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CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Observations on Insanity. By JOSEPH WORKMAN, M.D., Medical Superintendent Provincial Lunatic Asylum, Toronto, C. W.

The Provincial Lunatic Asylum at Toronto was first opened in January, 1841, in the old gaol in the centre of the town, directly in front of the present post-office. This building was soon densely filled, and it became necessary to procure further accommodation for the numerous applicants for admission,—a fact realized in all countries on the institution of asylums for the insane.

The eastern wing of the parliament buildings was appropriated to this purpose, and subsequently a still further addition was made by the occupation of a vacant house near the old garrison. The three buildings were used until the present asylum, nearly three miles west of the centre of the town, was ready for occupation. On the 26th January, 1850, the patients of the three temporary institutions, 211 in number, were transferred to the new building.

The total admissions up to this time had been 889, of which 536 were men, and 353 women.

The disparity in the numbers of the two sexes here apparent, deserves attention. It arose, not from a preponderance of insanity in males, but from the fact that up to this time, women becoming insane were not sent to the asylum so generally as men. They were less dangerous and more easily managed at home. The difference between men and women admitted was 183, as will be seen by the figures. At the present time, fifteen years later, the difference is 178; consequently the incidence of insanity in the two sexes, so far as we can judge from the admissions into the asylum, has been almost equal. In this period the admissions of men have been 1110, and of women 1115, and the total of men in the whole twenty-four years has been 1646, and of women 1468, making an aggregate of 3114.

The disposal of the above 3114 patients has been as follows:

	Men.	Women.	Total.
Discharged	911	745	1656
Died	329	285	614
Eloped	29	9	38
Total	1269	1039	2308
1st Oct., 1861. Written off to Malden	108	91	199
1st Jan., 1864. " to Orillia	49	76	125
11th May, " Further transfers to Orillia	4	6	10
1st Jan., 1865. Remain in chief asylum	211	185	396
" " in U. Branch	5	71	76
Total remain	377	429	806
Total admitted	1646	1468	3114

It will be observed that of the total male patients admitted, say 1646, there remain 377, or nearly 23 per cent.; but of the female patients, 1468, there remain 429, or 29$\frac{1}{5}$ per cent. This difference is not to be accounted for by a lower aggregate of mortality in the female patients. The total deaths of males have been equal to nearly 20 per cent., and of females 19$\frac{4}{10}$ per cent.; and this slight difference in favor of females may soon disappear. It was greater at the commencement of 1864, and has been brought down by a preponderance of female deaths in this year;—say 25 females against 10 male deaths.

I apprehend that the true solution of this problem is to be found in the fact, that a much larger proportion of females have been admitted in the chronic stage of insanity than of males. This fact still obtains, and is not, I believe, peculiar to our asylum. The disparity in male and female admissions in the early years of the institution, has been pointed out; and the near equality of them in subsequent years has been shown. But though there is good reason to believe that the incidence of insanity in the sexes is equal, the early preponderance in male admissions has not been obliterated.

In the last ten years the admissions of males have amounted to 728, and of females to 761. The discharges of males in this period (not including elopements) have been 358, or equal to 49$\frac{1}{5}$ per cent., on the admissions; and the discharges of females have been 356, or 46$\frac{4}{10}$ on admissions; thus still showing that, although women have been more numerously admitted of late years, their rate of recovery is still lower than that of men. Unless we had *reliable* information of the previous duration of the insanity in both, it would be impossible to give an absolute

decision as to the relation between the chronicity of female cases and their rate of curability. Nothing, however, can be less reliable than the statements on this head, furnished in a large proportion of the certificates of insanity sent in with the patients. Of the general fact, however, of longer duration of insanity, before admission, in females than in males, I have no doubt. It is a most serious consideration, alike to the friends of the insane and to the public which has to support for life, all those who do not recover; and it is as obviously the duty of the latter to *provide* early treatment, as it is the interest of both that it be early *availed* of. Indeed it cannot be questioned that the best interests of humanity would be promoted, not merely by providing the means of early treatment, but by enforcing on the friends of the insane recourse to it. No fact in connection with insanity has been more certainly established than the relation between recovery and early submission to asylum treatment. About 75 per cent. of all recoveries are found to take place in patients whose insanity has not, before admission, exceeded three months; whilst not more than 10 per cent. of all recoveries are furnished by those whose insanity had exceeded one year before admission. It is, however, by no means to be asserted that all who are brought under treatment within three months from the invasion of insanity recover, as, from a perusal of some loosely written asylum reports, we might be led to believe. Every intelligent asylum physician knows that this is not the fact, and every discreet and candid one will admonish the friends of the insane against depending on it. We may admit, within the first week from manifestation of insanity, patients as certainly incurable as others whose malady has been of years' duration. This holds true, especially in cases of general paralysis, and in a very large proportion, if not all, of those affected with tubercular or scrofulous disease. It is in the *post-mortem* theatre that we most clearly learn the long underlying causes of incurability of insanity.

The investigation of the causes of insanity seems to be a subject of general interest. Like many other enquiries, however, into obscure matters, it is always more sanguinely proceeded with, by those who have some cherished foregone conclusions to ratify, than by those who desire merely to arrive at truth; and it is invariably found that those who know least of the subject, believe most implicitly in the correctness of their own views, and are infinitely more dogmatical than those who have had a large field of observation, and have for years assiduously worked in it. The candid confession of all asylum physicians of long and large experience, would most probably be that they know much less on the question of the causes of insanity than they once believed they did. In a large

proportion of cases of insanity, sent to asylums, no exciting cause is assigned; and in a very large proportion of those in which the exciting cause is assigned, the only true relation existing between it and the malady, is that of mere coincidence, or indeed it may be that the assigned cause has been rather an effect of the insanity or one of its capacious epiphenomena. Statistic tabulation of such fallacies must be not merely useless but most deceptive. In the last annual report of one of the best insane hospitals in America, and one of the best in the world, in a total of 4323 cases admitted, no cause was ascertained in 1766, or nearly 41 per cent. of the whole; whilst of the remainder, 727 are ascribed to "ill-health of various kinds;" 286 to "intemperance;" 227 to "grief, loss of friends, &c.;" 146 to "religious excitement;" 278 to "mental anxiety;" 149 to "loss of property;" 94 to domestic difficulties," and 35 to "intense application to business." Now it is very questionable whether in all these cases, amounting to 1942, or 45 per cent. of the whole, not excepting "ill-health of various kinds," nor even "intemperance," the assigned *cause* was not in reality, an effect of the so-called mental *disease*. Of the 146 ascribed to "religious excitement," probably in 140 the religious excitement germinated in latent insanity. The 94 ascribed to domestic difficulties may be regarded in a similar light. Grief, loss of friends, &c., are no doubt severe mental trials; but sound minds survive them. I have never yet met with a case which I could fairly assign to any of this class of causes, as a sole efficient agency in its production. The designation of "mental anxiety," as the cause of insanity has the aspect of a psychological solecism. To my apprehension it is about as philosophic as the ascription of loss of sight to blindness, or baldness of the head to loss of hair. Scrutinize the 278 cases ascribed to this cause, and see in how many of them the "mental anxiety" was not the veritable insanity. So to with regard to the 35 cases assigned to "intense application to business,"—who that has ever watched one of these, not indeed from the time at which the mental disease burst into full blow, in the form of furious mania, or profound melancholy, but for months and years antecedent, will affirm that the "intense application to business" was other than incubative insanity?

Now if, in the tabulation of causes of insanity, in the very best institutions of America, or Europe, by the most competent and conscientious chief officers, we find that in 40 per cent. of all the cases, no cause has been assigned or ascertained, and that in 45 per cent. more, very little reliance is to be placed in the assigned causes, of what real value to mental therapeutics can the whole work be? But the above 45 per cent. might have

been raised to over 50 per cent. by including a few others, well deserving of the association, as dread of poverty, disappointed expectations, mortified pride, uncontrolled passion, tight lacing, &c., &c.

Had the table been restricted to the following heads, it might have deserved respect, viz.:

Puerperal state,	169
Injuries of the head,	54
Masturbation,	60
Exposure to cold,	4
Exposure to the sun,	38
Total,	325

Here are 325 cases in 4323, perhaps fairly accounted for, whilst 4000, less two, are worse than unaccounted for. But do we not all know, and has it not always been well known, that the "puerperal state," in a certain small proportion of women, leads to insanity, and can our tabulation of the cases, in any way tend to avert the evil, or improve our treatment of it? The table assigns sixty cases, all of males, to masturbation.—Had the number been 600, it would probably have been nearer the true mark; if not in relation to the course of insanity, at least in relation to concomitance with it. Here we confront an evil of horrific magnitude. It is attaining fatal proportions over the entire length and breadth of this continent. The medical profession, alone, have an approximate conception of its extent. Fully one-third, if not a half of all the male lunatics, and it is to be feared an increasing small per centage of those of the other sex, entering our asylums, are addicted to the vice. It seems legitimate enough to include it in our table of causes; and yet may we not hesitate, under strict medical logic, to admit it as the *cause* of insanity in every case in which it obtains? We do not admit even intemperance, as the cause in all cases in which it has been present. When we reflect on the very large number of persons, who are undoubtedly embraced under these two heads, and consider how small is the proportion of them becoming insane, does it not comport with sound medical philosophy, that we stop not short in our enquiry, satisfied that we have possessed ourselves of the whole truth, the moment we learn that either of the two destructive habits has been indulged in? Predisposition to insanity is undoubtedly frequently linked with predisposition to the abuse of stimulants; and I believe that even in countries most addicted to intemperance, the opinion of experienced psychiatrists is less distinct than it was some years ago, on the question of the causal relation of intemperance to insanity. If intemperance were *per se*, an

efficient cause of insanity, surely the number of the insane would be enormous. In like manner, if masturbation be regarded *per se*, as an efficient cause, I dread to think how multitudinous will be the number of lunatics in America; and considering how very hopeless are the large majority of those cases in asylums, in which it is present, I tremble in contemplating the future augmentation of incurables. I would therefore gladly be persuaded, that the vice, as we encounter it in large insane institutions, has been to some extent resultive, rather than causal; and that persistence in it is a consequence of the dethronement of reason, and consequent loss of moral self-control, rather than the converse.

The consideration of insanity in this country, in relation to the important facts,—civil state, age, nationality and religion, may not be uninteresting to a majority of medical readers. In these aspects of the disease, as in others, an extended survey of facts may serve to correct erroneous impressions, or to lead us to greater cautiousness of generalization; and as the figures herein presented are derived from a rather extended period of registration, they may be accepted with some degree of reliability.

The civil state of 3114 patients admitted in twenty-four years has been as follows:—

Married (and widowed) men,	731
Do. do women,	950
Single men,	915
Do. women,	518
	3114

It must be obvious to every intelligent reader, that the above figures in themselves, are not the exponents of the relative liability to insanity of the married and single, in either men or women. We must take them in comparison with the actual numbers of the several heads, in our population, within the periods of age subject, or *most* subject to insanity.

