepsy, the brain is indubitably affected during the fit, while in the spasms of tetanus and hydrophobia, sensation and the intellectual faculties remain unimpaired.

Dr. Marshall Hall attributes great influence to the spasmodic closure of the glottis in convulsions, attended by loss of sensation, and its open state in hysteric attacks, or spasmodic diseases in which sensation is preserved. He points out that for some days or hours before the accession of the epileptic or puerperal convulsion, there is sometimes stiffness of the muscles of the neck, and an affection of the larynx, made evident by an alteration of the voice. To the effects of these muscular contractions in the neck in impeding the return of blood by the veins, and to the effects of the partial or entire closure of the glottis in obstructing the circulation, and causing asphyxia, Dr. Hall is inclined to refer the sudden annihilation of consciousness which takes place in epilepsy and puerperal convulsions; the spasmodic contractions acting in much the same mode as the pressure of the cord on the veins of the neck and the larynx in strangulation.

That venous congestion and partial asphyxia are caused by the convulsive actions in epilepsy and the true puerpural disease, none can doubt who have watched the phenomena of these affections. But it has been objected by Dr. Watson that the explanation is scarcely applicable in epileptics to the *petit mal*, where the entire seizure consists of a transient but complete loss of consciousness without convulsion. The same may be said of the incomplete seizure in the puerperal state. It sometimes happens, that when the causes of puerperal convulsions are in operation, patients are suddenly seized with loss of consciousness, or they are affected with mortal faintness, and die instantly, without any convulsion. In the latter case, as Dr. Hall has remarked to me, it must be the heart which is affected, and not the brain, as even the removal of the brain would not extinguish life so immediately as it is destroyed in these cases; and we know that the beat of the heart is interrupted both at the onset of epilepsy and the puerperal convulsion. In the former case, the brain is the only organ affected, and loss of sensation the only phenomenon which appears, the motor function of the spinal marrow being undisturbed. Thus it appears that the same causes which affect simultaneously the motion of the heart, the consciousness of the brain, and the action of the muscles under the influence of the spinal marrow, so as to produce the complete group of phenomena constituting the puerperal convulsion, may, instead of exciting the convulsion through the agency of the spinal marrow, produce their effects on the heart or on the cerebrum separately, and so cause either loss of consciousness and volition, or arrest of the action of the heart. There are some normal excito-motor acts in which sensation is affected; the relation between the act of coitus and the cerebral part of the epileptic attack has often been reverted to, from the time of Hippocrates.

In thus attempting to set limits to the influence of the brain in convulsive diseases, I do not mean to deny that effusion of blood or serum, or vascular congestion of the brain, particularly in the second stage of labour, does occasionally cause puerperal convulsions, but such instances are not frequent enough to justify the general theory. Further, even when convulsions are thus caused, it is not the brain, but the spinal marrow, which is affected so as to produce them. Mere irritation of the brain, as we have seen, will not cause convulsions, but mechanical or vascular pressure on the brain, so as to affect the medulla oblongata by counter-pressure, immediately brings on a convulsion. Thus, in two experiments on dogs, performed by Dr. Marshall Hall and Dr. Blundell; in one, mere injury of the brain produced no effect, but pressure so as to affect the medulla, caused convulsions; in the other, pressure, occasioned by tying the aorta beyond the origin of the carotids, had the same effect as direct cerebral pressure in producing convulsions. In this manner I would recognise fulness of the cerebral vessels, whether primary, or the result of muscular effort, as one cause of puerperal convulsion. When it thus occurs, it is to be considered a centric variety, the cause acting directly on the spinal marrow, and not on its peripheral excitor nerves. Blows on the head when they cause convulsions, must either affect the medulla oblongata in a direct manner, or indirectly, by disturbing the circulation within the cranium.

Another cause of puerperal convulsion of the centric kind, is hæmorrhage and exhaustion, or the exact opposite of the preceding. When violent uterine hæmorrhage occurs convulsion is the general mode in which death takes place, or fits may come on from the same origin, before the patient is *in extremis*, and she may recover. These convulsions depend on the effects of loss of blood on the spinal marrow, and not upon the brain. Thus we see that after the ox has been felled by the pole-axe, and the functions of the brain destroyed, convulsions come on while the animal is bleeding to death.

Mental emotions, of a sudden and violent kind, are well known to cause puerperal convulsions. The disease, when thus induced, like epilepsy, and the convulsions of children, having a similar origin, is generally of a most severe character. Almost all obstetric writers advert to the circumstance, that convulsions are comparatively most frequent among unmarried women. This is principally from the shame and mortification incident to their situation. Any sudden intelligence, either of a melancholy or exciting description, has been observed to bring on the disease. It has even been caused by the first sight of the infant; and Moriceau relates a singular case, in which convulsions were excited by the smell of powerful odours.

In all these, and similar cases, the emotion produced is the exciting cause of the attack. Dr. Marshall Hall has satisfactorily shewn, that whatever may be its seat, all emotion is manifested through the medium of the system. The emotion raised in the brain becomes the excitor of the spinal marrow, as clearly as irritation of the peripheral extremities of incident nerves. It is only in this sense that the brain can be considered at all as an excitor of spinal action; for we have seen that mechanical irritation or stimuli, applied to the brain, short of compression, exert no influence whatever on the spinal marrow.

Dr. Ramsbotham and others have observed, that certain states of the atmosphere increase the tendency to puerperal convulsions. The same thing happens with respect to many diseases of the excito-motory system; thus in the crowing inspiration of infants, in pertussis, and in spasmodic asthma, the convulsive action is diminished or aggravated by variations of wind and temperature.

These being the principal centric causes of puerperal convulsions, let us consider the eccentric, or those caused by irritation of incident, excitor nerves acting through them on the spinal marrow, and its motor nerves.

First in importance is irritation of the uterus itself and the uterine passages. The statistics of labour demonstrate that puerperal convulsions occur with far greater relative frequency when the head presents, than in other presentations. From this it has been inferred that the pressure on the os uteri was a principal cause; but the acute mind of Dr. Collins saw that this coincidence could not be considered as cause and effect, for convulsions frequently came

on when the os uteri is entirelydilated, before the dilatation has commenced, or after delivery. Neither this eminent obstetrician nor any other has taken the pressure of the head on the vagina sufficiently into consideration, in connection with the fact, that irritation of the vagina excites more extensive reflex muscular actions than irritation of the uterus itself. This gives a physiological explanation to the fact respecting the frequency of convulsions in head-presentations with first children, the irritation of the excitor nerves of the os uteri and vagina being undoubtedly greater under such circumstances than any other. I might adduce numbers of cases in support of this view ; in fact, any case in which all remedies have been tried in vain, but in which the convulsions cease immediately after delivery, contain its proof. It must always be borne in mind, when considering the cause of excito-motory diseases, that irritation of the peripheral incident nerves is not dependent on, or to be measured by, the mere intensity of pain. Dr. M. Hall has shewn that the most powerful reflex action of the vis nervosa may be caused without any sensation whatever ; indeed, in puerperal convulsions the causes operate sometimes during a state of perfect coma, or they may commence while the patient is in a profound syncope. The term irritation, as applied to spinal action, must therefore be received with this peculiar signification.

Convulsions are often brought on by the mere presence of the fœtus in utero, there being no other exciting cause, or they may occur from the causes of spinal irritation depending on the first changes which take place in the uterine system preparatory to labour, before the os uteri has commenced its dilatation. They are sometimes caused by the irritation of a dead fœtus, which it is well known is more strongly excitor of reflex action than a living ovum.

When a convulsion has once happened, the fit may be repeated from causes of irritation apparently trivial. Irritation of the os uteri is one of these. Denman relates the following, of a case which occurred to him :—" When the os internum began to dilate, I gently assisted during every pain ; but being soon convinced that this endeavour brought on, continued, or increased the convulsions, I desisted, and left the work to nature." A similar case has been related to me by Dr. Hemming. In other cases, fits have been produced by the hand of the accoucheur in the operation of turning, or by the irritation caused by the use of instruments. Irritation of the os externum is also a powerful excitor of spasmodic action. Many women die from the violence of the convulsion caused by the passage of the child through the external parts. On another occasion I shall have to relate a case in which successive fits were caused by irritation of the uterus from injudicious attempts to apply an abdominal bandage.

The following are two interesting cases of puerperal convulsions from irritation or excitation of the excitor nerves of the whole spinal system, so as to cause the convulsions. The first is told by Dr. Ingleby :—

" A highly esteemed friend of mine once found it necessary to pass his hand into the uterus for the purpose of removing an adherent placenta, the ergot of rye having been previously administered. The introduction was carefully performed. The straining and opposition to his efforts on the part of the woman were exceedingly great ; and at the moment when the operator's hand had reached the organ, my own hand making counter-pressure on the abdomen, the patient became violently convulsed, and died in less than a minute."

The other is from Dr. F. H. Ramsbotham, who relates a case of convulsions in which the fits were relieved by bleeding, and the woman remained fifty hours after the attack, before labour came on. In less than five hours she was delivered without any recurrence of the fits ; but as the placenta did not come away, Dr. Ramsbotham was summoned, two hours after the expulsion of the child. He remarks that, " Under no greater anxiety than usual when the placenta is retained, I proceeded in the ordinary way to remove it. The moment I had passed my hand completely into the uterine cavity, the patient turned upon her abdomen, and without uttering any expression of pain, went into a convulsion." The woman died in about two hours.

Irritation of the bowels, especially of the lower part of the intestinal canal, is well known to cause convulsion under other circumstances besides those connected with the puerperal state. Thus worms, the severe action of purgative medicines, the collection of indurated fæces in the rectum, have all been known to cause epilepsy, or the convulsions of children. It cannot therefore be wondered at, that when the excito-motory system is under the additional stimulus of either pregnancy, labour, or the puerperal state, these and similar sources of excitation should cause puerperal convulsions. I subjoin two cases, the second of which is particularly instructive, and the author of it relates several others bearing equally strong upon this point.

" Mrs. H——, aged twenty-four ; first pregnancy, ninth month. Constipation and headache for several days ; severe fits of convulsions, insensible in the intervals ; pupils dilated ; pulse eighty, full and strong ; face flushed ; os uteri slightly dilated ; feeble, irregular, uterine pains. After venesection, and free evacuation of the bowels, the fits ceased, and she was delivered the next day, without assistance, of a living child."—Dr. R. Lee.

" Elizabeth Roden, aged twenty-three, had become very plethoric during the latter months of pregnancy, but, with the exception of drowsiness, had not experienced any of the premonitory symptoms of convulsion. She was delivered, at six P.M., June 25th, of her first child, after a very natural and easy labour, and at nine was seized with a violent convulsion, which lasted ten minutes. Mr. Bindley saw her at half-past eleven ; the fits had recurred several times ; she was now partially sensible, but the stupor was considerable ; presently, the paroxysm returned ; she rolled her head about, struggled, saliva issued from the mouth ; the pulse was full but not frequent, the head hot, and the face flushed, the lochiæ sparing, and the bowels constipated. Mr. B. ordered leeches, cold to the head, and camphor and opium.

26th, Eight A.M.—The fits have frequently recurred during the night. In the intervals between the attacks she lies in a state of coma, and has stertorous respiration. V.S. to 25 oz. ; head to be shaved, and cold cloths applied. Calomel, jalap, and the purging mixture, were ordered. Two P.M. The convulsions continue ; the teeth had become so firmly fixed, that it was found impracticable to give her the medicine ; pulse 100. The blood does not present an inflammatory crust. Cold to be continued.—Seven P.M. The convulsions have recurred. R. Croton oil, eight minims ; spirits of wine, 2drc. ; cinnamon water, 2oz. A drachm every three hours, until the bowels are moved.

29th, Eight A.M.—A surprising quantity of dark green and very offensive fæculent matter has been discharged, including a multitude of ascarides. She now became sensible, but was unconscious of her illness, and did not remember having been delivered. From this time, with very slight deviations, she gradually and completely recovered."—Professor Ingleby.

Gastric irritation has long been looked on as a cause of puerperal convulsions, though the true rationale has never been given by obstetric writers. I subjoin two cases. Of the nature of the first there can be no doubt, and I believe that, in the second, the evidence of a loaded state of the stomach, coupled with the fact, that neither venesection, evacuation of the bowels, nor careful delivery, afforded any relief, are sufficient reasons for considering it a case in point.

"Mrs. H., a young woman, of a very healthy constitution, had passed through the period of childbirth very well on former occasions, as well as on that which preceded the present subject of consideration. She had been delivered of her child nearly a month, and had ceased to require any medical attendance. She had entirely left the chamber in which she had been confined, and had returned to her ordinary modes of life.