The period of age furnishing the largest proportion of insanity, in Upper Canada, is that from 30 to 40 years; the period from 20 to 30, though in absolute numbers, not falling much short of that from 30 to 40; yet, as it is represented by larger figures in the causes, its proportion is much less. The actual proportional excess of the latter over the former is between 80 and 90 per cent.

The census of 1861 shews that within the ages 30 to 40, the several numbers of married and single men and women were as follows:—

Married men.....	113.653.	Do. women.....	133.544.
Single men.....	144.011.	Do. women.....	58.254.

The large excess of insane single men (915) over insane single women (518), when taken in comparison with the respective numbers in the census, not merely disappears, but we find the relative excess is on the side of single women. Their equal proportionate number would be 368 instead of 518.

The married women are in proportional excess of married men; their figure, in equal proportion, would be 860, instead of 950.

The proportional number of single men, as compared with married men, would be 931, instead of 915.

It is, of course, very difficult, if not impossible, to institute any process of calculation, by means of which the exact fair proportions may be evolved. I have assumed as my numerical standard of comparison, that decennial period which furnishes the largest actual, as well as the largest proportional, number of insane. The results thus obtained must be regarded as only approximative. It is probable that a more accurate or extended calculation, would go to shew that the civil state of patients has less to do with insanity than has been supposed. At all events, for the sake of that excellent division of our population, single women, and especially those between 30 and 40, we would all be pleased to find that their eschewal of the matrimonial bond has not so heavy a penalty attached to it as their figures here would indicate.

As regards the national relations of insanity in Upper Canada, I have thought it best not to take in the whole period of 24 years; for at the commencement of this period our population embraced a much larger proportion of persons of foreign, that is non-Canadian, birth, than of later years. I have therefore taken the last of six years, as more fairly representing all nativities.

Nativities of 995 patients admitted from 1st January, 1859, to 1st January, 1865.

Nativity.	Numbers sent to Asylum.	Number in Prov. Population.	Per cent. of Asylum pop., of 995.	Per cent. in Pro. Pop
Ireland.....	353	191.231	35.49	13.70
Canada.....	266	902.879	26.73	64.70
Scotland.....	149	98.792	14.97	7.07
England	143	114.290	14.37	8.18
All others.....	84	88.899	8.44	6.35
Totals.....	995	1.396.091	100.00	100.00

It will be observed from the above figures that in proportion to their numbers in the population, those of Irish birth have furnished the lar-

gest number of insane:—being equal to about $2\frac{6}{10}$ times their true proportional number, as derived from the census. The Scotch exceed the English a little. The English and Scotch together come near to twice their fair proportional number as derived from the census.

The low figures of the native Canadians, in asylum population, and their high figures in the Provincial census, stand in strong contrast with those of the Irish, Scotch, and English. The latter three making, 404,-313, or about 29 per cent. of our population, have furnished 645 lunatics out of 995, or nearly 65 per cent.; whilst the native Canadians, who are equal to about 65 per cent. of our population, have furnished only about 27 per cent. of the asylum population.

We are, however, to bear in mind that the portion of our Provincial population, designated in the census of native Canadians, comprises a large number under the age at which insanity begins to manifest itself. If we strike off 40 per cent. as the equivalent for those falling under this age, and allow all the Irish, Scotch, and English, to rank above it, (which however, is to deal perhaps too liberally with them,) we shall not be far from the just standard of comparison. This would reduce the native Canadian proportion in the Provincial census to 39 per cent.; but this 39 per cent. of the Provincial population has furnished only 26.73 per cent. to the asylum; whilst the Irish, Scotch, and English, who together make less than 29 per cent. of the Provincial population, have given to the asylum very nearly 65 per cent. of its last six years' population.

It must surely be inconsistent with the truth to hold, as I am well aware many do, that Canada is more prolific of insanity than the mother country. I have hardly ever accompanied a visitor of British or Irish birth through this house who has not expatiated on the wonderful excess of insanity in Canada, over his native country. Remarks of this kind come with a sorry grace from persons constituting 29 per cent. of the people outside, and 65 per cent. of those inside our walls. There is, indeed, much insanity in Upper Canada, but, like other articles, it is very largely imported. We must not, however, complain that the balance of trade, in this branch, is so much against us; rather let us hope it may long continue so.

Next in interest to the relation, in Upper Canada, between nativity and insanity, is that between religion and insanity.

Religions as recorded in 3114 patients, admitted in 24 years.

Religion.	Number Admitted.	Number in Prov. Population	Per cent. of 3114.	Per cent. in Prov. Population.
English Church.....	977	311.565	31.37	22.30
Church of Rome	746	258.141	23.96	18.49
Presbyterian	709	303.384	22.77	21.73
Methodist	413	341.569	13.26	24.48
All others.....	269	181.432	8.64	13.00
Total	3114	1 396.091	100.00	100.00

The above table is, as regards the Church of England, incorrect. During several years, in the early history of the asylum, a considerable number of patients were designated merely *Protestants*, and as the Church of England about that time claimed to be *the* Protestant church of Upper Canada, these patients were allotted to her; but I have found some of them with Scotch names; and several of them, Scotch as well as Irish, I have found were undoubtedly Presbyterians; probably too, a few were Methodists. I think it, therefore, proper to furnish a more reliable statement, which, being derived from my own records, I am certain is reliable.

Religion of 1732 patients admitted from 1st July, 1853, to 1st January, 1865.

Religion.	Number sent to Asylum.	Number in Prov. Population.	Per cent. of Asylum population 1732.	Per cent. in Prov. Population.
English Church.....	474	311.565	27.36	22.30
Church of Rome.....	412	258.141	23.80	18.49
Presbyterian.....	422	303.384	24.36	21.73
Methodist	271	341.569	15.65	24.48
All others.....	153	181.432	8.83	13.00
Total	1732	1.396.091	100.00	100.00

On comparing the last table with the preceding, it will be observed that the Roman Catholic per centage remains almost unchanged, whilst that of the Church of England is reduced, and those of the Presbyterians and Methodists increased, verifying the remarks made as to the errors in registration under the Church of England head, in the early years of the asylum.

The last table may be regarded as exhibiting fairly the relative numbers of insane in the several denominations given. On analysis it will be found that the highest rate of insanity is that contributed by the people of the Church of Rome, and next stands that of the Church of Eng-

land, whilst lowest of all is the proportion given by the Methodists. Whether these results coincide with the prevalent belief heretofore existing with the public generally, stands not with me to decide. I give the facts, and leave to others to form their own conclusions from them.

The following table shows the numbers, according to religion, of patients remaining in life, in the several asylums on 1st January, 1865, out of the total 3114 admitted at the Toronto asylum :

Asylums.	English Church.	R. C. Church.	Presby.	Metho.	All others.	Total.
Toronto..... ...	137	130	98	61	46	472
Malden.....	42	65	31	15	18	171
Orillia	33	38	22	14	12	119
Total.....	212	233	151	90	76	762
	21.69	31.23	21.30	21.79	28.53	Per cent. on respective admissions.

The per centage on admissions, of patients remaining, may be taken as representing fairly the comparative incurability, especially as it will be seen by the next table that the proportionate mortality in all the denominations has been almost alike.

The following table shows the number who have died in the chief asylum and the Branches, of 3114 admitted, up to the 1st January, 1865 :—

	Eng. Ch.	R. Cath.	Presby.	Meth.	All others.	Total.
Deaths.....	205	155	142	86	62	650
Admissions.....	977	746	709	413	269	3114
Per cent. Mortality on Admissions.	20 98	20.77	20.17	20.82	23.00	
Per cent. Discharges on Admissions. [Elopers included.	57.33	48.00	57.39	57.39	48.75	

The rate of mortality in the various religious denominations has been almost equal; and the proportions in the discharge have been almost alike in the three leading Protestant denominations. The proportion of the discharges of Roman Catholics falls below that of other denominations, to an extent corresponding to the excess of this class remaining in

—that is, to their comparative incurability. How are we to account for the above coincidences? Shall we say that asylum residence is equally conservative, or equally destructive of life? "Judge ye."

The apparent comparative exemption of Methodists from insanity, in Upper Canada, is a circumstance closely associated with the similar fact under the head of nationality,—the comparative exemption of native Canadians. It is my belief that a much larger proportion of Methodists than of any other religious denomination, are of Canadian birth; but, at the same time, it cannot be denied, that the general habits of Methodists, and the more comfortable physical condition, therewith associated, must operate as important mental conservators. The Roman Catholic asylum inmates are, in the great majority, of Irish birth, or immediate extraction. When we reflect that this class have, for ages, *as a race*, been marrying in and in, and call to mind the serious bearing of this course on the development and perpetuation of insanity, and the continual augmentation of hereditary taint certainly resulting, we are not surprised that they present the highest figures in the rate of incurability. It is not because their cases are comparatively more chronic than those of other religions, or nationalities; perhaps, indeed, the fact would be found the opposite, for a large proportion of them are poor, and their families are unable to keep them at home, and very many of them have neither home nor friends. They, therefore, are sent to the asylum more promptly than other classes. Some of them, too, are very disorderly, and troublesome, and consequently fall under the notice of magistrates or other local authorities, who are at all times anxious to have opportunities of exercising their high functions, whether in committal to the common gaols, or in transmission to the asylum, the chief purpose of which Institution would seem, in their estimation, to be that of a secure lock-up, and *to them* a cheap boarding house, for people whom they are unwilling to feed at *local* cost.

The following figures exhibit the periods of treatment in 861 patients' discharged during my incumbency, *i.e.*, from 1st July, 1853, to 1st January, 1865:—

	Under 3 mos.	3 to 6 mos.	6 to 9 mos.	9 to 12 mos.	1 year to 2.	Over 2 years.	Total.
	225	204	143	72	138	79	861
Per cent....	26.13	23.69	16.61	8.37	16.03	9.17	in 861

Discharges of unrecovered patients are not made unless in a very lim-

ited number of cases, at the instance of friends. The aggregate of discharges of unrecovered patients in the period just referred to would lie between 5 and 10 per cent.; and of these a considerable proportion were improved, or much improved.

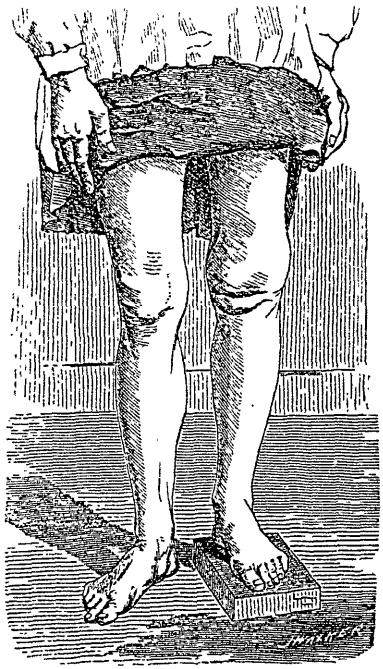
The mortality of the Toronto Asylum in 1864 has exceeded that of 1863, by 40 per cent., having been 35 against 25. One half of the deaths in 1864 have been from two forms of disease, found to be fatal in all asylums,—general paralysis, (or as now more appropriately named, general paresis,) and phthisis. Nine patients died of each of these diseases. Of the nine deaths from general paresis, eight took place in men; and of the nine from phthisis, eight took place in women.