"On waking one morning she complained of pain in her head, but it was not sufficiently violent to confine her to her room; she therefore went into the drawing-room, where she was left in the afternoon with one of her children.

"Her husband was in a room underneath, and having heard something fall upon the floor with great violence, he had concluded that the child had fallen on the ground, but on opening the door he saw his wife lying on the ground, senseless, convulsed, snorting, and foaming at the mouth. He immediately sent in great haste to the writer. When he arrived, the convulsion had ceased, but she was lying in a comatose state. Bleeding from the orifice of a large vein, purging, blistering, and low living, at length succeeded in removing the pressing symptoms, and she at length recovered, but for a long time she continued to be liable to pains in the head.

"On investigating the cause of this attack, it appeared that on the day before, she had indulged in eating oysters. She had in all other points adhered to a very simple and regular diet, and no other circumstance had occurred to which the disease could have been attributed.

"The conclusion to be drawn from the consideration of the cases which have been related above [six similar cases are detailed] is, that the state of pregnancy not only induces such a flow of blood to the head as to dispose it to be violently affected by the strong exertions of labour, so as to induce puerperal convulsions, but also render it liable to be particularly acted upon for some time after childbirth, by sympathy with the stomach, when indigestible substances, especially the fishes of the bivalvæ class, have been eaten."—Dr. John Clarke, in the fifth volume of "Transactions of the College of Physicians."

"Mrs. P., aged twenty-six, first pregnancy, full period; returned home after midnight from a large dinner-party, at which she had partaken of a variety of dishes and wines, and had been seated near a large fire. Labour came on at four A.M., and soon after she became incoherent, and said she felt her teeth falling out of her head. On attempting to drink some warm tea she bit a large piece from the edge of the china cup, and crushed it between her teeth. Convulsions of great violence immediately followed. Copious venesection and an enema gave no relief. In an hour and a half the head of the child was within reach of the forceps, and it was applied, and the child was extracted alive. She died at eleven A.M."—Dr. Lee.

Irritation of the bladder is a less frequent, though undoubted, cause of puerperal convulsions. The following is an interesting case from La Motte:—

"Le 18 Mars de l'année 1695, la femme d'une personne de cette ville, me fit prier de l'aller voir. Elle étoit reduite à l'extrémité, par un accident des plus fâcheux, qu'elle soufroit depuis plusieurs mois. J'y allai promptement, et je trouvai cette pauvre femme avec une douleur dans le bas ventre, non des plus vives, mais continuelle, accompagnée de mouvemens convulsifs et souvent de convulsions assez violentes, pour faire craindre un accouchement prématuré. Elle étoit dans le septième mois de sa grossesse; ce que j'eus peine à croire en ce qu'elle ne me paraissoit pas seulement grosse à terme et pour accoucher d'un jour à l'autre, mais assez pour me persuader qu'elle l'étoit de deux enfans, tant son ventre avoit de volume en toutes ses dimensions, avec beaucoup de peine à marcher, et des envies continuelles d'uriner, sans le pouvoir faire, que très peu et goutte à goutte.

"Après avoir réfléchi sur tous ces accidens, je fis coucher cette femme sur un paillasse devant le feu, en la même situation que pour l'accoucher; après quoi ayant voulu introduire ma sonde dans l'uretre, j'y trouvai de la résistance. Je trempai mon doigt dans l'huile, que je coulai dans le vagin; je trouvai la tête de l'enfant, qui comprimoit le cou de la vessie, qui interceptoit presque entièrement le cours de l'urine. Je la repoussai doucement le plus haut qu'il me fut possible. Dès le moment que le cou de la vessie se trouva dégagé et que l'urine eut son issue libre il en sortit une telle quantité qu'il n'est pas possible de croire que la vessie fût capable d'en contenir autant, ni de se dilater jusqu'à un tel excès, sans se rompre. La malade se trouva soulagée sur l'heure, et se porta bien jusqu'à son accouchement."

Irritation of the kidney has been known to excite epilepsy, and most probably it would act as a cause of puerperal convulsion: of this La Motte and others have recorded cases. It is a very old remark, that œdema of the face and neck forms a frequent premonitory sign of the attack, and Dr. Lever has made the interesting observation that albuminuria is present in a majority of instances. These points will require examination, with special reference to the different modes in which spinal action may be excited.

Such are the principal causes of puerperal convulsions, to the modus agendi of all of which the physiology of the true spinal marrow supplies as full and perfect an explanation as we have of the causes of any disease whatsoever; and it must be remembered, that wanting this mode of solution, the whole disease formed, confessedly, one of the profoundest enigmas of pathology.

Other causes than those which have been given, occasionally operate on the spinal system, but all act in accordance with the principles already advanced. Professor Ingleby suspects that irritation of the mammæ may cause convulsions. The skin, too, as an important excito-motor organ, must be studied in relation to puerperal convulsions. The same may be said of the liver, and other parts supplied by the pneumogastric nerve.

In conclusion, to give a summary of the whole subject, labour is a function of the excito-motory system, and the true puerperal convulsion can only occur when the central organ of this system—the spinal marrow, has been acted on by an excited condition of an important class of its incident nerves—namely, those passing from the uterine organs to the spinal marrow, such excitement depending on pregnancy, labour, or the puerperal state. While the spinal marrow remains under the influence of either of these stimuli, convulsions may arise from two series of causes—of those acting primarily on the spinal marrow, or centric causes, and, secondly, those affecting the extremities of its incident nerves—causes of eccentric or peripheral origin.

I. Causes acting immediately on the central organ:—

1. Loss of blood.
2. Pressure exerted on the spinal marrow by congestion, coagula, or serous effusion within the cranium, &c.
3. Asphyxia of the spinal marrow from spasmodic closure of the glottis.
4. The influence of emotion.

II. Causes acting on the extremities of excitor nerves:

1. Irritation of the incident spinal nerves of the uterus and uterine passages.
2. Irritation of the incident spinal nerves of the rectum.
3. Irritation of the gastric and intestinal branches of the pneumogastric nerve.
4. Irritation of the incident spinal nerves of the bladder.
5. As probable causes, may be enumerated, irritation of the cutaneous nerves, the nerves of the mammæ, and of the hepatic and renal branches of the pneumogastric.

Though the subject distinctly admits of this division, several causes may act together, and centric and eccentric causes may be in operation at the same time. I have made no attempt at a division into predisposing and exciting, proximate and remote causes, as other writers have usually done, because it is evident that a cause which in one case is the exciting or proximate, may in another be the predisposing or remote cause. Thus, irritation of the uterus may be the predisposing, and irritation of the stomach the exciting cause, in one instance, while in another, irritation of the uterus is both the predisposing and the exciting cause; hence any such division must be, to a great extent, arbitrary, and devoid of precise meaning. For instance: Dr. Ramsbotham, in a passage I have quoted, says, "the most usual proximate cause of puerperal convulsion is probably pressure on the brain," whereas it can be shown that cerebral pressure is usually a symptom produced by some exciting cause previously in operation. The same authority mentions irritation of the stomach and intestines among the remote causes, though there can be no doubt of their being generally exciting causes when they exist as causes of any kind.

The views of the nature and causes of puerperal convulsions, developed in the present paper, are, as I believe, capable of important practical application in the treatment and prevention of the disease. This branch of the subject I propose to consider in a future communication.—*London Lancet, December* 7, 1844.

RELATIVE WEIGHT AND SIZE OF THE MALE AND FEMALE AT BIRTH.

By Dr. Simpson, Professor of Midwifery, Edinburgh.

Dr. Clarke (Philosophical Transactions, 1786) gave the absolute and relative weight of 60 of each sex, taken at the Dublin Hospital.*

* The Troy or Apothecaries' weight was there used.

60 Males weighed 442 lbs.; average 7 lbs. 5 oz. 2 dr.
60 Females weighed 404¾ lbs.; average 6 lbs. 11 oz. 2 dr.
Average difference, 9 ounces.

In the Edinburgh Lying-in Hospital, 50 male and 50 female children, born during the latter months of 1842 and the early part of 1843, were weighed by my friend and assistant, Dr. Johnstone:
50 Males weighed 383 lbs. 11 oz. 4 dr.; average 7 lbs. 9 oz. 1 dr.
50 Females weighed 342 lbs. 12 oz. 4 dr.; average 6 lbs. 12 oz.
Average difference about 10 ounces.

Lengths of the above—
50 Males, total length 1020½ inches; average 20 inches 5 lines.
50 Females, total length, 990½ inches; average 19 inches 10 lines.
Average difference, 7 lines, or upwards of half an inch.
—*Edin. Med. and Surg. Journ.*, Oct., 1844.

SURGERY.

NÆVUS CURED BY VACCINATION.

The nævus was situate upon the left ala nasi of a little boy. At first it was but a mere red spot from which it had increased to a considerable size. Among other, modes of cure that were unavailingly resorted to for its removal was the actual cautery. On the failure of this last remedy, the boy's father determined to bring him to Stuttgardt. Previous to leaving home, his father wished to have the boy vaccinated. Dr. Durr, who performed the operation, determined to try the effect of vaccine upon the nævus. With this view he made four transverse incisions through the nævus, to the healthy parts, with a lancet dipped in cow-pox matter. Vaccination proceeded regularly till the eighth day, when, in consequence of being scratched by the child, the vesicle spread considerably, exciting violent inflammation in the adjacent parts. When the crust fell off on the 21st day, the former situation of the nævus was found occupied by an ulcer, which extended to the root of the ala nasi. The ulcer was dressed for a few days with the ungt. narcotico-balsamicum; when some remains of the erectile tissue were perceived. These were bloodvessels which bled freely on being touched with nitrate of silver. These vessels were again perceptible on the next day, when the eschar caused by the caustic separated. Under these circumstances, Dr. Durr, ordered the following lotion. R. Alum. crud. scrupul. duo. Flor. anthem. nobil. Unc. quatuor. Laudan. drachm. dimid. M. Lint moistened with this was applied to the ulcer morning and evening. In a few days the vessels contracted and the ulcer began to heal; the healing process was completed in a week, when the ala nasi was natural in appearance, save, that a small white cicatrix remained, marking the former site of the nævus. The lotion was still ordered to be continued. At the time of drawing up this report three months after the vaccination of the nævus, the cicatrix yet remains: no trace of the erectile tissue can, however be discovered. *Medical Times, March* 15, 1845 *from Whittenger in Wurtemb. Correspond. Blatt.*

THE TREATMENT OF ANEURISM BY PRESSURE ON THE ARTERY ABOVE THE TUMOUR.

Most favourable results seem to follow this mode of practice. In the first volume of *The Lancet* for 1843-4, some cases are recorded, and the method to be pursued in the application of the pressure, is described. In the *Dublin Medical Press* we find two additional cases, of which the principal features are comprised in the following outlines:—

Femoral Aneurism.—A servant, thirty-five years of age was admitted into St. Vincent's Hospital, under the care of Mr. Bellingham, for an aneurism, occupying that portion of the femoral artery which passes through the tendinous canal, formed by the vastus internus and biceps muscles. The tumour measured from two to three inches in vertical extent, and was nearly two inches in diameter. It was remarkable that the patient had been successfully treated by pressure for popliteal aneurism of the opposite limb some fifteen months previously. The present tumour seemed to have commenced its formation about a month before his admission to the hospital. He was treated for the first five days by bleeding, cold lotions, and the internal administration of digitalis, and then pressure was applied. He bore this tolerably well, but the instrument being broken, it was necessary to provide a substitute, and a weight of seven pounds pressing directly on a tourniquet pad over the vessel was found sufficient.

This practice, variously modified so as to suit circumstances, was pursued, and in six weeks from the first application of the pressure, pulsation ceased in the vessel. The patient has quite recovered, without any untoward symptoms.

Popliteal Aneurism.—This patient was received into the Jervis-street Hospital, under the care of Dr. Kirby, having a popliteal aneurism as large as a hen's egg. The disease had commenced about three months previously, and was the result of muscular exertion in getting up whilst supporting a heavy load. The pressure was applied in the usual manner, but for the first ten days it could not be borne for a longer period than twenty minutes on the same part. It was necessary, therefore, to shift the pad along the course of the vessel. Much relief was also experienced by the application of a second instrument. It was thus possible to remove the pressure, and at the same time to keep up a constant obstruction to the circulation. This practice had been adopted also towards the close of the preceding case. The patient was quite cured in about two months from the date of his admission.

The results here described shew that the celebrated operation of Hunter—such an advance on those which preceded it—is itself likely to be partly superseded in those cases in which the vessel is favourably situated for the application of pressure.—*Lancet, Nov.* 2, 1844.

FORENSIC MEDICINE.

Dr. TAYLOR'S REPORT ON THE PROGRESS OF TOXICOLOGY

(*Continued from page* 26.)

IRRITANT POISONS.

Cold liquids. The symptoms produced by cold liquids when swallowed in large quantity, have been often mistaken for those of irritant poisoning, and where death has ensued, this has been ascribed to poison. Facts of this kind, which are of some value in aiding our diagnosis in cases of poisoning, have been hitherto imperfectly observed and but rarely recorded. Mr. Cridland of Chelsea has reported the following case, (*Lancet*, Oct., 1843,) which occurred in the month of August preceding, at a time when the weather was hot and sultry. A child, aged 9, rose from her bed with her body much heated, and drank off a small cupful of cold water. She immediately fell to the ground in a state of insensibility. Half an hour afterwards, when seen by a medical man, she was unconscious, her skin was cold, the pulse feeble, and the pupils were unaffected by light. There were also convulsive twitchings about the corners of the mouth. She was bled, stimulants were applied, and in about five or six hours she recovered. The effects were here probably due to a shock to the nervous system. Had the nature of the liquid taken been unknown, the symptoms might have been speciously referred to a dose of prussic acid.

In regard to the effects of cold liquids and the medico-legal questions which arise respecting them, the reader may refer to an elaborate paper on the subject by Dr. Guérard, in the *Annals d'Hygiene* for January 1842, p. 42.

Mechanical irritants. Sponge has been regarded as a mechanical irritant capable of producing inflammation and death. Accidents of this kind have been observed in young infants. In May last, Dr. Chowne reported to the Westminster Medical Society, a case which, however, shows that this substance sometimes exerts no action whatever upon the system. An infant, three months and a half old, swallowed a small piece of sponge, which had been placed at the nipple of a sucking bottle. A dose of castor oil was given, and the sponge was passed per anum fourteen hours after it had been swallowed. There were no symptoms. A case has been tried in this country, where a woman was charged with the death of a child by the administration of sponge.

Diagnosis of cases of poisoning. It is well known that there are certain cases which in their symptoms and rapidly fatal character, closely resemble cases of irritant poisoning. The diagnosis is here of great importance, not merely in relation to treatment, but in regard to the defence which may be set up, should the individual die and a person be charged with the crime of poisoning. In the law-reports, many cases are recorded in which, on trials for arsenical poisoning, the poison not having been detected in the body, the parties charged with the crime have been acquitted, owing to the difficulty of distinguishing them from cholera and acute inflammation of the stomach and bowels. Cases of arsenical poisoning which have occurred in autumn, have been often treated as cases of cholera, and the mistake has been discovered only by an examination of the body or by the confession of the criminal. It has been doubted by some pathologist, whether *gastritis*, enteritis, or peritonitis, diseases which in their symptoms somewhat resemble cases of irritant poisoning, can occur spontaneously or without an obvious and apparent cause. It is certainly rare to hear of cases of idiopathic acute *gastritis* occurring in individuals otherwise healthy, but a well-marked instance of the kind has been lately reported by Mr. Aerncastle, (*Lancet*, March, 1844.) The symptoms were of the usual character; constant vomiting, no diarrhœa, and rapid sinking. After death, the stomach was found in a high state of inflammation, but all the other viscera were healthy.

The case of the Queen *v.* Hunter, tried at the Liverpool Spring Assizes, 1843, is worthy of the attention of medical witnesses in relation to the appearances produced by irritant poisons, and the diseases above referred to. In this case, a woman was charged with having poisoned her husband by arsenic. The medical evidence rested chiefly on the symptoms and post-mortem appearances, for no arsenic was discovered in the body. The mucous membrane of the stomach and intestines was found, throughout its whole extent, exceedingly inflamed and softened. The medical witnesses for the prosecution referred this condition to the action of arsenic; those for the defence considered it might be owing to idiopathic gastro-enteritis, independently of the exhibition of any irritant. The circumstances of the case were very suspicious; but the prisoner was acquitted, not merely on account of the variance in the medical evidence, but from the absence of positive proof of poison, i.e. its detection by chemical analysis. This generally weighs much with a court of law, although it is well known that arsenic cannot always be detected in the body of a person who has undoubtedly died from a large dose of that substance. It is right to state, as a warning to medical witnesses, that the judge who tried the case expressed regret that, on the non-discovery of poison in the contents of the stomach and intestines, the soft parts, of the body (the muscles) had not been examined according to the processes lately suggested by Orfila.

Perforation of the stomach and intestines. This disease often leads to death under circumstances resembling irritant poisoning. Any well-ascertained facts, therefore, connected with the subject are of some interest to the medical jurist. In November 1843, Dr. Seymour reported two cases of death from perforation of the stomach to the Medico-Chirurgical Society. The subjects of the two cases were, as usual, females; one about the age of twenty, the other twenty-five. Perforation of the stomach generally proves fatal in from eighteen to thirty-six hours, by inducing peritonitis; but these cases were remarkable in the circumstance, that one of the females lived ten days and the other a fortnight after the probable time of perforation. On inspection, the ulcers in the stomach were found to communicate with cysts.

There is one insidious form in which perforation of the intestines may present itself, and simulate irritant poisoning, although the real cause of death (peritonitis) will be immediately apparent on inspection. I allude to the formation of an aperture by ulceration, in the extreme end of the appendix vermiformis cæci owing to the pressure produced by some calculous concretion. Two cases have been communicated to me, both of which occurred in young men apparently in good health; and they proved speedily fatal under the usual symptoms. In both cases the perforation was produced by a hard substance lodged at the end of the appendix. These substances were sent to me for analysis. In one case the calculus was about the size of a large pea, and it consisted of inspissated mucus, biliary matter, and a large quantity of carbonate of lime; in the other the calculus was smaller, but similar in composition. For the detection of such cases, a careful inspection is required, since, both the aperture and the calculus being small, the source of the fatal effusion might be easily overlooked.

It is not often that cases of narcotic poisoning are mistaken for those of disease, but still, where the facts are intentionally concealed or wilfully misrepresented by the criminal administrator, any medical practitioner is liable to be misled. The diseases, which in their symptoms and course resemble narcotic poisoning, are generally well-marked in their characters during life, or in the post-mortem appear-

ances found on inspection. A case has just been tried at the Lincoln assizes, (July, 1844,) which shows that a crafty criminal may easily deceive a medical practitioner, and that the coroner's inquest, as it is at present conducted, is not fitted to detect these secret cases of poisoning. In this case, a confession was made; but how many instances escape detection for want of a confession on the part of a criminal, it is impossible to conjecture. An inspection of a body is not required by many coroners unless there are strong circumstances for suspicion in the shape of public rumour; but in respect to criminals, who have well calculated their plans, these circumstances are not likely to come to light *except from a post-mortem inspection, and an analysis of the contents of the viscera.** It does not appear that any inquisition was held or inspection made in the case alluded to, until some time after the bodies of the deceased had been interred, and then it was too late. A woman was charged with the murder of three children by poisoning one of them with arsenic, and the other two with opium. She pleaded guilty, and confessed the manner in which the crime was perpetrated. She had succeeded in poisoning two of the children without being detected, although suspicion was so strong that she was tried, but acquitted, at the previous assizes, on the charge of having poisoned one of them. In the third case, she admitted having secretly given to the deceased, (her own infant,) about three weeks old, a teaspoonful of laudanum. The child was soon afterwards seized with convulsions; a medical practitioner was sent for, who, deceived by the statement of the woman, treated it as a case of ordinary convulsions in children, and ordered a warm bath. The child died in about twenty hours, continuing, according to the prisoner's statement, in convulsions during the greater part of that time. No suspicion appeared to have been entertained of the real cause of death, and the case would probably have remained undiscovered, but for the prisoner's confession. It is remarkable that this child survived so long; the woman, however, prevaricated as to the quantity of laudanum which she gave it, therefore it is difficult to draw any conclusion from her statement, except that the deceased was actually poisoned by opium. (The Queen *v.* Joyce.)

Phosphorus. It is not often that we hear of cases of poisoning by phosphorus or its compounds, but the following instance has been reported by Mr. Shephard of Stonehouse. (Lancet, Dec. 1843.) A child, between two and three years of age, had been caught in the act of sucking and swallowing the heads of lucifer matches. Two days afterwards she appeared unwell, there was some feverish excitement, but no active symptoms. The bowels were open, but the child did not suffer from pain, vomiting, or diarrhea. Five hours after she was first seen, she became violently convulsed, and she died three hours afterwards. On inspection, a quantity of mucus mixed with blood, of a coffee-ground colour, was found in the stomach. The mucous membrane of the organ was very vascular throughout, and for the space of about two inches it had a florid red colour, and was covered with mucus. There were no less than ten invaginations in the small intestines, many of which included from two to three inches of intestine, which was inflamed at the invaginated parts. There was no appearance of strangulation, and the bowels were empty. The medical opinion given at the inquest was that phosphorus, in a finely divided state, was the cause of death, and a verdict was returned accordingly.

*In one case just referred to me from the country (Sept. 1844,) the jury, under the direction of the coroner, returned a verdict of death from poison ("misadventure,") while the stomach of the deceased was in my custody, and *before it had even been opened or the seals of the vessels containing it had been broken!* In another now under examination, in which there is the very strongest reason to suspect death from poison administered by a quack, the coroner and jury declined waiting for an analysis (not yet completed) of the contents of the stomach, although strongly advised by the medical witness who inspected the body,—and returned a verdict of "*natural death.*" It is absurd to talk of coroners being legally responsible for such an abuse of their office. The juries, who acted under them, are very unlikely to be the complaining parties; the country magistrates, even if they were made acquainted with the facts, are not likely to conceive the necessity for such an additional charge to the county rates as these chemical analyses would often entail; and lastly, where is the medical practitioner who can afford the time and expense of enforcing legal proceedings against a county coroner, even supposing him to be desirous of filling such an invidious office as that of public prosecutor? In the *theory* of English law, "there is no wrong without a remedy;" in the *practice*, the wrongs are numerous, and the remedies might as well not exist, for they are in many instances quite unattainable!

ON REAL AND SIMULATED PARALYSIS.

Dr. Macloughlin has just published the second edition of his work entitled "*Consultation Medico-legale sur quelques signes de Paralysies variés et de leur valeur relative.*" As the case which gave rise to this publication is worthy of the attention of the Medical Profession, a few details may not be uninteresting. A charitable committe has been formed here to relieve all British subjects in distress. English medical men givet heir services to this Society gratuitously. In November 1838, Doctor Macloughlin was requested to see and prescribe for a Mrs. Hardern who had been on the society for some years, in consequence, it was said, of being affected with incurable diseases, the existene of which was certified by seven or eight of the first medical men here. Dr Macloughlin met in consultation a medical gentleman who had been in attendance on this woman for the last eleven months, and he stated that his patient had five incurable diseases. After an attentive examination, Dr. M. was convinced she was in perfect health, and simulated those maladies to secure the pension of the charitable fund. He not only satisfied the medical gentleman that he had been imposed upon, but likewise convinced Mrs. Hardern herself that it was impossible for her to continue scheming any longer. She was however determined to be considered as afflicted with an incurable complaint, so as to continue to receive the pension allowed by the charitable fund. A few days after, she sent for Dr. Cruveilhier, professor of pathological anatomy and one of the most distinguished medical men here, and to him she represented herself as labouring under complete paraplegia, but said nothing of those diseases she had simulated for the three previous years. Professor C. stated that he had examined her twice with all possible care, and convinced that she was suffering from the disease for which she had consulted him, he gave her a certificate to that effect. As soon as she had this certificate, her husband wrote to the charitable fund committee, to say that his wife was affected with complete paraplegia, which Dr. Macloughlin had overlooked. In reply, the committee requested Sanson and Professor Andral to see her and report her state. These gentlemen after visiting her, gave a certificate saying she was paraplegic.

Hardern and his wife having two certificates emanating from such authorities attacked Dr. Macloughlin, who had in consequence to meet two law suits; on the latter, before the *Court Royale* Professor Cruveilhier presented himself in behalf of Mr. and Mrs. Hardern, and maintained that 7-10ths of Mr. H's body were completely paralysed. Dr. Macloughlin declared that not only no symptom of paralysis existed, but that the patient was in perfect health, and offered to demonstrate the fact to the Professor whenever he pleased. After the trial Professor C. received Mrs. H. into his ward at the Charite, and a consultation there took place between Professor Andral, Bullaud, Fouquier, Gerdy,

Velpeau, and himself; the general and unanimous opinion was that 7-10ths of her body were paralysed. She had been sixteen days in the hospital, when Professor Cruveilhier and Dr. Macloughlin met accidentally in one of the wards, a discussion took place and the latter repeated his offer, to prove that the patient was not ill; it was therefore agreed that two days after, the consultation should take place. They met on the 26th February, 1840, in Professor Cruveilhier's ward, at the bedside of Mrs. H. About 150 or 200 medical men, amongst whom were Professor Bouillaud, Gerdy, Telpeau, Dr. Olliver d'Angers, were present. Professor Cruveilheir stated, 1° that Mrs. Hardern had completely lost the sense of feeling of the right side of the face and head, of the right conjunctiva and mucous membrane of the corresponding nostril; 2° that the elevator muscles of the lower jaw on both sides were paralysed, so that the mouth could not be kept shut, and mastication could be performed only by the help of the hand pressing the lower jaw against the upper; 3° that she had lost the power of speech; 4° that the tongue was completely paralysed, and that manual interference was necessary to draw it out of, or push it back into, the mouth; 5° that the pharynx was paralysed and deglutition impossible; 6° that the right arm, bladder, and rectum were completely paralysed; 7° that paraplegia existed; and 8° that the cause of these maladies was, a tumour in the brain.