In eight of the nine cases of phthisis, the disease was of the form which, in asylums, is designated latent. The patients had no cough, no expectoration, no hectic exacerbations, no colliquative diarrhœa; they never, or very rarely, complained of any pain. *Post mortem* examination showed extensive, and often far-advanced pulmonary tubercular destruction. Our proportion of deaths from phthisis in 1864, has been below the average.

Excision of the Knee-joint. Recovery. By JAMES A. GRANT, M.D., F.R.C.S., Edinburgh; M.R.C.P., London, &c.; Attending Physician, General Protestant Hospital, Ottawa, C. W.

Henry Mathers, aged 39 years, a farmer, of regular conformation and robust habit of body, prior to disease attacking his knee-joint. Parents healthy, and neither consumptive nor scrofulous. Admitted into the General Protestant Hospital, Oct. 20th, 1864. HISTORY.—The infliction of the injury which was supposed to have originated the diseased condition of his knee-joint, dates back about twelve years, at which time the joint was severely wounded by a drawn knife. The convalescence from the injury was exceedingly tardy, months elapsing before the foot could be placed to the ground. The usual remedies, such as steeping, leaching, counter-irritation, &c., were all had recourse to, but with unsatisfactory results, there having remained a lingering pain associated with considerable uneasiness in the joint, upon even the slightest pressure or most moderate exertion. As time rolled on, the joint became painful at night, so much so as to interfere with rest, and gradually reduce his system, the various organs participating more or less in the debility which had its origin, doubtless, in those pathological changes, taking place in the joint, and just in proportion to the activity or inactivity of those structural alterations, was to be observed an increase or diminution in the intensity of suffer-

ing. This train of symptoms continued, with little variation, throughout the greater portion of the time which elapsed from the date of the accident to his admission into the Hospital. A glance at his physique was alone sufficient to point out that changes of a most marked character were taking place in his system. The haggard expression of face, the general flaccidity of the muscular system, the loss of appetite and tendency to occasional diarrhœa and night sweats, were highly characteristic of that relaxed state of the system, which results from long-continued and perverted functional activity of a joint, associated with, and depending upon, most marked organic change of structure.



Attitude of patient. Appearance of the joint externally.

In the erect position the attitude of the patient was sufficient to point out the seat of disease, the limb having a *flail-like* appearance. The leg could not be extended; the flexed condition of the thigh and consequently shortened condition of the limb, removed the substantial support of the sole of the foot, and substituted the slight support of the tips of the toes, and even on these, the most moderate pressure was sufficient to excite pain in the affected joint. The outline of the limb gave an accurate

idea of the distortion which had taken place, and the atrophied condition of the muscular structure of the thigh, possessing complete nervous sensibility, was in itself an index of protracted articular disease in the affected joint. The natural contour of the joint was lost, being considerably enlarged, irregular as to its outline, and possessing no small degree of solidity; more or less pain on pressure, which can be localized in particular spots, with a marked increase towards night; very slight motion in the joint, the limb constantly retaining its semiflexed position. No sinuses were to be observed about the joint, and the integument over it presented only a moderate degree of discoloration. The flexed position of the limb, and marked difference, when contrasted with the healthy knee, placed beyond a doubt the likelihood of the destruction of the crucial ligamentous connection, associated with articular structural alteration. On the slightest manipulation of the joint, pain was produced, attended on several occasions with marked indications of syncope, and the parts when thus irritated, seldom become free from pain, for at least six or eight hours. The patella was firmly anchylosed anterior to the right articular surface of the femur; and on either side of the joint, the hamstrings could be felt, tense, firm, and unyielding, in a perfect state of spastic contraction. In this condition Mr. M. became an inmate of the Hospital, much reduced by occasional fever, night sweats, and attacks of diarrhœa. In consultation with the medical staff, having made a careful examination of the joint, as to the *extent of bone diseased; the implication of surrounding parts; the non-coexistence of any internal organic disease; the dependence of fever upon the joint disease, and the favorable appearance of the patient, notwithstanding the duration of the disease* (a period of twelve years), the propriety of excising the joint was decided upon, the combined local and constitutional indications being favorable to such a proceeding.

Nov. 2nd. I excised the joint, adopting the U incision. The flap being carefully reflected, the quasi-joint was exposed, and the soft anterior tissues being divided, as well as the lateral connecting structures, its whole interior was rapidly brought to view, by flexing the leg backwards upon the thigh. The patella was first removed, and afterwards the articular surfaces of the joint were sawn off, from before, backwards, with an ordinary amputating saw, the extent of bone removed being, from the femur fully an inch and a half, and from the tibia over three quarters of an inch. Two or three small vessels required a ligature. All clots being now washed away, and the sharp edges of the bones pared off, the leg was extended, the flap secured, and the limbs, after being bandaged, carefully placed in *Butchers' Box*, thoroughly wad-

ded, which answered every purpose most admirably; the entire operation being accomplished under the influence of chloroform. Half a drachm of liq. opii. sedat. was given immediately after the operation. 8 p. m. Has had some sleep and feels comfortable; pulse 90, tongue moist. Opium repeated. Nov. 3rd had a very tolerable night, finds the knee free from pain, rather copious oozing from the wound; it entirely ceased after the third day. Nov. 8th. Knee dressed; looking well. No tension or inflammatory appearance about the sutures. Very slight discharge from the wound. Nov. 12th. All the sutures were removed, not one having sloughed out, and the greater portion of the wound united by the first intention. From this date the wound was dressed every two days with simple cold water dressing, until all discharge had ceased, which was about the end of the tenth week. Three months previous to the date of operation, an issue had been formed on either side of the joint. These had perfectly healed, but after the operation, at the end of the fourth week reopened spontaneously and discharged more or less until the end of the ninth week, at which time they completely closed. In fact, this spontaneous effort of nature appeared to modify the intensity of the inflammatory action, which might otherwise have taken place, for during the whole progress of the case, no purulent discharge could be detected except from the seat of the issues. Dec. 10th. The strength of the limb much increased, and from all appearances there is evidently some soft union between the bones and the external wound. The limb is quite straight, and the general health of the patient very much improved. Jan. 18th, 1865. The parts are firm, and he can move about the ward with ease, supported by a small crutch. Jan. 30th. Drove to the city without any difficulty, and had a photograph taken, from which the wood-cut was executed (see p. 413), giving a somewhat exact representation of the limb, now changed from deformed angularity, with œdemitous leg and attenuated thigh, to a healthy looking extremity free from pain, and, although stiff, moved about with ease and freedom, by a set of thigh and leg muscles, which have, in a great measure, recovered their tonicity and corresponding healthy development. After the first week, his system was supported by porter, in conjunction with beef-tea, a point of vast importance, when nature has to build up parts of great extent, and in a system much debilitated, by long continued disease. Feby. 5th. He was discharged to enjoy the home comforts of a rural seat, the limb being now quite strong and sufficient to support the body without any stick, and only two and a quarter inches shorter than the opposite leg.

PATHOLOGICAL STATE OF THE JOINT.—Integument over the patella immovably fixed down upon the bone, but laterally and posteriorly it pos-

sessed considerable mobility. Patella otherwise healthy excepting its ossific attachment. Interarticular structures entirely changed the exposed substance, appearing to be partly thickened synovial membrane associated with the well known peculiar softening of the proper tissue of the ligaments, the result of degeneration, combined with more or less infiltration of inflammatory products. Thus, by gradual softening, yielding and successive attempts at the organization of the lymph effused, the result of a low grade of inflammatory action, a description of connecting tissue was slowly built up, wedge-shaped, between the bones, becoming further and further apart, and at the same time retaining the joint in its spuriously anchylosed condition. This structure being divided and the joint exposed *in toto*, showed an absence of the proper articular cartilages, and a deeply eroded state of the articular facets of the tibia, from which there exuded a small quantity of sero-purulent material. The section of the bones afforded little resistance to the saw, and on the cut surfaces there were not to be observed any circumscribed patches of yellow induration of bone, such as has been described by the leading European pathologists.

Ottawa, Feby. 10th, 1865.

Three cases of poisoning by the root of the Cicuta Maculata Lancifolium, or Hemlock. By T. R. DUPUIS, M.D., and H. P. YOUMANS, A.B., M.D., Odessa, C. W.

Joshua Booth, aged 47, of a plethoric habit, ate roots of cicuta maculata, Nov. 25th, 1864; continued chewing them from 10 o'clock, a.m., until 12 o'clock noon; dined at 12.25, seemed perfectly well until 2.50 p.m., when symptoms of poisoning manifested themselves as follows: Extreme nausea, stupor, falling of the upper eyelids, dropping of the lower jaw, general relaxation of the muscular system, lividity of the lips, and paleness of the face. Free emesis was produced by the use of tartar emetic, ipecacuanha, and mustard, accompanied by considerable quantities of milk and warm water. After the evacuation of the contents of the stomach, he seemed roused, and looked more lively, but soon relapsed into the same state of stupor. At 2.45 p.m., he was seized with a violent convulsion: convulsions continued at intervals of ten minutes until death,—the duration of each was about five minutes,—they consisted of tetanic spasms, and rigidity of all the muscles of the body,—hands elevated and extremely pronated,—feet arched and toes inverted,—body stiffly erect and head thrown back,—frothing at the mouth,—pulse quick, weak, and sometimes scarcely perceptible,—pupils contracted.

During the intervals between the convulsions, the pulse was slightly increased in force and frequency, pupils dilated,—groans were uttered, especially just before the commencement of a paroxysm. After emerging from the last convulsion, the pulse became slow and laboured; respiration was irregular, slow and stertorous; and, finally, death by coma followed at 4 p.m.

Nellie Booth, aged 7 years, ate roots of cicuta maculata at the same time—convulsions commenced at 2.25 p.m. In addition to the symptoms noticed in the foregoing case, there was giddiness and vertigo, followed by nausea and vomiting (these symptoms, probably, were more marked in her case, because emetics were not administered, until after convulsions had commenced), spasmodic contraction of the orbicularis palpebrarum and muscles of the orbit, causing the eyes to protrude and roll about—also twitching of the muscles of the face. Respiration was at length arrested by the last spasm, and death by asphyxia ensued.

George Bruton, aged 37, ate a portion of the root as large as a horse bean at 11 o'clock, a.m.; at 2.50 was attacked with nausea, giddiness, a sensation of weakness of the limbs, and general weariness. Emetics were administered, which thoroughly evacuated the contents of the stomach. He experienced some giddiness, loss of appetite, and a feeling of general prostration for six or seven days, from which he at length completely recovered.