After thus demonstrating the existence of these diseases, Professor B. further stated, that Mrs. Hardern had, during the 18 days she had been in the hospital, taken nothing but tea in small quantities at a time, which she swallowed with considerable difficulty. Dr. M. requested that some might be given her, "She applied (p. 418) her lips to the cup firmly, and drew in a sufficient quantity of the liquid to fill her mouth without spilling a drop; she then put away the cup, and kept her mouth closed for some seconds without making any effort to swallow, she then allowed the lower jaw to fall and the liquid to run out on both sides." Dr. M. said, "that from the manner she had applied her lips to the cup and performed suction, it was evident that the muscles of the lower jaw and the tongue were not paralysed; that from the manner she had retained the liquid in her mouth without coughing, and propelled it out of that cavity, that the muscles of the pharynx were not paralysed. These points were so clearly proved, that Professor C. admitted 'that *she somewhat exaggerated her sufferings*' (p. 49.) Furthermore pressed by the evidence drawn from anatomy, physiology, and pathology, he admitted 'that there was no paralysis of the tongue, pharynx, and elevator muscles of the lower jaw." "I cease to maintain," added the professor, "that any of the organs situated above the superior extremity of the sternum are paralysed, but I assert, that the right arm and lower limbs are completely so, for no pain is manifested when she is pricked with a pin, nor can any voluntary muscular contraction be perceived when the limbs are thrown in every direction." (p. 50.)

Dr. Macloughlin gives in the work before us, the reasons why he continued the consultation, after the avowal by Prof. C.; they do not, however, appear to us satisfactory. In our opinion it ought to have ceased the moment the foregoing admission was made; still in a scientific point of view, we must thank Dr. M. for following the Professor through the whole case, for he drew the attention, as Professor Gerdy said, to points of pathology as yet unknown, or not sufficiently studied in France.

Passing therefore to the hand, evidently from the colour and softness of the skin, the natural heat, the perspiration in the palm of the hand, the *non*-atrophy of the tip of the fingers, and the state of the pulse at the wrist, it was perfectly healthy, and apt to perform all its functions. The lower extremities were next examined, and here the discussion became highly interesting, in as much as it touched on the highest branches of medical science. Professor C. contended, that the functions of the rectum and those of the bladder remained under the controul of the will in complete paraplegia. Dr. M. denied this, and appealed to anatomy, physology, and pathology to prove that these two organs must also be paralysed, and execute their functions involuntarily; and that not only this occurs constantly in complete paraplegia but that also the urine becomes alkaline; a pathological fact which Professor Gerdy acknowledged was new to them. Both parties joined issue on these points, and the Professor was ably assisted by one whose firmness of purpose was worthy of a better cause.

Mrs. Hardern had, for fifteen months, stated that she was affected with paraplegia, had been in the hospital eighteen days; and had been visited by a vast number of medical men. She was aware of Dr. M's opinion, concerning paralysis of the bladder and rectum in complete paraplegia, and therefore did all in her power to have it believed that this was the case. Thus, on her entering the hospital she asked for, and obtained a female catheter, with which she drew off her water daily; aware that if she eat, the bowels *must* act, she took while in the hospital only very small quantities of tea, therefore no motion had taken place during these eighteen days. The catheter having been taken from her, at Dr. M's. request, the day before the consultation, "the bladder was found (p. 45, 2d ed.) distended, but not a drop of urine had escaped from the urethra," and (p. 45,) "on introducing the catheter, the contents of the bladder were propelled to the distance of about four inches from the end of the instrument. The urine was acid, and contained no mucosities. The sphincter was firmly contracted; no traces of the escape of feculent matter; nor had the bed clothes or body linen ever been soiled by urine of fæces. The skin on the sacrum was not red; no signs or scars were visible, proofs that she had not been lying on her back fifteen months, nor the eighteen days she had been in the hospital." Dr. M. therefore concluded, that neither the bladder nor rectum were paralysed, and that the state of the skin on the sacrum, indicated that she had not remained fifteen months on her back or even eighteen days, which would have been the case had she been completely paraplegic. Dr. M. further contended, that since the bladder and rectum were healthy, and under the controul of the will the lower extremities could not be completely paralysed. "For," argued he, "if the portion of the medulla spinalis, from which the nerves distributed to the sphincters of the rectum and bladder arise, is healthy, the portion from which the nerves of the lower extremities originate, must be so likewise, and consequently the lower limb, cannot be completely paralysed," (p. 56.) Unable to convince his adversaries, Dr. M. asked, "Since you affirm that the patient is affected with this disease, how long can she live?" "Three days," replied Prof. C.—"I accept your prognosis," said Dr. M. "and to shew you that my diagnosis was not formed without mature consideration, keep Mrs. H. in the hospital, one, two, or three months, surround her with every care, I will be the first to thank you. During this period, you will discover that my statement is correct, and that you will be the first to acknowledge your error," (p. 69.)

Eight days after the consultation just mentioned, Mrs. H. left the hospital, taking with her another certificate from Professor Cruveilhier that seven-tenths of her body were completely paralysed. With this new certificate, Mr and Mrs. H. began to annoy Dr. Macloughlin, and Professor Cruveilhier, having in the 35th number of his work on pathological anatomy, reported the case in the light in which he viewed it, Dr. M. published eleven months after the consultation, the 1st edition of his pamphlet. This publication convinced many of the professors, and they expressed themselves to that effect; not so Professor C., for he convened Professors Andral, Breschet, Chomel and Mor-

eau, who, after examining the patient, declined giving a certificate. Two years after the consultation Mrs. H. and her husband left Paris for Naples, where they now reside.

It was mentioned above, that Dr. Macloughlin had met two law suits. At the first, the Procureur du Roi, requested Dr. Ollivier d'Angers, one of the highest medico-legal authorities here, and author of a valuable work on diseases of the spine, to visit Mrs. H. and to report on her case. Dr. Ollivier did so, and stated in his report to the court that paralysis existed; present at the consultation of the 26th February, 1840, he confirmed his report, but from what then took place, he conceived some doubts as to the accuracy of his opinion, and, therefore, resolved to watch the case. Since then he has published a memoir on simulated diseases, where he admits that he had been deceived by Mrs. Hardern. (Vide *Annales d'Hyg. pub. et de Med. legale*, Vol. XXX. p. 19.)

MATERIA MEDICA AND PHARMACY.

ON A NEW PROCESS FOR THE PREPARATION OF LIQUID HYDRIODIC ACID.

BY MR. RICHARD PHILLIPS, JUN.

Wishing to repeat the experiment made by Dumas, of acting upon hydrated sesquioxide of iron by liquid hydriodic acid, I found considerable difficulty in preparing the acid of sufficient strength, by the usual methods, without its undergoing decomposition.

The process, I believe, generally adopted, is to pass a current of hydrosulphuric acid gas through iodine suspended in water, sulphur being precipitated, and hydriodic acid formed. The solution is then boiled, until all excess of the gas is got rid of, and the residue filtered.

It is, according to Berzelius, open to this objection, that, on account of the iodine being but sparingly soluble in water, it is necessary continually to stir the solution, and that even if this precaution be taken, the iodine becomes so mixed with the precipitated sulphur as to remain unacted upon by the hydrosulphuric acid. To this I may add, that when the solution is boiled, to get rid of the excess of the gas, or evaporated, to increase its strength, by the decomposition of hydriodic acid when exposed to the action of the atmosphere, a small amount of iodine is set free, as shewn by the blue colour given by starch to the solution.

In Professor Kane's *Elements of Chemistry*, it is stated, that if dilute sulphuric acid be added to a solution of iodide of barium, sulphate of barytes is precipitated, and hydriodic acid formed. The usual process, however, being to form iodide of barium by acting upon carbonate of barytes, or barytes-water, by hydriodic acid, nothing is gained by the operation. It, however, occurred to me, that I might succeed by adopting the same principle, but varying the process. And my first experiment was to add to a solution of iodide of potassium in alcohol, hydrocholoric acid; chloride of potassium, and hydriodic acid were formed, and the chloride being insoluble in the alcohol, was separated by filtration. This method, however, I conceived was objectionable, on account of the difficulty of adding exactly the right proportion of hydrochloric acid, and that from the hydriodic acid acting upon the alcohol, hydriodic ether might be formed. I therefore substituted zinc for the potassium, and oxalic acid for the hydrochloric acid, and these objections were removed. The following was the process:—To 126 grains of iodine mixed with about one fluid once of distilled water were added thirty-five grains of zinc turnings. The action was aided by a gentle heat, (care being taken that the mixture was not exposed to atmospheric air,) and when it had ceased, and no free iodine was found to be present, the residual zinc was washed, dried, and weighed. The solution and washings were then evaporated, and with them was mixed for every atom or thirty-two grains of zinc found to have been dissolved by the weight of the residual zinc, one atom or sixty-three grains of crystallized oxalic acid. The mixture was gently heated, and when cold, the precipitated oxalate of zinc was separated by filtration, and the hydriodic acid contained in the solution was found to contain neither oxalic acid, zinc, nor free iodine.

During the evaporation of the iodide of zinc, a slight precipitate takes place, and the solution becomes acid, resulting, as I have before shewn, in the cases of the iodides and chlorides of iron, from water being decomposed, hydriodic acid being set free, and oxide of zinc precipitated. This, however, makes no difference in the accuracy of the process, as the oxalic acid would unite with the precipitated oxide of zinc.

In conclusion I may remark that the advantages of this process would appear to be that by ascertaining the amount of zinc dissolved, not the slightest difficulty arises in adding exactly the proper quantity of oxalic acid to precipitate it, and that from the evaporation of the iodide of zinc, previously to adding the oxalic acid, hydriodic acid of great strength is readily formed.—*Pharm. Jour.*

ON SOME NEW COMBINATIONS OF IODINE. (?)

BY A. T. THOMPSON, M. D., F. L. S., ETC.

Iodine, it is well known, has an extensive range of affinity; but hitherto, as far as my information extends, its compounds have consisted of its combination with simple substances: thus it combines readily with metals, but manifests little disposition to combine with their oxides, although it forms compounds with oxygen. It also unites with hydrogen, carbon chlorine, sulphur, phosphorus, and nitrogen; but I am not aware of any attempts having been made to combine it with organized matters, except some that have been lately made by my assistant, Mr. Blackwell. The nature and extent of his inquiries, I have every reason to believe, will be laid before the Society when they are more matured; my object, at present, is to direct the attention of its members to two iodides, prepared by myself, and to shew them three of the extensive group prepared by Mr. Bleackwll.

The two iodides which I have prepared are those of quina and cinchonia, both of which are likely to form valuable additions to the Materia Medica, inasmuch as they contain in themselves the combined properties of a most efficient tonic, and one of the most valuable deobstruents which we possess. One of the great objections to the administration iodine and iodide of potassium is the production of that derangement of the system which is denominated *iodism*, and which has occasionally terminated in death. Now this is likely to be prevented by the tonic influence of the quina or the cinchonia. It is true that we already possess such a combination in iodide of iron, but in many instances, where the influence of such conjoint powers is required, preparations of iron cannot be borne. But my object in bringing these preparations before the Society, is not in reference to their medicinal properties, but to induce such of its members as have more time and opportunity than I can command, to examine their nature and determine their chemical characters.

The *Iodide of Quina* is prepared by triturating together, in a mortar, 164.55 grains of pure quina, and 126.3 grains or iodine; the latter being added to the former, until the whole is intimately mixed; and then boiling the mixture in a moderate quantity of distilled water at first; adding more by degrees, until as much is added as will give one grain of the iodide for each fluid drachm of the solution. During the boiling, a deep brown, resinous-like substance is formed, apparently insoluble in water, which subsides to the bottom, when the solution cools. This substance is brittle, tastless, inodorous, and affords no indication of the presence of either iodine or quina; it is partially soluble in boiling alcohol. I have not been able to ascertain its nature.