The cicuta maculata is a very common plant in this part of the country, growing in wet meadows, along the sides of brooks, and in other marshy places, and with its allied genera Sium and Heracleum, receiving the vulgar name of wild parsnip. It is an umbelliferous plant, having a perennial fleshy, thick, almost tuberous root growing in clusters around a central axis, and an herbaceous, finely striated, hollow, stout branching stem from three to six feet high, streaked and spotted with purple. The lower leaves are triternately and the upper ones biternately divided: the leaflets oblong-lanceolate, acuminate, coarsely serrate, smooth, and with veins running to the notches, instead of the points, of the serratures. The flowers appear July and August; they are white, and in terminal and axillary umbels, composed of umbellets with sometimes one or two leaflets as a false involucre, but more commonly none. The involucres are composed of five or six short linear leaves. The calyx is minutely five-toothed and entirely adherent to the ovary; petals five, obcordate and with an inflexed point; stamens five, alternate with petals; styles two, and persistent. Fruit subglubose didymous; the two carpels dry and seed-like, strongly and equally marked with five flattish ribs, in the intervals of which are single oil-tubes, and at the commissure two. Carpophore two parted, and the seeds terete.

We have not seen any analysis of the proximate principles of this plant, and are therefore unable at present to say in what manner the poisonous principle exists. The activity of it as a poison, and the frequent accidents resulting from its use, render it a plant of more than ordinary interest, and will, it is hoped, invite the attention of practical investigators.

Rupture of the Uterus,—Escape of the Child and Placenta into the abdominal cavity—Recovery. By EDWARD M. HODDER, M.D., F.R.C.S.Eng. Fellow of the Obstetrical Society of London, President of the Medical Board of C. W., &c., &c.

Mrs. W., æt. 35, the mother of nine children, of average height, well made and healthy appearance, was taken in labour at noon on Tuesday, 8th Sept., 1863. The pains were slight, so that but little progress was made; and Dr. Aikens, the medical gentleman engaged to attend her, was sent for at about 6 o'clock, p.m. He had attended her on three previous occasions, and was twice obliged to use the forceps in consequence of the large size of the head of the children. Twice she conceived with twins, so that the present was the seventh pregnancy and the ninth child—all born alive. On making an examination all appeared quite well, presentation natural, but uterine action feeble. He then left her and returned at 10 p.m. But little change had taken place, the pains were weak, the os uteri dilated to the size of a dollar, soft and yielding; supposing that the pains might increase if the liquor amnii was discharged, he ruptured the membranes; no increase in their severity followed, the only perceptible change being, that they were then referred to the fundus uteri instead of the back and lower abdomen as before, yet they were not so severe as to attract any particular attention, either of the patient or her attendants.

After remaining with his patient for some time, as no advance was made, Dr. A. returned home, leaving directions to be sent for when required. Not having received any message during the night he called at 6 a.m., Sept. 9, on his way back from another case. She was weak and pale, and he ascertained that twice during the night she had passed large quantities of blood. On making an examination, to his surprise, he found that the head had entirely disappeared, that the uterus was contracted, and that the child and secundines had escaped into the abdominal cavity. A messenger was immediately dispatched for myself; and, on my arrival, shortly afterwards, I found her in the following condition: pale but not blanched, the countenance somewhat anxious, skin cool,

respiration hurried, pulse 124, firm, voice good, and she was free from the pains of labour, but she complained of soreness and pain across the scrobcordis and upper portion of the abdominal cavity. An examination of the abdomen externally disclosed the form of the fœtus distinctly, lying obliquely across, the head down, and in front, the nates above and to the left of the hypochondriac region.

I next passed my hand into the uterus to examine its condition, and had no difficulty in discovering at its upper and right part a large rent, the edges of which were soft and flabby, offering not the slightest obstacle to the passage of the hand into the abdominal cavity; in fact it was almost impossible to state where the uterine cavity ended, or the abdominal one commenced except by feeling the child and the intestines in the latter. The left half of the uterus was much firmer and more contracted, and presented a kind of cul-de-sac beyond which the fingers could not extend. While my hand was still in the cavity of the abdomen, Dr. Aikens and myself decided that as the rent was so extensive, the uterus on that side so softened and but little contracted, and the child so easily grasped, that it would be better to attempt the delivery *per vias naturales* than to allow the child to remain where it was, or to resort to gastrotomy. Accordingly I seized one leg of the child, and, without any difficulty, turned and extracted it, the head alone requiring some slight force to draw it through the brim of the pelvis.

The cord being divided and the child removed, slight traction brought the placenta to the edge of the wound from the cavity of the abdomen where it had also escaped; and again introducing my hand, I moved it without being aware of the slightest resistance being offered by the edges of the wound. Ascertaining that no hernia of the intestines followed the child or placenta, I withdrew my hand, and the uterus contracted more firmly than it had done before. A bandage was applied lightly, and the patient made as comfortable as circumstances would allow. There was no hemorrhage; she appeared as well after the operation as she was before, the pulse firm, and the countenance calm.

Tinct. opii. ʒ i was given with such directions as were required.

2 P.M. She is calm and collected, free from pain of an acute kind, complaining only of soreness across the upper part of the abdomen, but which is not increased upon pressure. Pulse 124, firm, respiration somewhat hurried, tongue clean and moist, has slept a little, and twice voided urine in the bed; slight tympanitic distention.

Tinct. opii. ʒ ss was given, and perfect quiet enjoined.

9 P.M. Continues much as before; pulse 130.

Thursday 10, 11½ a.m. She expresses herself as feeling more comfort-

able, and her countenance was much less anxious; skin comfortably warm; pulse 116, full and soft; tongue moist and white, respiration less frequent; has passed her urine freely two or three times, tympanitis not increased, and firm pressure can be borne over every part of the abdomen without pain except the uterine region, yet tenderness is generally felt, particularly along the margins of the ribs. There has been no nausea or vomiting, no rigors, and she has slept often during the night.

Continue ℥ ss. T. opii., from time to time, and a tablespoonful of barley water or other light food to be given occasionally.

In the evening vomiting came on, but without distress, the ejected matter being mucous, of a deep green colour; pulse went up to 125, but in all other respects she was much the same as in the morning. Continue as before.

Friday 11, 11½ a.m. She has not passed a good night in consequence of the vomiting continuing, but she is free from pain; her countenance somewhat pinched, pulse 116, soft but not weak, voice good, perspiration profuse, general, and warm, tongue moist and clean, urine freely passed, discharge moderate in quantity, dark coloured and offensive; says she feels weaker than yesterday: no laudanum was given since 11 p.m.

Ordered ℞. pulv. opii. gr. j conf. aromat, gr. iii., ft. pil. 3 tia q. q. h. s.

Vulva to be sponged with tepid water.

Saturday 12, 11½ a. m. With the exception of weakness she is much the same, quite easy and free from pain; she lies on her back with the knees extended, and can turn in bed without uneasiness; has passed much flatus and the intestines less distended; pulse 128, weak: skin moist and warm, voice and countenance good, vomiting entirely ceased, She complains only of want of food, but firm pressure produces soreness over the uterus.

Ordered to continue the pills and ablutions as before.

To have beef tea, ℥ ss. every two hours.

Sunday 13, 2 p.m. Purging came on at 4 p.m., yesterday and continued more or less until 7 a.m., the number of passages being about twelve or thirteen, of a dark bilious character, but not very offensive. She does not appear to have been reduced by it, as her countenance and voice are both good, eye bright and clear, tongue clean and moist at the edges with a brownish fur down the centre; pulse 116, firmer than yesterday, no vomiting, nausea, or pain, except the soreness over the uterus; she lies on her side with knees stretched out or flexed at pleasure, and she expresses herself as feeling stronger and better than yesterday.

Continue beef essence, and take conf. aromat. gr. xv., tr. opii, m. x ex aqua cinnam ℥ i 3tia. q. q. h.

Monday 14, 11½ a.m. The bowels have acted only twice since yesterday, without pain or distress, and she continues to improve in every respect. There is a copious fœtid discharge from the uterus, which is carefully attended to. Continue medicine as required, beef essence and toast.

Thursday 17. Since last report she has continued steadily on the mend; pulse firm, ranging between 108 and 115; tongue clean; bowels generally act once a day: countenance good; tympanitis nearly gone with scarcely any soreness over the uterus. She turns freely from side to side in bed, appetite returning, and sleeps comfortably. The discharge from the uterus less offensive and greatly diminished in quantity. Continue use of syringe.

Discontinue medicines unless required. To have a little broiled chicken for dinner.

Sept 29. With the exception of weakness she has nothing to complain of. She is able to sit up; discharge ceased; has no pain, and eats, drinks, and sleeps well.

Remarks.

Rupture of the uterus is the most fatal of all the accidents to which the lying-in-woman is liable, with the exception of rupture of the bladder; yet, in so dangerous a complication as this, the rules laid down for our guidance by numerous writers on midwifery are vague and contradictory

Thus, by men of equally high reputation as Merriman, Denman, Smellie, Wm. Hunter, Davis, and Blundel, we are advised to leave the case to nature; while Burns, Velpeau, Lee, Collins, and Churchill recommend turning; and Dewees, Ramsbotham, Jacquenier, Colombat, Hamilton, and others consider gastrotomy the only chance left to the unfortunate sufferer.

I believe I am correct in saying that the universal opinion of the profession appears to be, that delivery, when practicable, should in all cases be resorted to, when a favourable condition of the soft parts, and a proper proportion between the head and the pelvis will allow of the introduction of the hand and delivery by version accomplished. But where obstacles to speedy and easy delivery exist, as from contraction of the edge of the rent, after the escape of the fœtus into the peritoneal cavity, or from an undilated os uteri, or from a contraction of the pelvis, or partial closure of the vagina, the rule of practice is by no means determined, and great diversity of opinions exist as to the proper course to be pursued.

In a very elaborate and most valuable monograph, published by Dr Trask, in the American Journal of the Medical Sciences for 1848, in

which the histories of three hundred and three cases of rupture of the uterus are given, he says:—"Our series of cases shows that the principle upon which the profession now almost universally act, of accomplishing delivery after rupture, is a correct one. Of 154 delivered by artificial means, ninety-seven died; fifty-seven survived.

Of eighty abandoned undelivered. sixty-five died and twenty-four survived. Of thirty-one delivered by natural efforts, twenty died and eleven survived; and these include, in both instances, cases of rupture of the os, in which the peritoneum was not involved.

Of six in whom artificial delivery was tried and failed, all died undelivered.

A comparison of those delivered by art and of those abandoned undelivered, yields thirty-seven of the former, as saved, to twenty-seven of the latter, in the hundred, showing that the chances in the former case are considerably better than in the latter."

Again, quoting from Dr. Trask, he says:—"First let us consider cases of rupture and escape into the abdomen of the whole fœtus, or of the head, with the whole or part of the body;" and referring to his cases we find the following results: of ruptures during parturition there were saved by the operation of gastrotomy twelve, and lost four. Abandoned, saved twelve, lost twenty-three. Turning, &c., saved nine, lost twenty-one.