The iodide of quina, in solution, is of a pale straw clour, limpid, evolving a faint colour of iodine, and impressing upon the palate the bitter taste of quina; that it contains no free iodine is evinced by testing it with starch, whilst the existence of the iodine is immediately demonstrated by the developement of the deep indigo-blue colour of the iodide of amidine, on adding a drop of nitric acid to the solution containing the starch. The quina in the solution of the iodide is precipitated by infusion of galls, in the form of a tannate; and, in its simple state, when the solution of pure potassa is added to the solution. It is upon these grounds—namely, the existence of both iodine and quina in this compound, that I have been induced to name it *Iodide of Quina*; but the real nature of the salt contained in the solution has yet to be determined; and it is the hope of getting this point settled by those who possess the ability to examine it, and can command more time than is at my disposal, that has induced me to bring it before the Society.

The *Iodide of Cinchonia* is prepared in the same manner as

iodide of quina, taking 156.55 grains of the alkaloid, instead of 164.55. The quantity of brown resinous-like matter is less than in the preparation of the iodide of quina; but it closely resembles it in its physical character, its insolubility in alcohol. The solution is nearly inodorous, has the bitter taste of the cinchonia, and a rather deeper straw colour than the solution of iodide of quina. It is limpid, and answers to the same tests as the iodide of quina.

I have not yet crystallized either of these salts, but I shall do so, and pursue my investigations both respecting their chemical characters and their medical influence, and lay the results before the Society as soon as my time will permit me.

The three other iodides made by Mr Blackwell, are those of *fibrin*, *albumen*, and *gelatin*. I will not anticipate his own account of them, and of many other compounds of iodine and organic bases which he has formed, but merely exhibit them, and demonstrate by reagents the presence of both the components in each of them. All of them are limpid, inodorous, and tasteless, and in my opinion, are likely to prove admirable means of conveying iodine into the system. I have prescribed the iodide of albumen in one case of eczema; and were it proper to draw an inference respecting its remedial value from a solitary case, I should say, with decided success. The nature of these compounds offer new matter of investigation to the chemist, and most probably many of them may display more valuable therapeutical powers than any of the preparations of iodine already in use.

Lancet, March 15th, 1845.

ON THE LIQUOR HYDRIODATIS ARSENICI ET HYDRARGYRI.

By M. Donovan, Esq., Dublin.

"Triturate 6.08 grains of finely levigated metallic arsenic, 15.38 grains of mercury, and 50 grains of iodine, with one drachm measure of alcohol, until the mass has become dry, and, from being deep brown, has become pale red. Pour on eight ounces of distilled water; and after trituration for a few moments, transfer the whole to a flask; add half a drachm of hydriodic acid, prepared by the acidification of two grains of iodine, and boil for a few moments. When the solution is cold, if there be any deficiency of the original eight ounces, make it up exactly to that measure with distilled water; finally, filter. The theory of this process need scarcely be adverted to. By the long-continued trituration of arsenic, mercury, iodine, and alcohol, the metals are converted into iodides, which combine. The mass, by solution in water, is converted into an hydriodate of arsenic and mercury. The quantities of the two metals are so adjusted, that when converted into protoxides by decomposition of a portion of the water in which they are dissolved, there will be eight grains of protoxide of arsenic, and sixteen of protoxide of mercury. The quantity of water is such that each drachm measure of the solution will contain exactly one-eighth of a grain of protoxide of mercury. I conceive that the quantity of mercury ought to be double that of the arsenic, in order to ensure a slow and moderate, yet adequate mercurial action, along with the proper effect of the arsenic. Of this *liquor hydriodatis arsenici et hydrargyri*, each drachm measure consists of—water, one drachm; protoxide of arsenic, one eighth of a grain; protoxide of mercury, one-fourth of a grain; and iodine (converted into hydriodic acid) four-fifths of a grain. The colour of the solution is yellow, with a pale tinge of green; its taste is slightly styptic. It cannot be properly conjoined with tincture of opium, or with sulphate, muriate, or acetate of morphia; for all these produce immediate and copious precipitates in it. Hence, if opiates are to be used during the exhibition of this arsenico-mercurial compound, they must be taken at different periods of the day. Tincture of ginger produces no bad effect.

The following formula is proper:—

R: Liquor Hydriod Arsenici et Hydrargyri, Drachmas duas;
Aquæ Distillatæ, Uncias tres et semisse;
Syrupi Zingiberis, Semi-unciam. Misce.
Divide in haustus quatuor. Sumatur unus mane nocteque.

Thus, one-sixteenth of a grain of protoxide of mercury would be taken in each dose, along with two-fifths of a grain of iodine, which, being in the state of combined hydriodic acid, will be much diminished in energy of medical effect. This is no doubt the proper dose to begin the exhibition of arsenic with, but it will soon be necessary to increase it. The division into draughts is here necessary; first, to insure accuracy in the dose, so essential in the case of this active medicine; and, next, to prevent injury to the ingredients by the use of a metallic spoon as a measure;—the general way in which, unfortunately, the dose of a medicine is determined.—*Braithwaites Retrospect.*

ADULTERATION OF SULPHATE OF QUININE, AND A METHOD OF DETECTING IT.

The sulphate of quinine of commerce is very frequently adulterated with *salicine*. If the proportion of the latter alkaloid present be half, or even one-fourth, the fraud may be detected by the addition of concentrated sulphuric acid, which produces, with salicine, a characteristic red colour. But if no more than a tenth of salicine is mixed with the sulphate of quinine, this red colour is not developed by the addition of sulphuric acid. In order to detect the presence of salicine in this or less proportions, this alkaloid must be isolated. For this purpose, take three or four grains of the suspected sulphate of quinine, and pour on it about six times its weight of concentrated sulphuric acid, which dissolves the salt, and if salicine be present, forms a solution of a brown colour, just like sulphuric acid soiled by some vegetable matter. To this add carefully and gradually some distilled water, until a white precipitate appears. This will probably be salicine, which will not dissolve in a moderately dilute acid solution of sulphate of quinine. Filter the liquid, and collect the precipitate on a watch glass, and it will now produce, upon the addition of concentrated sulphuric acid, the bright-red colour characteristic of salicine. If too much water be added, the precipitate will dissolve, and only a loose gelatinous precipitate will form, very difficult to separate.—*M. Peltier, Journal de Chemie Medicale.*

PHYSIOLOGY.

ON THE REFLEX FUNCTION OF THE BRAIN.

(From the British and Foreign Medical Review, for Jan. 1845.*)*

By T. Laycock, M.D. Physician to the York Dispensary, &c.

(Read at York, before the Medical Section of the British Association for the Advancement of Science, on 28th Sept., 1844.*)*

Since it has been generally acknowledged that the brain is the organ of mind, the study of its physiology or laws of action, has acquired a surpassing interest, for whatever men do, in the most comprehensive sense, is connected with its functions. It is, however, as elucidating the nature and treatment of insanity, that its physiology is most interesting to the Physician.

A knowledge of the laws and mode of action of this important organ can only be acquired by scientific observation and induction, and it is encouraging and pleasing to know that the multitude and variety of facts from which inductions may be made are proportionate to the difficulties to be overcome. I am not alluding to mental philosophy, but to the advances already accomplished in comparative physiology, which shows us that the structure and functions of the nervous system in all animals are subject to the same laws of development and action; that a continuous and harmonious whole is formed out of the multitudinous and dejected parts; and that varied and dissimilar as they appear, each may be made to illustrate the other.

Four years have elapsed since I published my opinion, supported by such arguments as I could then state, that the brain, although the organ of consciousness, was subject to the laws of reflex action, and that in this respect it did not differ from the other ganglia of the nervous system. I was led to this opinion by the general principle, that the ganglia within the cranium being a continuation of the spinal cord, must necessarily be regulated as to their reaction on external agencies by laws identical with those governing the functions of the spinal ganglia and their analogues in the lower animals. And I was confirmed in this opinion by finding, after the investigation and collocation of known facts, that observations and arguments like those satisfactorily adduced in proof of the existence of the reflex function of the spinal ganglia, may be brought forward in proof that the cerebral ganglia have similar endowments. In the present paper I purpose to give these proofs connectedly. I must premise, however, that I entered upon my undertaking with considerable hesitation. I felt deeply the magnitude of the subject, and the important results to

which an inquiry of this kind might lead. I felt too that in advocating the doctrine of cerebral reflex function, I was opposing the opinions of a physiologist to whom deference is eminently due. That gentleman, however, is so devoted to all questions of neurology, and so anxious, I really believe, to arrive at truth, that he, I hope, will willingly permit me to differ from him in doctrine, and give a favourable consideration to my opinions, although opposed to his own.

To render my subsequent arguments clearer, I will first give a short summary of the doctrine of reflex action, as at present received. I need scarcely state that the spinal cord in the vertebrata, is a series of ganglia analogous to those of the articulata. If a centipede be divided into several parts, each segment will move on an external stimulus being applied; if it be decapitated, and the respiratory orifices on one side of the body be irritated by an acrid vapour, it will immediately flex the trunk to the opposite side; if the Geophilus Electricus be cut into two pieces, each segment will live and appear vigorous for a fortnight, the caudal portion surviving the cephalic for two or three days. Cold-blooded vertebrates display these involuntary motions very strikingly; thousands of unfortunate frogs have fallen victims to the zeal of physiologists in researches of this kind. If the brain, the organ of consciousness, be removed from a frog by decapitation, it will still attempt to escape when pinched or otherwise injured, and will perform motions, which, if the brain had not been removed, could only have been supposed to be the result of sensation and volition. Indeed it has been inferred from these facts, that the spinal cord, as well as the brain, is endowed with consciousness. It is found, however, that segments of the spinal cord possess a similar function. If that portion of the spinal axis of a frog which gives origin to the brachial nerves be separated both anteriorly and posteriorly from the whole cord, so as to be completely isolated, on stimulating the skin covering the forelegs, retraction of the limb irritated and similar reflex movements take place. There can be no doubt, in fact, that each ganglion constitutes the centre of a nervous arc, of which the motor and sensitive nerves, in connexion with it are the two limbs. An impression is made on the peripheral termination of a sensitive nerve; this impression is transmitted to the ganglion as the central axis; there some change, the nature of which is unknown, takes place, but such, that the muscles in connexion with the motor nerves arising from the ganglion are moved. Dr. Hall has termed the sensitive, or afferent, or impression-bearing nerves, incident-excitor nerve; and the central axis forms collectively the true spinal system, extending from the corpora quadrigemina to the cauda equina.

It is not necessary to reflex action that the irritation be applied exclusively to the peripheral termination of the sensitive or incident-excitor nerve, although phenomena so induced, are the most strikingly and most perfectly reflex. The irritation may be applied in any portion of its course, or to the posterior gray matter of the cord (the sensory track) in which the nerve terminates, or to the anterior motor track, or to the cut end of that portion of the motor nerve still in connexion with the muscle. The track of the irritation is from the surface to the muscular fibre through the ganglia; if the continuity of nervous connexion be broken, the irritation cannot reach the muscle.

Irritations may in their origin, therefore, be either peripheral, or derived from the surface; fibrillar, or seated in the trunk of the nerve; and central, or in the axis itself. These variations as to the point from which the irritation commences are connected with variations in the phenomena, and enabled Dr. Hall to arrange excito-motory actions into classes. In hydrophobia, the irritation is a poison circulating with the blood through the central axis; the disease is therefore termed centric, and the excito-motory phenomena are of centric origin; so also the convulsions (the excito-motory phenomena) of asphyxia are centric, because they depend on the circulation of venous blood, instead of arterial, through the spinal cord. The action of the respiratory muscles in sneezing induced by irritation of the schneiderian membrane is reflex, and so with a multitude of vital acts, all admirably elucidated by the law of reflex action.

Motor phenomena, when purely reflex, are of course altogether independent of sensation, or perception, or volition, or consciousness. The mind has no part whatever in their causation or course. A person may, however, be conscious of the reflex acts, and unconscious of the irritation which causes them, as in vomiting from renal irritation, or when the legs of paraplegic patients are jerked on irritating the soles; sensation may also accompany reflex phenomena and volition modify them. Thus, ipecacuan acting on the incident excitor nerves of the stomach will produce the reflex act of vomiting accompanied with the sensation of nausea; or tartar-emetic, circulating with the blood in the medulla oblongata, will induce like phenomena, differing only in being of centric origin, while the others are peripheral. If the soles of the feet be tickled, the legs jerk involuntarily and spasmodically by reflex action, but the sensation of tickling is also perceived. In these and similar instances, volition is often unable to restrain or even to modify the reflex acts. The resulting movements are strictly involuntary. I would particularly call attention to this fact as of some importance in understanding the nature of those reflex acts which I shall adduce as being of cerebral origin, for if any movements of this kind be shown to be strictly involuntary, they must necessarily be considered as reflex excited acts accompanied by sensation—acts which the patient is not merely mentally unwilling, but physically unable, to restrain or modify.