Next let us consider the cases in which there was diminution of the diameters of the pelvis from distortion, or contraction, exastosis, &c.

Gastrotomy—saved, 5; lost, 3.
Undelivered—saved, 0; lost, 11,
Perforation—saved, 3; lost, 16.
Other methods—saved, 11; lost 14.

Total of both cases.

Gastrotomy—saved, 18; lost, 7.
Undelivered—saved, 18; lost, 50.
Other methods of delivery—saved, 23; lost, 51.

Of those cases which recovered after artificial delivery, we have thirty-four cases in which delivery was accomplished with ease, and fifteen in which it was effected with more or less difficulty.

Of the cases that died after artificial delivery, in twenty-one cases delivery was easy, in thirty-five it was difficult."

This statement exhibits, most conclusively, the influence of a speedy and easy delivery on the patient's chance of recovery, by showing the

great preponderance of easy deliverances in the cases of those who survive, and of difficult deliverances in those who sink.

In those cases in which the head of the child is within reach, and the pelvis ample, we are told by Dr. Trask that the treatment must depend upon the situation of the fœtus.

1. Should it have descended into the pelvic cavity, and *be still found remaining there, if the child be living*, delivery by the forceps should unquestionably be attempted.

2. But if the fœtus be known to be dead, the delivery may be much facilitated by lessening the size of the head by evacuating its contents.

3. Should the head become impacted in the cavity of the pelvis, or at the inferior strait, perforation must be had recourse to.

4. When *contraction exists at the superior strait*, we know not the amount of difficulty that may be experienced in delivery *per vias naturales*.

Two questions then arise, first, have we any operation which, in case of escape through a rupture of the uterus, followed, as it must be in almost every case, by a contraction of the edges, will expose the patient to less risk than the forcible dilatation of the rest, and the delivery through the natural passages after version? and, secondly, have we, when a contraction of the brim of the pelvis exists from deformity or from morbid growths, which would render delivery tedious and difficult, any mode of delivery which shall not only be speedy, but which shall in the main give a better chance of success than embryotomy?

In the first instance, authors have cautioned us against any forcible dilatation of the orifices by which the fœtus escaped, on account of the great hazard, and the great difficulty, if not impossibility, of succeeding. The same is true when rupture has taken place, when the os is only partially dilated, and is undilatable, or when it has contracted after the rupture.

Two courses have been proposed—one to abandon the patient to nature; the other is gastrotomy. Dr. Trask continues: "We have shown conclusively that non-interference affords a patient a far inferior chance to any other course that can possibly be proposed; but, giving the advocates for non-interference all they can claim, their success is anything but flattering; for on referring to the histories of most of those who eventually recovered, their existence was for months, and in some cases for life, one of suffering and anything but desirable. There is nothing to make us follow this course; reason and experience are against it."

Gastrotomy, then, is the only course which we shall be justified in adopting.

The second condition is one that has not so generally engaged the

attention of obstetric authors. But the cases recorded by Dr. Trask furnish instances of obstruction to delivery from exostosis, fibrous tumours, bands in the vagina, and undilatable os uteri. "The success of the attempts made to dilate the os, and to divide resisting bands, is by no means such as to invite a repetition. In short, as a general rule, from whatever cause we might be led to anticipate a protracted and difficult delivery by the natural passages, gastrotomy will afford the best chance of recovery. The only exception is that of impaction of the head in the cavity,—or at the inferior strait, where perforation is clearly indicated."

I have quoted thus largely from Dr. Trask, and adopted his own language as less likely to lead to error, in a matter of so much importance and hope that the readers of the Canada Medical Journal will not consider that I have occupied too much of their valuable space in discussing the treatment of cases, which, may possibly but rarely if ever come under their care.

Since the publication of Dr. Trask's monograph in 1848 it has fallen to my lot to meet with nine cases of rupture of the uterus—a brief account of which I herewith give—thus showing that these accidents occur more frequently than is generally supposed.

Case I. Was a primipara, æt. 32 stout, muscular, and plethoric; os and passages undilatable, pains very strong, liqr. amnii discharged early. She was bled two or three times, kept under the influence of ant. tart., fomentations, injections, &c., but without avail. Infiltration took place into the os and cervix, and at last during a very violent pain, the whole became detached, after which the head descended and passed the perineum with difficulty.

This woman died on the third day afterwards of peritonitis—the rent did not extend to the body of the uterus, as ascertained at the *post mortem* examination.

Case II. The woman was the mother of a large family (eight or ten), had a very large fibrous tumor of the uterus, which from pressure had produced absorption and thinning of the uterine walls. Her labour was extremely easy, and did not exceed two hours in duration; all went on well until the head was at the outlet, when profuse and violent flooding came on after a pain somewhat more severe than the preceding; the countenance fell, pulse became small and feeble, syncope followed, and in this state she continued for some time; stimulants were freely given which had the effect of restoring her to consciousness, but did not increase the uterine contractions, and, as the head was at the outlet, the forceps were easily applied and a dead child brought speedily into the world. The birth of the child was followed by a gush of blood which again

reduced her to a state of syncope, from which she never rallied, but died in the course of a few minutes.

Dr. Bovell and myself anticipated danger in this case from the enormous size of the tumour, so that the moment labour commenced Dr. Bovell was sent for and I followed shortly afterwards. On a post-mortem examination it was found that the uterus had become as thin as brown paper where the tumour pressed upon it, and that a rent several inches in extent had taken place which caused the flooding and consequent death. The particulars of this case were published by Dr. Bovell in the "Upper Canada Medical Journal."

Case III. was one of interest, inasmuch as the rupture occurred without any warning whatever, neither was it suspected until after delivery. Dr. O'B. had been in attendance upon the case from about midnight until 5 a.m., when the pains, which had gradually decreased in strength, ceased altogether. At 8 a.m. the Doctor wrote me a short note requesting me to come and deliver with forceps, this being her third confinement. On my arrival I found the woman rather pale, no anxiety of countenance, respiration calm, pulse about 80, weak, and entirely free from pain, neither had she felt any since 5 a.m., and had taken nourishment. The head was at the vulva, the parts relaxed; nothing was wanting but one or two pains to force the child into the world. I applied the forceps, and without the least difficulty brought down the head of a dead child. The body shortly followed. Dr. O'B. keeping up firm pressure on the uterus, which contracted feebly, we waited for full half an hour for the separation of the placenta; and, as it was not expelled by the uterus, Dr. O'B. introduced his hand with the intention of stimulating the uterus to action, and bringing it away. In dismay he turned round to me, and said, "I feel the intestines." Knowing him to be a very nervous man, and not suspecting a rupture from the condition of the patient, I said, "If you carry your hand high enough perhaps you may feel the liver, when, to my surprise, after a moment or two of delay, he exclaimed "My God, I do." This was the first intimation of such a severe accident. He sought for the placenta, found it amongst the intestines, and brought it away. The uterus contracted moderately, there was no hemorrhage, and she expressed herself as feeling comfortable. For three days not a bad symptom showed itself, the pulse never exceeding 86; no pain, tenderness, distention, or other sign of constitutional disturbance, when, on the morning of the fourth day, great prostration, with tympanitis, a rapid, small, and feeble pulse, and sunken countenance gave evidence of her approaching end. She sank in about twenty four hours from the beginning of the bad symptoms. No *post-mortem* was allowed by her friends.

Case IV. was an unfortunate case of mal-practice, primipara. The pelvis was narrowed at the brim, the uterus acting violently, the head wedged, the waters long discharged, when the medical man in attendance gave ʒ ss of the ergot which speedily produced the fatal result. The child escaped into the abdomen, and she died in a very short time undelivered. No *post-mortem.*

Case V. In this case the rupture took place during a very easy labour, the fœtus and placenta escaping into the abdomen. I arived at the moment Dr. Bovell had passed his hand through an extensive rent in the uterine walls in search of the child; he turned and delivered without difficulty. There was little or no external hemorrhage, but the woman died from exhaustion on the third day; there had been considerable internal bleeding but no sign of inflammation. The uterus was very soft, and as thin as coarse paper where the rent occurred.

Case VI. This woman was the mother of two children, both born alive after ordinary labour. In this, her third labour, I had always suspected the injudicious use of the ergot of rye, as her attendant was a rash and impulsive man, yet he denied having given it. The rupture in this case was at the fundus, followed by the partial escape of the child into the abdomen together with the placenta. The child was delivered by the forceps, the placenta removed, and the woman ultimately recovered. Within two years she gave birth to a living child without accident of any kind.

Case VII. I attended this young woman in her first three confinements, and, after the first, discovered a fibrous tumour of the uterus the size of a goose's egg. After the second it had increased to double its former size, and on the third occasion it was fully as large as the fœtal head. She removed to the country, and have not seen her since; but I heard from her husband that she had died in her fourth confinement from rupture of the uterus.

From the changes which have been observed to take place from the long continued pressure of a large tumour, we may safely infer that this young woman perished from the thinning which the uterus had undergone from the pressure of the tumour.

Case VIII. occurred at the lying-in-hospital during my temporary absence from Toronto. There was slight contraction of the pelvis at the brim; violent action of the uterus, when suddenly the uterus gave way, the child escaped into the abdominal cavity, and the woman died undelivered in a very short time.

In this case there is no reason to suppose that the uterus was in a diseased condition at least prior to the commencement of labour.

Case LX. The ninth and last case is that which I have published in full, and it completes the cases of rupture which have come within my knowledge since the publication of Dr. Trask's valuable monograph.

In conclusion I may state that numerous causes have been assigned for rupture of the uterus, and amongst the more common or frequent causes given by those authors who have written on the subject are, contraction of the pelvis, large size and firmly ossified fœtal head, softening and thinning of the uterus. The mal-position of the head or trunk of the child, The insuperable rigidity of the cervix uteri. Previous incisions in the womb as for the cæsarian section. Other diseased conditions of the uterus than thinning, &c., such as cancer, polypus, &c., and lastly, uterine action, either natural or induced by the ergot of rye or other stimulants.

PERISCOPIC DEPARTMENT.

Surgery.

RESECTION OF THE ANKLE—RECOVERY WITH THREE-FOURTHS OF AN INCH SHORTENING.

By Dr. John G. Johnson.