Another remarkable characteristic of reflex phenomena is the harmony of movement in the muscles excited into action by irritation traversing the incident excitor nerves, especially from the periphery. The object of all the purely reflex physiological acts is the conservation of the individual, or of the race. In the words of Dr. Hall, every physiological act of the reflex excito-motor power is obviously designed. If the mucous membrane or skin be irritated, the muscles combine to remove the irritation. This is seen in the two different acts of sneezing and coughing, and also in vomiting. When the tail of a decapitated tortoise is irritated, the hind feet are protruded towards the part, with the object apparently of removing the irritation; if the caudal portion of a bisected scolopendra be irritated, it is immediately erected, and the usual threatening position of the creature when irritated, is assumed. From numerous experiments; especially those of Van Deen and Stilling, it is certain, not only that these acts are independent of the will, but dependent on a special arrangement of the constituent fibrils of the spinal cord. According to Stilling, the posterior gray matter is the portion of the spinal ganglia, on and through which the incident excitor impressions impinge and are diffused, the anterior gray matter, the part in which the necessary arrangements for the harmonious action of the muscles are perfected. These facts are of importance to be remembered in defining the cerebral reflex phenomena, and indeed in detecting the modus operandi of the encephalon as the organ of mind. I have already shown how certain strictly involuntary movements are partly reflex: here we learn how certain strictly instinctive acts may be purely reflex, even when coincident with consciousness.

Another circumstance connected with the purely reflex acts, is that their continued performance is unaccompanied by fatigue. I do not attach much importance to this circumstance, except as proving that volition is closely connected with muscular sensation, but it will have its use in elucidating reflex cerebral phenomena. This incapacity of fatigue is shown in the respiratory muscles; and in the long migratory flights which the instinct of birds compels them to take, as ingeniously suggested by Dr. Hall.

Having thus sketched the history of reflex action, I have now to prove by a series of facts similar to those already stated, that the brain and cerebral nerves are also subject to its laws. I have to show that the cerebral nerves, but especially the optic, acoustic, and olfactory, are incident excitor nerves; that impressions made on them will pass on to the central axis, and there induce the necessary changes in the posterior gray matter, or what is analogous thereto in the cerebrum, and thence impinge on the motor-nerves, giving rise to combined muscular acts, or irregular and spasmodic movements. I have to show that similar acts may have a centric origin, that is that the exciting cause may be *within* the true spinal cord. I have also to show that these acts are instinctive in their nature.

Every nerve has its peculiar endowments, and its own machinery of action within the central axis. This is true even of those of the surface—the "true spinal" nerves,—which carry the sensations of heat and cold, and of pain from pricking, tearing, or other mechanical stimuli, for all reflex acts are more decided when the tactile apparatus is irritated. It has been comparatively easy to experiment on these, because their ordinary excitants are readily applied to them; but the optic, olfactory, and acoustic nerves are utterly insensible to stimuli of this kind. Pricking or tearing them, or burning them with strong acids would in no degree excite changes like those induced in the retina by light, after

traversing an exquisitely constructed optical instrument; nor excite changes in the acoustic nerve, like those produced by the undulatory strokes of the atmosphere, curiously modified in the auditory apparatus.

(To be Continued.)

THE

British American Journal.

MONTREAL, MAY 15, 1845.

INSANITY IN CANADA.

Our attention has been drawn to the publication of the Report of the Select Committee of the Legislative Council, on the Census Returns of Lower Canada, in pursuance of the Act 4 and 5 Vic. cap. 43, from which we make the following extracts :—

The total population :—	
Actually resident at the taking of the returns, ...	687598
Temporarily absent at the same time, ...	6051
	693649
On the subject of national origin :—	
Natives of England, ...	11886
Ireland, ...	44012
Scotland, ...	13341
Canada, of French origin, ...	518565
British origin, ...	85075
Continental Europe, or otherwise, ...	2353
United States of America, ...	11943
	687175
Leaving a balance unaccounted for, if the residents only have been distinguished, of	523
Or, if the residents and absentees have been taken into account, of	6574

As to the ages and proportions of the sexes :—

Age.	Males.	Females.
1 year and under, ...	16450	16054
1 year and under 2, ...	11853	11938
2 years and under 3, ...	12974	12779
3 years and under 4, ...	12436	12276
4 years and under 5, ...	12517	13194
Total under 5, ...	66230	66241
5 and under 10, ...	46490	46517
10 and under 15, ...	45725	44586
Between 5 and 15, ...	92217	91103
Total under 15, ...	158447	157344

Age.	Males.		Females.	
	Unmar.	Married.	Unmar.	Married.
15 and under 21, ...	39513	2011	38169	6705
21 and under 30, ...	20023	22999	17345	30909
30 and under 40, ...	5982	38502	5891	32221
40 and under 50, ...	3250	25637	5083	22143
50 and under 60, ...	2158	15096	2355	12412
60 and upwards, ...	2857	13420	4603	10118
	73783	112765	74446	114508

	Unmar.	Married.	Total.
Total Males 15 and over, ...	73783	112665	—186548
" Females "	74446	114408	—188954
Total unmarried, ...	148229		
" Married, ...		227273	
Total over 15, ...			375502

	Males.	Females.
Total over 15 years of age, ...	186548	188954
" Under 15 years of age, ...	158447	157344
Total general of sexes, ...	344995	346298
General Total, ...	691293	
Leaving unaccounted for, ...	2356	
		693549

Of those under age there are 2111 males married, and 6705 females married, being a total of 8,816 married minors.

As to afflictions :—

	Males.	Females.	Total.
There are of Deaf and Dumb, ...	447	278	725
" Blind, ...	273	250	523
" Idiots, ...	478	472	950
" Lunatics, ...	156	152	308
Total, ...	1354	1152	2506

Your Committee would here mention, that the proportion of Deaf and Dumb to the whole population is as 1 to abont 957—a greater proportion than prevails throughout all Europe (1 in 1537), and the United States (1 in 2000), or the whole world throughout, (1 in 1556,) and is only exceeded by the solitary cases of Switzerland and Baden, where the proportion is respectively 1 in 503 and 559.

Before proceeding with any remarks upon the above extracts, and to furnish further data for them, we subjoin the following statistical information from the Census of Upper Canada, taken in 1842, under the same Act :—

	Males.	Females.
No. of persons 5 years of age and under,	51546	50399
above 5 " " 14,	63843	58235

	Males.	
	Married.	Single.
No. of persons 14 and under 18, ...	1915	203070
" 18 " 21, ...	1598	12292
" 21 " 30, ...	15405	19968
" 30 " 60, ...	52101	8074
" 60 and upwards,	8520	4282
	Females.	
" 14 and not 45, ...	59367	36882
" 45 and upwards, ...	15400	5858

The total population including the proportion of Immigrants dispersed throughout the Province, estimated at 20,000, 506055

Of these there were—

	Males.	Females.	Total.
Deaf and Dumb, ...	222	132	354
Blind, ...	114	89	203
Idiots, ...	221	178	399
Lunatics, ...	241	478	719

With reference to national origin, there were—

Of natives of England, ...	43009
" Ireland, ...	82728
" Scotland, ...	42033
" Canada, (French,)	14767
" " (British,)	2 1822
" Continental Europe, ...	6957
" United States of America, ...	34739
Total, exclusive of the estimated Immigrant Population, ...	486055

Our chief motive for placing the above on record in

this Journal, is to attract observation to the very large number of Lunatics and Idiots in this Province, and to the urgent necessity which exists for the adoption of suitable measures on the part of Government for their relief; and we may here not unfitly express our surprise, that a fact of this nature, so vitally important as it in reality is, should have been passed over by the Committee who have reported on the Census returns of the last year for Lower Canada, without comment, while some industry appears to have been displayed in furnishing a few statistics of the Deaf and Dumb, two infirmities, the magnitude of which we by no means wish to undervalue, but which yet shrink into comparative insignificance, when contrasted with Insanity, a disease in which man's mental powers, his highest attribute, are prostrated, and himself degraded in the scale of created beings.

The per-centage of insane to the population in the two Canadas, and in other countries, from which we have been enabled to obtain data, shews a large preponderance in our own :—

	Population.	No. of Insane.	Proportion.
England, ...	12700000	16222	1 in 793
Scotland, ...	2093503	3652	" 563
Ireland,(Mr. Farres' Report for 1841,)	8175273	3382	" 2417
France, ...	32000000	32000	" 1000
Norway, ...	1051300	1909	" 551
Belgium, ...	3816000	3763	" 1014
Holland, ...	2302000	2300	" 1046
Italy, ...	16789000	1441	" 4879
Spain, ...	4085000	569	" 7181
United States, ...	12866020	16000	" 800
Westphalia, ...	———	———	" 846
Saxony, ...	———	———	" 968
Malta and Gozo, ...	120000	130	" 920

And in the following States of the American Confederacy, from which accurate returns have been obtained :—

New Hampshire, ...	280000	600	1 in 466
Massachusetts, ...	612000	1000	" 612
Connecticut, ...	298000	700	" 425
New York, ...	———	———	" 887
Pennsylvania, ...	1348233	2000	" 674
Virginia, ...	1200000	800	" *1500
And in our own Provinces—			
Lower Canada, 1844,	693549	1258	1 in 551.31
Upper Canada, 1842,	506055	1118	" 452.64
United Canada, ...	1199604	2376	" 504.88

From the foregoing statistical table, it appears that Canada stands third in the list with reference to the number which her insane bears to her population, being only exceeded in this respect by the States of New Hampshire and Connecticut.

Investigations into the multiplicity of causes which conduce to insanity, are from their very nature surrounded with difficulties, and howsoever well we may be acquainted with their general operation, we experience considerable difficulty in localizing them, as it were, and accounting satisfactorily for the disproportion in which the cases occur in different districts. This is especially the case with the Province of Canada, especially the lower section of it, as influencing which we are compelled to reject numerous active agencies, operating powerfully in other countries, some among which, and by no means the least powerful, are the *particular profession* or *avocation* of the individual, and *religious excitement*: for the Canadians, who constitute five-sixths of the population in this section, are almost exclusively engaged in agricultural pursuits, than which no other employment seems less disposed to develop the disease; and they are little disposed to religious excitement, a fertile source in other countries. Nor can we with greater propriety attribute it to *education*; for as the great majority of the population are uneducated, they cannot be influenced by anything like an over-exertion of their mental faculties, while their well-known peculiar temperament is not that which would conduce to unbridled or uncontrolled licentiousness, so generally met with in the choleric and nervous.

To what extent *civil condition* may operate in the induction of the disease, it is impossible to say with propriety, in the absence of proper statistical information on this head. The simple division into males and females, adopted in the census returns, affords no clue whatever as to the operation of this cause. In the Lower Province there is a small majority of males—in the Upper Province there is a preponderance of females. Taking the whole Province into account, the females slightly preponderate, to a less degree, however, than is generally met with in European countries, but in accordance with what has been observed in the United States. It is a matter of regret that we can arrive at no conclusion, from the mode in which this part of the census has been effected as to the prevalence of the disease among the Anglo or Franco-Canadian proportion of the population, in contradistinction to the European. But although all information on the civil condition of the insane has been negatived, analogy forbids us from not entertaining the idea that it does not operate, and that, too, as a very powerful agent. Of 1823 insane persons admitted into nine of the principal Asylums in the United States, there were of—

Males,	Single,	632
	Married,	341
	Widowers,	59
Females,	Single,	358
	Married,	317
	Widows,	116

* A visit to thirteen Asylums for the Insane in Europe, by Pliny Earle, M.D., Philadelphia, 1841.

furnishing us with relative numbers in strict conformity with the susceptibility to impressions, resulting from the peculiarity of their respective conditions; and although the results, which would appear to have obtained in the admissions into the Lunatic Asylum at Toronto, a report of which was published in the *Montreal Medical Gazette*, by Dr. Rees, its Superintendent, are scarcely such as to bear out the argument, yet the limited number of admissions is not sufficient to invalidate it.