In this age of conservative surgery, when resections are so much in favour, when operations upon the largest articulations can be found in numbers in almost every periodical, those upon the ankle-joint seem strangely few. The hip, knee and elbow are the favourite articulations for resection; while at the ankle, even when the disease is confined to the joint itself, or its immediate neighbourhood, Syme's or Pirogoff's operations are resorted to, and the healthy foot sacrificed. So rare has been this operation at the ankle that Mr. Henry Hancock, senior surgeon to the Charing Cross Hospital, in an article in Braithwaite's Retrospect for January, 1860, states "the operation was first performed by Moran, and subsequently by Jager and others abroad; but I believe that I am justified in stating that with the exception of those which I have done myself, there is not a single instance upon record in which excision of the ankle-joint has been performed in this country for disease." In the English journals, I have not found other cases than those reported by Mr. Hancock, and in our own medical literature there is the same absence of cases. Why the solitary exception should be made of the ankle-joint—and the healthy foot sacrificed, I am at a loss to understand. In both Syme's and Pirogoff's operations, in addition to the loss of the foot,

there is the danger of sloughing of the flaps, and of bagging of the pus, which danger does not exist in resection of the joint. In my own practice, an opportunity offered for an operation of this kind, though in a patient constitutionally unfavorable, and the result has been so satisfactory to the patient and surgeon, that it may not be devoid of interest to the profession. On the 26th of January, 1862, I was called to see Mr. J. C., a merchant about 45 years of age, who had received a severe injury by falling on the ice. On my arrival, I obtained the following history of the case: He was walking on the sidewalk, when he stepped on a spot of glare ice, which was concealed by a slight fall of snow; his foot slipped from under him, and he fell, twisting it outward. Endeavouring to rise, he again slipped, and wrenched the foot more violently than before. I saw Mr. C. about half an hour after the receipt of the injury. The foot was dislocated strongly outwards—the gastrocnemius muscle was exceedingly tense, reflex action being already aroused. On examination the malleolus internus was found to be fractured, and also the fibula, about three inches from its lower extremity, the astragalus was rotated laterally so as to bring the outer articulating surface of the tibia to rise on the inner surface of the astragalus. Reduction of the dislocation was found to be a work of some difficulty from the powerful tension of the muscles of the calf of the leg, now aroused to violent spasmodic action. The leg was flexed to right angles with the thigh to relax these muscles as far as possible, and with gentle, steady traction, the foot was drawn down and reduction accomplished.

The reflex action was so strong that it was deemed best to keep the limb flexed on the thigh to relieve the tension of the extensor muscles; accordingly the limb was placed upon the double inclined plane, with the coaptation side splints and pads evenly arranged so as to give firm support to the side of the foot, and to obviate the danger of re-dislocation. The limb hardly had been thus dressed when it was re-dislocated with great violence, completely overturning the splint.

This reflex action becoming so violent, it was determined to place the patient's leg in a fracture box, with the leg completely padded with bran in every direction, covering over the top of the leg for a couple of inches, so that the limb could not be thrown out of place by any violent action. This was absolutely necessary, as the sharped and jagged edge of the tibia, where the internal maleolus was broken off, was crowding firmly against the distended integuments, threatening to lay open the joint. The fracture box was then swung so that whatever motion the patient might take, the limb would rotate without displacement. As the patient had been accustomed to the free use of alcholic stimuli, a good allow-

ance of whiskey, with a strong anodyne, was given, but the patient had an uncomfortable night. The next morning the limb was swollen, with much discoloration; his nervous system began to give evidences of participating in the local trouble; there was a tremulousness about his hands, his tongue was covered with a yellowish white fur and tremulous, his pulse was irritable and rapid. Although anodynes and stimulants were largely used, these produced but little satisfactory results. The naps that he obtained were not refreshing or perfect, and he would start from apparent sleep with a shriek that could be heard for some distance; and when aroused, he would complain of most intense pain in the limb. As it was evident that the patient would have a severe attack of mania-a-potu, and that the injury was a source of intense pain to him, partially kept under control by anodynes, counsel was requested, and I had the pleasure of receiving the advice of my instructor and friend, Dr. James R. Wood. On the doctor's arrival, and my description of the injuries, he desired to examine the injury for himself. My experience of the previous night did not made me anxious to again attempt a reduction of the limb, and I did not urge an examination. Upon removing the bran from the top of the leg, the limb began to twitch spasmodically and the patient to shriek with the intense pain. The side of the fracture box was hardly loosened, before the limb was thrown out with great violence, and puncture of the integuments from the projecting jagged edge of the tibia seemed inevitable. The steady efforts of four strong men, under the able direction of Dr. Wood, were unable to reduce the dislocation. Choloroform was administered, and the limb reduced; when the effects of the choloroform passed off, the dislocation again occurred, notwithstanding the endeavours of Dr. W. and myself to prevent it. The only way of obviating this violent action of the extensors, was to divide the tendo-Achillis, which Dr. W. proposed, and it was accordingly performed. The limb was then replaced in the fracture box, and water dressings applied. Dr. Wood remarked that he had never witnessed so powerful reflex action. Notwithstanding the division of the tendo-Achillis, the patient continued to complain of intense pain in the joint, returning in paroxysms of increasing severity.

Violent delirium followed, which the prodigal use of opiates could not control. The next morning vesications on the inner aspect of the limb showed that sloughing would ensue. and the patient was stimulated freely and the limb dressed with yeast poultices, to limit the gangrene as much as possible. The joint was, however, laid open by the progressive process of the disease, violent erysipelatous action accompanying it, running up the leg and side of the body; sympathetic buboes formed in the groin,

and it seemed probable that the patient would succumb to the violence of the constitutional disturbance. As soon as the joint was laid open by the progress of the sloughing, a careful exploration was made with the finger, which revealed the hidden source of irritation. Within the joint were found several sharp spiculæ of bone, which had created the intense irritation, producing the violent reflex action which had become so early and so powerfully marked. When a limb is allowed to remain for some time with the dislocation unreduced, and the parts become irritated by the non-adjustment, it is not at all uncommon to have reflex action excited, which is rendered difficult to control; but in this case, where the cause of the injury was so slight, and the dislocation had been reduced so soon, the violent reflex action was a source of considerable mystery. As irritation within the joint was removed, the intense spasmodic pain became relieved; the inflammatory action had, however involved the periosteum, and large abscesses formed on the anterior and lateral aspects of the tibia—opening these the bone was found necrosed. As the inflammatory action subsided, the prospects of saving the limb seemed so dubious, that amputation was advised by the surgeons who saw the case in consultation. On the anterior portion of the tibia, even so high up as within three inches of the head of the tibia necrosed bone could be felt, and the exhausting suppuration was reducing the patient's strength. My strong preference in favor of exsecting the joint finally prevailed, backed as it was by the argument that amputation could be easily performed if the exsection was not satisfactory, but that we could not so easily replace the limb after amputation, if from any reason we should find it desirable.

The method of operating was extremely simple, and for the main feature of it I willingly acknowledge my indebtedness to Dr. Wood. The malleolus and lower extremity of the tibia had become carious. The opening from the slough was enlarged by a straight incision along the inside of the tibia. The tibia was examined till it was found sound. A strong curved needle was then carried round, closely hugging the tibia, and out through the original opening. A thread was thus drawn around the tibia, to which a chain saw was attached, and by this means the bone was easily divided at the point previously determined upon.

The exsection was completed by dividing the ligaments left, after the slough: as there was no union of the fibula at the point of fracture, and the lower fragment was healthy, it was not interfered with; the interosseous, as well as the anterior and posterior ligaments, having been torn by the previous violent reflex action, there was no difficulty in carrying the foot up so that the astragalus should be kept in coaptation with the

lower end of the tibia. Neither the anterior nor posterior tibial arteries or nerves had been interfered with in the operation, so that proper nutrition of the foot was provided for. The astragalus was examined and found not to be diseased; where the cartilage was involved it was removed, otherwise it was not interfered with. In the feeble condition of the patient, it was not considered judicious to keep him longer under the influence of chloroform; accordingly the gouging off the necrosed portions of the tibia, higher up, was postponed. The limb was replaced in the fracture box, and water dressings applied. Profuse suppuration followed, but it was no longer of the intensely fœtid character of the previous discharge. The patient's improvement in general health was marked; the drain of laudable pus from the system did not produce the constitutional disturbance that the previous unhealthy discharge had. The patient progressed most favourably, with no features of unusual character. Slight portions of bone exfoliated at the points where the old abscesses had formed. About the 1st June, the union was sufficiently firm to allow the patient to move on crutches. He can now walk with only a slight halt, and the limb is far more serviceable than any artificial one could be.

The case was an unfavourable one for operation, from the previous habits of the patient, and from the prostration of the system by the violent constitutional disturbance produced by the spiculæ of bone within the joint, producing caries. The result is more satisfactory than any other operation that could have been performed, and I place it upon record, in the hope that, at the present time, when injuries of articulations are so common, surgeons of eminence may turn their attention to this neglected field, and the saving of a part so important as the foot may be accomplished, where it is now sacrificed.—*Buffalo Medical Journal, Jan.*, 1865.

A CASE OF TREPHINING WITH GOOD RESULT.

Operation by Ass't. Surg. THEODORE ARTAUD, U. S. V.

Private P. W., Fiftieth Reg't., Pen. Vol., was wounded July 30th, 1864, at the battle of Petersburg, by a spent minie ball imbedding itself in the integument and muscle of the left side of the head, (from which it was soon removed by the hand,) causing a fracture and depressing a portion of the skull a little above and to the left of the occipital protuberance.

The patient says he was stunned by the blow at the time, but arose and walked to the field hospital, when he became unconscious and remained so for eighteen hours. The next day he left for his regiment, not knowing his difficulty was so severe. He was then returned to the hospital, where

he remained for one week. During this time the headache was severe, and the patient was unable to see or hear well.

August 11th, 1864, he was admitted to the Soldiers' Rest Hospital, Alexandria, Va., and was unable to walk to his bed. He seemed to improve for two days, then grew worse; suffered pain through the frontal region of the head, especially over left orbital ridge; and on the sixteenth was unconscious for about two hours. It was then, after consideration, deemed advisable to remove the depressed portion of bone. The patient was brought on the table, ether was given, and after shaving off the hair, a conical incision was made directly over the injury; size, one-half inch, and the occipito-frontalis muscle was dissected up, showing that the skull was indented half an inch, making a very regular and cupped-shaped depression three-quarters of an inch in diameter, and showing a slight crack around its edge, and an irregular one across its centre. The trephine was applied, partially covering one side of the depression, and a portion of the skull removed; depressed portions were removed, by the elevator exposing the dura mater, which was found to be healthy. A circular tent was applied over the exposed portion of the brain, and the wound dressed with cold water dressings. Morphia was given to quiet the patient.

August 17th. Treatment continued, porter given, patient sitting up.

August 20th, same dressings; ext. hyoscyami gr. j. at night; walking about.

August 26th. The patient was seized with violent signs of temporary congestion or compression. This was relieved by sinapisms to the neck, abdomen, and extremities. Ol. tiglii. gtt.ss. was given, and afterw ard the wound, which had nearly healed, was enlarged and kept open with tents, for three days, with but slight inconvenience to the patient.

September 1st, slight headache in the morning, condition good and improving; rests well; good appetite.

September 10th, seems to be growing stronger, rests well at night; appetite good.

September 22nd, the wound has now entirely closed; the patient complains occasionally of a slight headache due probably to malarial influences, his appetite and general condition is good and he is to all appearance cured.

The interesting features of this case are the long time between the injury and the operation, and yet no disease of the membranes, and the complete success of the operation.

EXCISION OF THE HIP-JOINT.

Mr. Holmes exhibited to the Western Medical and Surgical Society, two children—one a boy of seven years of age, the other a girl of ten years—in whom he had excised the hip-joint in the course of the present year, and a dissection from another successful case in which the child had died a few months after the operation of inflammation of the lung accidentally contracted. The latter preparation had been exhibited at the Pathological Society, and will be found more fully described in the 14th vol. of their "Transactions." Mr. Holmes remarked that his object in this communication was rather to show what the results of successful excision of this joint are, than to discuss the general question of the propriety of the operation; he, therefore, merely dwelt so far on the latter subject as to insist that there are conditions for which excision holds out a prospect of cure where natural cure is hopeless, and in those cases the time required for recovery after operation is far less than that required for natural cure, while the joint which is left by it is more useful. In the case of the boy, there had been extensive abscess reaching nearly to the knee, and the child was rapidly sinking under the profuse suppuration at the time of the operation, which was performed in February last. At the operation the femur was divided from the trochanter, and the acetabulum, which was ulcerated, was scraped out. Recovery was comparatively speedy. The boy had been going about for some time, and has lately been walking on a high boot. All the wounds have long been soundly healed; there is motion in every direction; he can walk with a slight limp for a considerable distance, and his gait is daily improving as he becomes more accustomed to his boot; the shortening is about one inch and a-half. In the other case, that of the girl, there was a great distortion at the time of the operation, much shortening, and very loud crepitation on rotating the limb. The head of the femur was lying loose in the joint, and the surface of the remaining part of the femur was ulcerated; consequently a natural cure was impossible. The acetabulum was healthy. The recovery was rapid, the operation having been performed in June, and the child having been about now for some weeks. It is only very lately, however, that she has been fitted with a high boot, so that she walks awkwardly as yet. The shortening also is greater than in the former case—about two inches,—but the range of motion is equally extensive. Most probably in both these cases the same state of things exist as in the dissected preparation, where the end of the femur is seen drawn up into the joint by the common tendon, and united to the acetabulum by numerous bands of adhesion, allowing free motion in all

directions. A perfect capsule of fibrous tissue surrounded this new articulation.

In reply to a question, Mr. Holmes said that he had never performed the operation except when there was abscess and loud crepitus on pressing the joint surfaces together.

Medicine.

ON TRACHEOTOMY IN DIPHTHERIA.

By George Buchanan, A.M., M.D., Surgeon to the Glasgow Royal Infirmary, and Lecturer on Anatomy.

In some papers on this subject I have called attention to the two modes in which Diphtheria proves fatal. In one class of cases the death is from asthenia, in another from apnœa. In those in which the patient sinks from debility, the surgeon is unable to ward off the fatal result; in the other, when suffocation is imminent from extension of the diphtheritic exudation into the larynx and trachea, then tracheotomy will prevent the impending death, and in many cases give time for the patient to recover from the disease. While always willing to admit that at certain stages of *croup* tracheotomy was admissible, I was at first a partaker of the wide-spread opinion that it was not practicable in diphtheria; but experience has shown me that that it is quite as applicable to these cases of diphtheria to which I have just alluded, as it is to cases of croup.

I have elsewhere published the result of fifteen cases with five recoveries; I now report other six operations, with two recoveries. Such operations require a large number of cases to make the statistics of any avail, but I have always held that this is not an operation to be effected by figures. The question is, "Can tracheotomy save the lives of any children after medical treatment has proved unavailing?" That it has done so is manifest, and the only other point to which I desire to draw the attention of the profession is, to have recourse to the surgical means somewhat earlier in the progress of the case than has hitherto been done. When remedial measures have failed, and when the disease is still extending, then the surgeon should interfere before the strength has been reduced by the ineffectual struggles of the patient to obtain air through the obstructed air-passage. The following cases are illustrations of the results of tracheotomy in diphtheria:—

Case XVI.—On the 1st February, 1864, Dr, Chalmers requested me to visit, with him, the child of Mr.——, a little girl, aged 5½ years.

She had been ailing about a week, but Dr. Chalmers had not been called till four days after the onset of the disease, when he found her suffering from diphtheria. Mustard was applied to the throat and back, and ipecacuanha wine administered. The disease, however, continued to progress, and on the day named I found her in great distress from obstructed respiration. The exudation had evidently extended into the larynx. I at once performed tracheotomy, and gave her instant relief. She bore the tube very well, and rested well at night. Next day she took beef tea and milk, and was much better. She continued to improve for four days, when, as the tube seemed to give her some annoyance, I removed it, and left her breathing quietly. During the night, however, a severe fit of choking came on, and she had difficulty in breathing, for a considerable time. On the fifth day the respiration became more obstructed, and she was wearied out and died at mid-day.

Case XVII.—T. C., aged 6 years was seized with symptoms of diphtheria on the 7th February, 1864. Patches of white exudation were visible on the tonsils and fauces. He was treated, under Dr. Drummond, by inhalation of steam, application of hot fomentations. and by the administration of chlorate of potash. On the 11th, the disease had extended to the larynx, and the patient was then placed under my care. He was removed to a private room in the Infirmary, in order that he might be under the immediate care of my assistant and dressers. On admission at 2 p.m., the respiration was hurried, difficult, and stridulous; the face flushed; pulse 120, full. As his strength was good I ordered an emetic of ipecacuanha, to be followed by repeated doses of iodide of potassium. At 6 p.m., the breathing was more impeded, but the pulse was still good. The emetic was repeated. At 9 p.m., the dyspnœa was so urgent, and the spasmodic stridor so much increased, that the face became almost livid; and in a paroxysm the patient sprang out of bed and appeared on the point of suffocation. I at once decided on performing tracheotomy. The operation was accomplished with great difficulty, owing to struggles and the occurrence of several spasms. The neck was very vascular, and there was considerable hemorrhage from a distended skin, which I secured before opening the trachea. The tube, however, was safely introduced, when the struggles at once ceased, and the breathing became tranquil. A large quantity of tough exudation was coughed up, and pulled out of the wound, after which the air-passage seemed completely clear of obstruction.

On the 12th and 13th he was remarkably well, but on the 14th he was feverish, with a white tongue and rapid pulse. On the 15th his skin was covered with a bright eruption of scarlatina; but he was more

comfortable since the eruption appeared. On the 17th he was progressing favourably; and as all uneasiness connected with the tube had gone off, the latter was removed without any bad consequences. On the 25th the wound was nearly closed, and the patient could speak and whistle. Next day he was allowed to go into the ward; but he caught cold, and general anasarca made its appearance. He was again confined to bed, and kept warm with plenty of blankets; and the heat of the room was raised. He got occasional doses of castor oil; and in a few days the anasarca began to disappear. On the 19th of March he was dismissed cured.

This case is peculiarly interesting from the occurrence of scarlatina and then anasarca to complete the operation, and would lead one to believe that the existence of scarlatina, at least in a mild form, ought not to be considered a contra-indication to tracheotomy, if it should supervene upon an attack of croup or diphtheria.

Case XVIII.—W. R., aged 3 years began to show signs of being ill for some days before medical assistance was called for. On the 18th March, 1864, Dr. Cassells was asked to attend, when he found the whole back part of the mouth covered with diphtheritic exudation. The treatment consisted in supporting the strength, and the use of chlorate of potash and dilute mineral acids. The patient continued to improve a little each day till the 22nd, when the larynx was evidently invaded. Treatment was continued for twenty-four hours longer; but on the evening of the 23rd the obstruction to respiration became so great that I was sent for. I found marked evidence of considerable laryngeal and tracheal effusion. The stridor was continuous, and the agony great; the face was cold, and the lips bluish. I at once performed tracheotomy. with the most marked relief to all the symptoms. The tube was introduced; and, as usual in these cases, the child fell asleep in half an hour after the operation. Every thing went on satisfactorily; so that on the evening of the 27th I removed the tube, and left him breathing quietly through the wound and mouth. The next morning he was quite well and lively, was playing about the bed, and took breakfast with great relish. About mid-day while running about the room, he said he felt a choking feeling, and became very pale. Dr. Cassells, who happened to be in the vicinity, was called at once, and on his arrival found the child on the point of death. Indeed he died a minute afterwards. The wound seemed free from obstruction, and the exudation had altogether disappeared from the fauces. The cause of death was not ascertained.

Case XIX.—Esther W., aged 3½ years, complained of sore throat on the 24th March. Dr. Greenlees, who was called, at once perceived it

was a case of diphtheria, and treated it accordingly. The stages of the disease were so rapid, that by midnight the larynx was affected, and, suffocation seeming imminent, I was sent for. By the time I arrived it was plain that there must be no delay, as the poor child was suffering severely. The pulse was not so strong as could be desired, and the face was cold and puffy; still it was so early in the disease I did not hesitate to perform tracheotomy. The relief was instant, and next morning the child was very well. There was at first some difficulty in getting her to take nourishment, this however, was soon overcome, and she took milk, beef tea, and wine with relish. Matters continued to go on nicely for five or six days; but on the morning of the 31st, the breathing became more laboured, and the face got flushed—signs of fresh obstruction further down than the opening. I had retained the tube in the tracheal opening the whole time, fearing what had now occurred. By the evening the symptoms became more distressing; and the little patient died, worn out, on the seventh day after the operation.

Case XX.—On the first April, 1864, I was called to see E. T., aged two years. He had been attended by Dr. M'Millan since the 27th March. Iodide of potassium, in frequently repeated doses, had been prescribed, also emetics of ipecacuanha. The symptoms amended for a few days, but on the 1st April it was evident that the exudation had extended into the larynx. When I saw the child it seemed to be suffering chiefly from the dyspnœa, but in the intervals of the paroxysms it was quiet, and rather weak. The duration of the disease was rather unfavourable to its strength, but, judging from the vigour with which he rose up and swallowed milk and other fluids, I determined to operate. The struggles of the boy during the operative procedure rendered it rather tedious, but nothing could be more gratifying to myself, as well as to the parents, than the perfect quiet which followed the introduction of the tube. The little patient got on nicely for four days; but on the morning of the fifth, it was evident that the symptoms were returning. Unable to stand against a renewal of the disease after the previous exhaustion, he gradually sunk, and died on the fifth day after the operation.

Case XXI.—On the 19th July, 1864, Dr. Renfrew requested my opinion in the case of A. M'D., aged 2½ years, who had been suffering from diphtheria for a week previously. The child had been ailing for two or three days before Dr. Renfrew was called in. On the 17th it was evidently a case of well-marked diphtheria, but the exudation seemed at first confined to the fauces. Notwithstanding every care, and as faithful an application of remedies as could be obtained in so young a

child, the disease continued to advance, and on the morning of the 19th the breathing became obstructed. When I saw the little girl she was suffering very markedly from laryngeal obstruction, the exudation having plainly extended into the air-passages. The parents were informed of the imminency of the danger, and at once consented to the performance of the operation. As usual the lodgment of the tube in the trachea was the occasion of instant relief, and, before I left the house the child was asleep, breathing quietly. Her progress to cure was uninterrupted. She rapidly got stronger, and could sit up and take food. I left the tube in till the seventh day, when I removed it without any trouble to the child. She made a rapid and perfect recovery.