Males,	Married,	64,	or 19 per cent.
	Single,	76,	or 22 per cent.
	Widowers,	7	
Females,	Married,	72,	or 21 per cent.
	Single,	36,	or 10 per cent.
	Widows,	17	
	Deserted by husbands,	5	
	Orphans,	8	

But although we cannot but regard *civil condition* as one of probably the most influential causes, in the same category do we feel constrained to include *climate* and *intemperance*, as operating in a most decided and energetic manner. As far as *climate* is concerned, we cannot but consider that a thermometric range of 120° should prove a most influential agent. A similar consequence has been observed to follow similar fluctuations of temperature in other countries. The mental aberrations induced by this cause, are clearly attributable to cerebral disease, inducing such morbid changes of structure as to incapacitate the brain for the full exercise of its important functions. Nor is *intemperance* to be viewed as a less active agent—the former may be productive of more immediate or prompt results, those of the latter are not less certain, although usually operating more slowly. We wish not, however, this charge of intemperance to be regarded in the light of a mere assertion, but, on the contrary, shall proceed to substantiate it by proof; and for this purpose we have been furnished by a friend with the following statement of liquors imported into the Province at stated periods within the last thirty years, the table exhibiting the comparative quantity in gallons:—

	1810.	1820.	1826.	1832.	1842.
Madeira, ...	20034	24870	16269	21559	24030
Port & other wines	297085	225671	271253	375675	276432
Whiskey, ...	.....	23416	241	983	9066
Brandy and Gin,	42588	94263	293671	234366	221873
Jamaica, Rum	727463	1648434	1148224	1047423	31702
Leew. Isl. Rum					
Cordials, ...	.....	.....	1083		
Total, ...	1087440	2016654	1730741	1680006	563103
Population, ...	290000?	390000?	450000	561000	693649
To each individual of population,	3.74	5.17	3.84	2.99	0.81

A reference to the above tabular statement will clearly indicate a gradual falling off of imported liquors from the year 1820; a year or two subsequent to this period, distilleries began to be erected, and were the means of supplying a demand, which reason forbids us from supposing to have been suddenly and without apparent cause extinguished, with a gradually augmenting population. We have no means of judging of the full amount to which the manufacture of whiskey has been annually carried, but a rough estimate by a well-informed gentleman establishes the produce of the various distilleries in this Province, at 1,288,280 gallons, which appears to us to be below the actual amount; but admitting it to be correct, and adding to it the amount of import by sea for the same year, we have the total consumption of 1,851,383 gallons, or about 2⅔ gallons for every man, woman, and child in the Province, or if we reject from our calculation all under the age of 15 years, the individual consumption will be found to be 4.9th for every adult—nearly five gallons.

That this consumption is unusually high, we have only to turn to the statistics of a like kind of other countries, and let us take those of Great Britain. The total number of proof gallons of Rum, Brandy, Geneva, and all other spirits that paid duty in Great Britain and Ireland for the year ending the 5th day of January, 1843, was as follows:—

	England and Wales	Scotland	Ireland.	Total.
Gallons, ...	11062307	5668425	5320196	22040928
Population,....	15911725	2620610	8179359	26711694
Individual proportion,	0.69 gal.	2.16 gal.	0.64 gal.	0.82 galls.

The great extent, then, to which intemperance operates, may be thus demonstrated, and the ratio of insanity to the population, would appear to bear some proportion to the prevalence of this pernicious and demoralizing habit, although by no means entirely dependant on it.

Having thus exhibited the extent to which insanity prevails in these Provinces, contrasted it with the amount of the same disease in other countries, and alluded to those causes which, in our opinion, have operated with us most strongly in its production, we have now to turn our attention to the means which should be adopted for the relief of those who are suffering under it; and experience points to the foundation of Asylums or Hospitals, with all their appurtenances, as the means most desirable, and best suited to the end. The maintenance and support of these Hospitals should be

a Provincial charge, the expenses of which would be, to a certain extent, defrayed by the admission of patients of a wealthier class, to whom facilities should be afforded, in correspondence with their means. They ought to be established on no mean foundation; for as the evil which it is sought to mitigate by their institution is wide spread, and of great importance, they ought to be adequate to the emergency. There ought to be, at least, four such institutions, two for the Upper Province, and at least two, if not three, for the Lower. They should be placed under the control and management of medical gentlemen, fully competent to the discharge of such highly responsible trusts. And lastly, they should be removed from the precincts of populous cities, so that the strictest rules of Hygiene might be rigidly observed in their location, as well as in their architectural construction.

We are aware that this subject is at present occupying the serious attention of the Government, and that some steps will shortly be taken in the matter; we sincerely hope that in the application of the remedy, to employ a medical simile, it will be adequate to the severity of the disease.

THE MEDICAL BILL.

An Act to regulate the study and practice of Medicine, Surgery, and Midwifery within this Province.

PREAMBLE.

Whereas it is expedient to provide more effectual regulations than those at present existing, with respect to persons practising Physic, Surgery and Midwifery within this Province, and to regulate Druggists and others vending or distributing Medicines by retail:—

Laws relating to the practice of Physic, &c., repealed.

Be it therefore enacted, &c., That from and after the passing of this Act, a certain Act or Ordinance of the Legislative Council of the late Province of Quebec, passed in the twenty eighth year of the Reign of His late Majesty King George the Third, and intituled, "*An Act or Ordinance to prevent persons practising "Physic and Surgery within the Province of Quebec, or Mid-"wifery in the towns of Quebec and Montreal, without license,*" as also a certain Act of the Legislature of the late Province of Upper Canada, passed in the fifty-ninth year of the same Reign, intituled, "*An Act to repeal an Act passed in the fifty-fifth year "of His Majesty's Reign, intituled, 'An Act to license Prac-"titioners in Physic and Surgery throughout this Province,' "and to Make further provision for licensing such Practition-"ers,*" as also a certain Act of the said last mentioned Legislature passed in the same year and intituled, "*An Act to repeal "part of and to amend an Act passed in the fifty-ninth year of "His Majesty's Reign, intituled, 'An Act to repeal an Act "passed in the fifty-fifth year of His Majesty's Reign, intitul-"ed, 'An Act to license Practitioners in Physic and Surgery "throughout this Province,' and to make further provision for "licensing such Practitioners,*" and also a certain Act of the said last mentioned Legislature, passed in the eighth year of the Reign of His late Majesty King George the Fourth, intituled, "*An Act to amend the Laws regulating the Practice of "Physic, Surgery and Midwifery in this Province,*" and all Acts thereby continued amended or repealed, and all other acts or parts of acts relating in any manner to the practice of Physic, Surgery or Midwifery, either in Lower Canada or in Upper Canada, or in any manner relating to the mode of obtaining licenses to Practice Physic, Surgery, or Midwifery, shall be and are hereby repealed.

Qualification of students of medicine.

II. And be it enacted, That from and after the passing of the Act, no person shall be allowed to commence the study of Medicine, until he has first satisfied some Medical Board to be appointed and nominated as hereinafter mentioned, either by certificate or examination, that he is at least years of age and has received a liberal education, including a competent knowledge of the classics.

No person to practice Medicine, &c. without a license. On what certificate such license, shall be granted. Qualification of the applicant for a license. Proviso, as to applicants who commenced their studies before the passing of this Act.

III. And be it enacted, That from and after the passing of this Act, no person shall receive a license to practice Medicine, Surgery or Midwifery for gain or profit within this Province, who shall not have obtained a Certificate from some Medical Board to be appointed and nominated as hereinafter mentioned, which shall be founded on the production of a Diploma or Degree from some University, College, or Incorporated School of Medicine within the dominions of Her Majesty, or on a commission or warrant as Physician or Surgeon in Her Majesty's Naval or Military Service, —or in default of such diploma, degree or commission, a certificate founded on a satisfactory examination by such Medical Board as to his qualification, competency and ability to practice Medicine, Surgery, and Midwifery: Provided always, that previous to examination as aforesaid, he shall give satisfactory proof of his having studied Medicine, Surgery and Midwifery, for at least four years under some competent Practitioner or Practitioners, and of his having, during at least two of those years attended courses of lectures at some University College or incorporated School of Medicine on the following branches of Medical Study, that is to say: Anatomy and Physiology, Chemistry and Pharmacy, *Materia Medica*, Theory and Practice of Physic, Principles and Practice of Surgery, Midwifery and Diseases of Women and Children, Clinical Medicine and Surgery, and Practical Anatomy—each of which courses of lectures shall in each of the said two years have continued at least six months, and have consisted of at least lectures of not less than hour each, and also of his having attended regularly for at least one year, the practice of some Public Hospital where there are on the average, at least fifty patients, and at least two medical attendants: Provided always, that if any Student of Medicine, Surgery or Midwifery, shall have commenced his studies within the four years next before the passing of this Act and more than three years and a half before the passing thereof, he shall be entitled to apply for a license after the termination of four years of such study, and after having undergone a satisfactory examination by the said Medical Board, without being required to exhibit testimonials of having attended such courses of lectures as aforesaid: and if he shall have commenced his studies more than two years and a half before the passing of this Act, then his having attended one such course of lectures shall be sufficient.

Fee to be paid for certificate. Application.

IV. And be it enacted, That every person so receiving and obtaining such certificate from any Medical Board, shall forthwith pay to the Secretary of such Board the sum of currency, which sum shall be expended in defraying the incidental expenses of such Medical Board, as well in keeping the Register thereof, as in the execution of the several duties hereby assigned to them.

On the production of the certificate the Governor may grant a license.

V. And be it enacted, That every person so receiving and obtaining such certificate from such Medical Board, shall transmit the same to the Governor of this province, and it shall and may be lawful, on the application of such person, for the Governor to grant to such applicant a License under his hand and seal, to practice Medicine, Surgery and Midwifery, or any of them, according to such certificate, within this Province.

Duty on such license.

VI. And be it enacted, That before the issuing of such License to practise as aforesaid, the applicant shall pay into the hands of the Provincial Secretary, the sum of currency, to the public uses of the Province.

In cases of doubt as to the identity of the applicant, the Medical Board may examine him on oath. False swearing to be perjury.

VII. And be it enacted, That if any doubt or suspicion should

arise regarding the identity of any person presenting a diploma, degree, commission or warrant as aforesaid, before any Medical Board. with the person named in such diploma, degree, commission or warrant, it shall be lawful for the said Medical Board, through the Chairman presiding for the time being, and he is hereby required and authorized to administer an oath or solemn affirmation, (if such person be one of those authorized to affirm instead of taking an oath in civil cases,) to the person presenting such diploma, degree, commission or warrant, as to such identity; and if any person so presenting such diploma, degree, commission or warrant, and applying for a certificate or license as aforesaid, shall be guilty of false swearing or false affirmation in such oath or affirmation, such person shall be deemed guilty of wilful and corrupt perjury, and on conviction thereof, shall be liable to the pains and penalties to which any person convicted of that offence is liable by the laws of the Province,

Qualification of persons to be licensed to sell Drugs and Medicines. Examination of such persons.

VIII. And be it enacted, That no person shall, from and after the passing of this Act, receive a License to sell drugs or medicines, as a Druggist or Apothecary, within any city or town corporate in this Province, who shall not have served a regular and continued apprenticeship of at least three years with some Medical Practitioner or licensed Druggist or Apothecary, and have attended at least one course of lectures on Chemistry, and one course of lectures on the *Materia Medica*, (each of the duration of at least six months, and each consisting of at least lectures,) or, in default of attendance on such course of lectures who shall not have served a regular apprenticeship with some Medical Practitioner or licensed Druggist or Apothecary, during the period of at least five years, or who shall not, in either case, have undergone a satisfactory examination touching his knowledge of the qualities, characters and effects of drugs and medicines, before one of the Medical Boards hereinafter mentioned, under like formalities and on like conditions as are by this Act required for persons applying for a License to practice Physic, Surgery or Midwifery.

The practice of medicine or the selling of drugs without a license to be a misdemeanor. Limitations of prosecutions. Proviso as to surgeons, &c. in the army or navy, on full pay.

IX. And be it enacted That the practice of Medicine, Surgery, or Midwifery within this Province, for hire, gain or lucre, or hope of hire, gain or lucre, or the selling of any drugs or medicines within any city or town corporate, as a Druggist or Apothecary, by any person not having a License, or not specially excepted, shall be deemed and considered to be a misdemeanor, and may be prosecuted and punished as any other misdemeanor may be; and every act of so practising on a separate day shall be a separate offence; and upon the trial of any person charged with such misdemeanor, the burthen of proof as to the License or right of the person tried, to practise Medicine, Surgery or Midwifery in the Province, shall be upon the defendant; but no prosecution shall be commenced for such misdemeanor after three months from the commission of the supposed offence, and no person convicted of such misdemeanor shall be sentenced to a longer period of imprisonment than three months, nor to a greater fine than pounds, nor to a less fine than pounds, currency; Provided, always, that nothing herein contained shall extend or be construed to extend to prevent any Physician or Surgeon, or other Medical Officer, of her Majesty's Navy or Army, on full pay, from practising as such, while stationed within the said Province, and actually employed in the said Navy or Army.

Medical Boards to be appointed and of whom to consist. Quorum of such Boards. Meetings when and where to be held. Notice. President. Power to make By-Laws. Approval of By-Laws. The Board at its meetings shall examine into the qualification of applicants for licenses, and grant them certificates if found qualified. How the certificate shall be attested

X. And be it enacted, That for the purpose of carrying this Act into execution, it shall be lawful for the Governor of this Province to constitute, nominate and appoint under his Hand and Seal at Arms, one or more Medical Boards within this Province, consisting respectively of at least eleven persons legally authorized to practise as Physicians, Surgeons or Man-Midwives, and actually practising as such, (not being Physicians or Surgeons on full pay in Her Majesty's Army or Navy,) and from time to time to remove any or all of the Members of any such Board, and to appoint another or others in his or their place or stead; and seven Members of any such Board shall be a *quorum*, and a majority of such quorum may exercise any of the powers of the Board; and each such Board is hereby required to hold a stated meeting once in every three months, at such place as shall be appointed by the Governor of this Province, of which meeting at least two weeks notice shall be given in at least two newspapers published in the city or town at which such Board shall hold its meeting, or if there be no such newspaper, then in two newspapers published nearest to the place at which such meeting shall be so held; and at any such meeting, the Member present whose License shall be of the oldest date shall preside; and each such Board shall have power and authority to frame By-Laws and Regulations for its government, and from time to time to alter and amend the same by other By-Laws, provided such By-Laws or Regulations be not repugnant nor contrary to the laws of this Province, nor to the true intent and meaning of this Act, and be approved of by the Governor of this Province before they shall have any force or effect.

The Board at its meetings shall examine into the qualification of applicants for licenses, and grant them certificates found qualified. How the certificate shall be attested.

XI. And be it enacted, That each such Medical Board, at any of its stated meetings as aforesaid, or at any extraordinary meetings that may be called together in conformity with its By-Laws and Regulations, shall hear and examine the testimonials and qualifications of each and every person so appearing before such Board, and who shall be desirous of obtaining a License to practise Physic, Surgery or Midwifery, or either of them, and who shall have notified the Secretary of the said Board of his or their intention thereof, and deposited his testimonials at least r day previous to such meeting; and such Board upon being satisfied of the correctness of the diploma, degree or commission exhibited by the applicant, and of the identity of the person presenting the same, or in default of such document, having examined into and become satisfied of the qualification, competency and ability of such applicant to practise Medicine, Surgery or Midwifery, and of his having attained the age of twenty-one years, and of his having studied four years as aforesaid, and of his having attended in two separate years complete courses of lectures on the different branches before mentioned of the Medical Profession, in some University, College or Incorporated School of Medicine, where the courses of lectures are continued during at least months and of having attended for at least one year the practice of some public Hospital where there are at the least on an average, fifty patients, and at least two Medical attendants, or of having examined into the qualification, competency or ability of any Applicant to sell drugs or medicines as a Druggist or Apothecary within any city or town corporate within this Province, and of his having served a regular and continued apprenticeship with some regular Medical Practitioner, or licensed Druggist or Apothecary during a period of four years at the least, and of his having attended the two complete courses of lectures hereinafter mentioned, of the duration of six months each, or of having served a regular and continued apprenticeship of five years as aforesaid, shall be bound to grant a certificate of the same, under the hands and seals of the Members of the said Board present at such meeting, or a majority thereof, which shall entitle the person to whom it shall be so given, to apply for and obtain a License to practise Medicine, Surgery and Midwifery, or any of them as the case may be, or to sell drugs and medicines as a Druggist and Apothecary as aforesaid, from the Governor of this Province.

Females may practise as midwives. Proviso, after one year they shall not practise without examination and license.

XII. And be it enacted, That nothing in this Act contained shall extend or be construed to extend to prevent females from practising as Midwives in this Province: Provided always, that after the expiration of one year from the passing of this Act, no female shall practise for gain or hope of gain as a Midwife unless she shall have presented herself before some Medical Board to be examined as to her qualification and abilty to act as such Midwife, and shall have obtained a certificate of qualification from such Board, and a License as aforesaid founded on such certificate.

Application of penalties. Accounting clause.

XIII. And be it enacted, That all penalties imposed by this Act shall be payable to Her Majesty, and reserved to the public uses of the Province, and shall make part of the Consolidated Revenue Fund thereof, and the application of the same shall be accounted for to Her Majesty, Her Heirs and Successors, through the Lords Commissioners of Her Majesty's Treasury for the time being, in such manner and form as Her Majesty, Her Heirs and Successors shall be pleased to direct.

MONTHLY METEOROLOGICAL REGISTER AT MONTREAL.

Date. 1845.	Thermometer. 7 A.M.	3 P.M.	10 P.M.	Mean.	Barometer. 7 A.M.	3 P.M.	10 P.M.	Mean.	Winds. 7 A.M.	Noon.	6 P.M.	Weather. 7 A.M.	3 P.M.	10 P.M.
April 1, ...	+52	+56	+37	54 0	29.66	29.69	29.82	29,74	N.	N.	N.W.	Fair	Rain	Cloudy
" 2, ...	" 31	" 51	" 34	41.0	29.90	29.79	29.73	29.81	W.	S.	W.	Fair	Rain	Fair
" 3, ...	" 23	" 33	" 27	28.0	29.98	29.98	30.00	29.99	WNW	WNW	W.	Fair	Fair	Fair
" 4, ...	" 26	" 40	" 30	33.0	29.45	29.56	29.69	29.57	N.	W.	ESE	Snow	Fair	Fair
" 5, ...	" 16	" 39	" 21	27 5	29.90	29.92	29.94	29.92	S.W.	N.W.	NNW	Fair	Fair	Fair
" 6, ...	" 15	" 36	" 26	25.5	30.00	29.92	29.93	29.98	N.E.	WNW	W.	Fair	Fair	Fair
" 7, ...	" 30	" 41	" 32	35,5	29.90	29.90	29.88	29.88	S.	N.	N.	Snow	Fair	Snow
" 8, ...	" 27	" 35	" 30	31.5	29.82	29.83	29.84	29.83	N.	NNW.	NNE	Snow	Snow	Fair
" 9, ...	" 22	" 37	" 31	29.5	30.02	29.86	29.84	29.91	W.	W.	W.	Fair	Fair	Fair
" 10, ...	" 31	" 42	" 38	36.5	29.54	29.51	29.52	29.52	SSW.	S.	W.	Snow	Rain	Cloudy
" 11, ...	" 33	" 54	" 32	43.5	29.72	29.86	29.97	29.83	N.W.	N.	N.W.	Fair	Fair	Fair
" 12, ...	" 27	" 45	" 36	36.0	30.11	30.08	30.33	30.17	N.W.	W.	S.W.	Fair	Fair	Cloudy
" 13, ...	" 36	" 43	" 37	39.5	29.72	29.59	29.67	29.66	WSW.	S.W.	N.W.	Cloudy	Fair	Fair
" 14, ...	" 37	" 50	" 41	43,5	29.78	29.81	29.84	29.81	W.	WNW	WNW	Fair	Fair	Fair
" 15, ..	" 38	" 51	" 35	44.5	29.94	29.88	30.05	29.96	N.W.	WNW	N.	Fair	Fair	Fair
" 16, ...	" 36	" 44	" 35	40.0	30.10	30.08	30.03	30.07	NNE	N.E.	S.E.	Fair	Fair	Fair
" 17, ...	" 35	" 41	" 35	38,0	30.12	30.14	30 20	30.15	N.	S.	N.E.	Snow	Rain	Rain
" 18, ...	" 41	" 47	" 39	44.0	30.25	30.20	30.12	30.19	NNE	S.	S.	Fair	Fair	Rain
" 19, ...	" 38	" 48	" 42	43.0	30.07	30.02	29.93	30.01	N.E.	N.	NNE.	Fair	Fair	Fair
" 20, ...	" 40	" 42	" 40	41.0	29.94	29.96	30.04	29.98	S.E.	E.	E.	Rain	Rain	Fair
" 21, ...	" 41	" 51	" 42	46.0	30.12	30.04	30.10	30.09	NNE.	NNE.	N.E.	Fair	Fair	Fair
" 22, ...	" 40	" 64	" 48	52,0	30.18	30.12	30.00	30.10	S.	E.	N.E.	Fair	Fair	Fair
" 23, ...	" 48	" 71	" 60	59.5	30.03	29.97	29.86	29.95	S.W.	S.	S.	Fair	Fair	Fair
" 24, ...	" 50	" 70	" 45	60.0	29.90	29.99	30.13	30.01	S.	N.W.	N.	Rain	Fair	Fair
" 25, ...	" 36	" 53	" 43	44.5	30.20	30.08	29.90	30.06	ENE.	N.	N.	Fair	Fair	Rain
" 26, ...	" 41	" 54	" 37	47.5	29.90	29.88	29.84	29.87	WNW	S.	NNE	Rain	Fair	Fair
" 27, ...	" 44	" 65	" 41	54.5	29.82	29.80	29.86	29.83	SSW.	SSW.	S.	Fair	Fair	Fair
" 28, ...	" 45	" 67	" 56	56.5	30.05	30.00	30.03	30.03	N.E.	S.W.	S.W.	Foggy	Fair	Fair
" 29, ...	" 42	" 79	" 44	60.5	30.14	30 27	30.34	30.25	N.W.	NNE.	N.E.	Fair	Fair	Fair
" 30, ...	" 42	" 58	" 52	50.0	30.30	30.09	29.96	30.12	S.W.	WSW.	S.E.	Fair	Rain	Fair

Thermometer, { Maximum Temperature, 79° on the 29th. / Minimum " 15° " 6th. / Mean of the Month, 42° 2'

Barometer, { Maximum, 30.34 Inches on the 29th. / Minimum, 29.45 " " 4th. / Mean of Month, 29.953 Inches.

OBSERVATIONS METEOROLOGIQUES POUR LA HAUTE VILLE DE QUEBEC,—Mars. 1845.

Jours.	Thermomètre. 6h.A.M.	MIDI.	6h.P.M.	Baromètre à 60° F 6h.A.M.	MIDI.	6h.P.M.	Vents. MIDI.	Etat du Ciel. 6h.A.M.	MIDI.	6h.P.M.
1	4	23	20	29,794	29,775	29,768	N E	beau	beau	couvert
2	13,5	26	25	29,997	29,979	29,786	S O	couvert	couvert	neige
3	28	36	28	29,273	29,319	29,657	S O	neige	couvert	couvert
4	14	27,5	25	30,079	30,114	30,048	S O	beau	beau	nuages
5	25,5	30	29,5	29,893	29,585	29,322	N E	couvert	neige	neige
6	25	32,5	20	29,705	29,999	30,162	S O	nuages	couvert	beau
7	11,5	26	23,5	29,253	30,284	30,22	N E	beau	couvert	couvert
8	26	28	29,5	29,985	29,814	29,689	N E	pluie	pluie	couvert
9		33,5	28		29,809	29,903	N O		nuages	beau
10	8	24	19,5	30,066	30,121	30,030	N E	beau	quelq. nuages	beau
11	14,5	18	16	30,015	30,095	30,147	N E	beau	beau	beau
12	5	26	29	30,256	30,203	29·075	N E	beau	couvert	couvert
13	29	42	36,5	30,063	30,099	30,123	N E	couvert	beau	couvert
14	30	33	33,5	30,167	30·051	29,898	N E	nuages	couvert	beau
15	30,5	26,5	20	29,692	29,651	29,669	N E	neige	couvert	couvert
16	6	22,5	16	29,500	29,412	29.495	S O	beau	beau	couvert
17	11	19	20,5	29,500	29,267	29,273	N E	couvert	couvert	couvert
18		33	26		29,390	29,396	S O		beau	couvert
19	16	28,5	20	29,311	29,376	29,362	S O	couvert	couvert	couvert
20	20	35	34	29,406	29,447	29,523	S O	couvert	nuages	couvert
21	10	22,5	20,5	29,365	29,803	29,855	S O	beau	beau	nuages
22	15	33	31,5	29,810	29,853	29,823	S O	beau	nuages	beau
23	18	41	36,5	29,882	29,883	29,699	N O	beau	couvert	couvert
24	28,5	34	29	29,947	29,578	29,714	N E	neige	couvert	couvert
25	19,75	32	27	29,560	30,041	30,096	N E	beau	beau	beau
26	11	34	37	30,245	30,175	30,950	N E	beau	beau	couvert
27	35	41	33	29,801	30,036	30,124	S O	couvert	nuages	couvert
28	23	30	28,5	30,107	30,138	30,225	N E	neige	couvert	couvert
29	28	34,5	36	30,206	30,072	29,894	N E	quelq. nuages	couvert	beau
30	36	39,5	36,5	30,153	30,066	30,293	N E	couvert	couvert	beau
31	35	45,5	44	30,236	30,108	29,959	N E	couvert	nuages	nuages