I have performed tracheotomy twenty-one times with the result of seven recoveries; and if it be remembered that the patients were all on the point of death from suffocation, it cannot but be regarded as an encouragement to the surgeon to endeavour to save life by operative interference in the latter stages of this most fatal disease.

Diabetes.—The patient, a young, delicate-looking, and slightly-built man, was admitted in the Charing Cross Hospital in the month of November last, had been passing seventeen pints of water a day, the specific gravity of which was 1·040; after a time, and under treatment, the quantity evacuated in the day was reduced to ten pints and a half, and to a specific gravity of 1·032.

The first treatment under which he had been placed was that called the alkaline, opium being at the same time given. There was no good result.

The second kind of treatment adopted was that by means of quinine, creasote, and opium; next, was tried a combination of quinine, strychnia and opium. From this last some benefit was derived. At present the treatment consisted in giving the patient the muriated tincture of iron, internally, and in allowing him for food such articles of diet and drink as were not convertible into sugar, or were not otherwise prejudicial.

Brandy was permitted, but in such a regulated quantity that it could not possibly act as irritant upon the kidneys; not because any injury was apprehended to these organs, but in order to prevent any diuretic action by which more urine than was being daily expelled should be eliminated.

Greens, fresh meat, fish, brown or bran bread, and such like articles, were given to the patient each day, and since his admission he seemed to have improved.—*Medical Circular, Feby. 15th*, 1864.

Canada Medical Journal.

MONTREAL, MARCH, 1865.

CLINICAL STUDY.

Within the past twelve years, the improvements that have taken place in our medical schools and colleges, in the method of instruction, have been such as to commend them to the good, plain common sense of those who, twenty years ago, studied their profession under disadvantages, which at the present day do not exist. Yet that we have reached a point, beyond which it is impossible to improve, will be hardly claimed by any. The rapid growth of all our Canadian Medical schools demands that at each and all, the student shall have presented to him, the details of his profession in the manner best fitted to make a lasting impression upon his mind. Some students have a memory so retentive as to be able to retain the substance of the greater portion of the lectures; yet that the majority are so blessed will be denied by every one who is at all acquainted with the subject. As to the propriety of regular and continued daily lectures, it is not our intention to allude, though we may mention that this subject has lately engaged the attention of eminent men in the mother country. Of clinical lectures and on the subject of clinical study, it is our intention to write a few lines. Its importance has only been properly understood within the past few years; and the prominent position given to clinical chairs in the older schools of Europe has secured to them a class of men, such as Syme, Bennett, Laycock, and others. On this continent, however, as a rule, we fear the clinical chairs are looked upon as of only secondary importance, and many who would think themselves guilty of a gross dereliction of duty were they to miss any of their regular lectures, have no compunction to escape, not once, but often, those termed clinical. Are these lectures really clinical, or has there not been, and is there not still a tendency to make them what they should never become—systematic? Of this class, we feel certain, the student has quite enough already. At all our Canadian schools we know that an honest attempt is being made to give the student instruction (truly clinical) at the bedside of the patient; and that all hospital physicians,

themselves, aware of its great importance, have turned clinical teachers to such students as follow them in their daily hospital visits. And to this fact we attribute the greater excellence and practical bearing of the theses presented by intending graduates, within the past few years at the University of McGill College of this city, as was mentioned by the worthy Dean of the Faculty, at the two last annual convocations. According to our idea, what are termed clinical lectures, should never be purely systematic —by this we mean that the Professor should never take up one particular class of diseases or accidents, and follow them *seriatim*, as is done at all Colleges by the Professor of Principles and Practice of Medicine and Surgery. It then becomes to the student a mere repetition, illustrated, perhaps, at times by cases, but as often not; and the student, who neglects his daily attendance at the bedside, feeling that his clinical lectures, delivered twice a week are all that is really demanded, is apt to find out, when too late, that he has neglected the most important and practical portion of his professional education. The London *Lancet*, some months ago, writing on a somewhat similar subject, says, "It may be a question whether we ought not to discard formal so called clinical lectures altogether. They are very liable to degenerate more or less into systematic lectures, of which the student has already too many, and they lead to the neglect of the bedside instruction." This we heartily endorse, so far as raising our voice against the continuance of *systematic* clinical lectures; but in addition to bedside instruction, given now by almost all hospital physicians, as well as clinical professors, we would have the latter give his clinical instruction on lecture days, after the method followed by Professor Syme of Edinburgh, and which has been adopted by him for more than thirty years; it will be better understood by the following extract from a letter from Professor Syme, dated September, 1864.

"The plan, therefore, which I introduced into the Edinburgh school thirty-five years ago, and still pursue, appears to me much preferable, and worthy of general adoption. This is to bring the cases, one by one, into a room where the students are comfortably seated, and if the patients have not been seen previously by the surgeon, so much the better; then ascertain the seat and nature of their complaints, and point out the distinctive characters. Having done this, so that every one present knows distinctly the case under consideration, the teacher, either in the presence or absence of the patient, according to circumstances, proceeds to explain the principles of treatment, with his reasons for choosing the method preferred, and lastly, does what is requisite in the presence of his pupils.

The great advantage of this system is that it makes an impression at the same time on the eye and ear, which is known from experience to be more indelible than any other, and thus conveys instruction of the most lasting character. Every season I have from a dozen to twenty of my old pupils, who, having been employed for many years in the public service, and not unfrequently attained the highest rank, yet attend the whole course without missing a lecture, and often bring to my recollection cases seen or remarks heard long before the bulk of the class were born. I may add that the Edinburgh College of Surgeons in their curriculum of study have wisely taken a second course of clinical surgery, instead of a second systematic course at option of the student; so that, instead of hearing the same story told over again, not always in the most lively manner, he may read his book and store his mind with valuable facts for future guidance and practice."

A somewhat similar plan was followed by the late Dr. Bell, a few years ago, one of the Clinical professors at the Glasgow Royal Infirmary; and no one who has followed a course by either of these eminent men, but will have been forcibly struck with the vastly preponderating superiority of their method of imparting instruction, over that followed as a rule in this country. We would especially speak in the highest terms of the lectures of Professor Syme as being calculated to impress in the most lasting manner all that falls from his lips, upon the mind of the student. In the course of one lecture, Mr. Syme will examine half a dozen cases, just such as happen to present themselves; but every word that he utters is of practical value to the student. How completely at sea, does not the practitioner often find himself, who has neglected bedside instruction, when he has but barely crossed the threshold of his professional career. To the same extent this could not be the case, were the clinical lectures delivered after the method we have mentioned. At some of the examining Boards in the mother country, a bedside examination forms a portion of the test for the diploma, and we happen to know that the very highest importance is attached to this part of the examination. In truth we live in a practical age, and the more practical the methods followed in imparting instruction in medicine are, the more thoroughly grounded in practical experience will the practitioner be, when he leaves the lecture room of his *alma mater*, carrying with him his certificate of qualification. For our part we are convinced the more attention the student gives to walking the wards of an hospital, and closely watching what falls under his observation, the better will he find himself qualified to battle with disease in its various forms; hence, we would compel every student to attend hospital practice for three six

months instead of two, as is the case, we believe, at all our Canadian schools. At Edinburgh, the College of Surgeons have altered their curriculum of study, so that the student now is *obliged* to take two courses of clinical surgery, insted of leaving it to his option whether his second course should be clinical or systematic surgery. The clinical courses in Edinburgh or Glasgow are of six months' duration, and we think it would not be erring, were we to make our clinical courses in Canada to correspond. These remarks, we would observe in conclusion, have no personal application; we know the clinical professors in all our colleges have the welfare of the student at heart,—that they enthusiastically labour in their particular sphere, and that there may be some difficulties in the way of entirely adopting the method of the Scotch school, but by aiming at perfection—in time it may be attained. Some may not agree with us: we cannot expect that every one will hold opinions like our own. While we fully admit their right to theirs, we trust they will give to us an equal liberty, and believe that we have but one object, in this article—to advance the position of the student, and thus elevate the profession in Canada.

QUARTERLY REPORT OF THE MONTREAL GENERAL HOSPITAL FOR THE QUARTER ENDING 31ST JANUARY, 1865.

Number of patients remaining from last quarter	110	Died during quarter	17
Admitted during present quarter	282	Now in hospital	110
		Discharged	265
Total	392	Total	392

Indoor Patients.		*Outdoor Patients.*	
Females	125	Females	1012
Males	157	Males	686
Total	282	Total	1698
Roman Catholics	145	Roman Catholics	1339
Protestants	127	Protestants	309
Total	282	Total	1698
Residents	207	Residents	1661
Strangers	16	Strangers	31
Sailors	5	Sailors	3
Emigrants	4	Emigrants	3
Total	282	Total	1698
Natives of Denmark	1	Natives of Canada	1041
" Canada	104	" England	83

Indoor Patients.		*Outdoor Patients.*	
Natives of England	34	Natives of France	3
" Germany	4	" Germany	25
" Ireland	113	" Ireland	400
" Norway	1	" Nova Scotia	4
" Nova Scotia	2	" New Brunswick	1
" Poland	1	" Scotland	30
" Scotland	16	" Switzerland	4
" Switzerland	1	" United States	41
" Sweden	2	" West Indies	6
" United States	3	Total	1698
Total	282		

In addition to the deaths above enumerated there were three which occurred within three days after admission, making the total number of deaths twenty, and of admissions 285.

DISEASES, ACCIDENTS, &C.

Diseases, &c.	Admitted.	Died.	Diseases, &c.	Admitted.	Died.	Diseases, &c.	Admitted.	Died.
Abscessus	7	..	Epilepsy	1	..	Ophthalmiæ var	9	..
Abortio	1	..	Ecthyma	3	..	Ostitis Ch	2	..
Amaurosis	2	..	Epithelioma	1	..	Onychia	1	..
Amputatio	2	..	Ebriositas	1	..	Ovaritis	1	..
Amenorrhœa	2	..	Febricula	6	..	Phthisis	15	5
Arthritis Rh.Ch	1	..	Febris intermit.	1	..	Pneumonia	5	..
Anasarca	1	..	" Typhoid	2	2	Pustula Malig.	1	..
Ascarides	1	..	Fractura cubiti.	1	..	Palatum fissum.	1	..
Anemia	2	..	" Cruris	4	..	Rheumat. Ch.	5	..
Adenitis	1	..	" Scapulœ	1	..	" Acut	3	..
Anthrax	1	..	" Clavic	2	.	Rubeola	7	..
Bubo	2	..	" Fibulæ	2	..	Scabies	6	..
Bronchitis, Ac.	6	..	" Cranii comp	1	1	Syphilis prim.	19	..
" Chron	6	..	Furunculus	2	..	" Consec	6	..
Contusio	6	..	Gonorrhœa	2	..	Synovitis Ac.	2	..
Cystitis	1	..	Gelatio	5	..	Sciatica	1	..
Chlorosis	1	..	Glossitis	1	..	Struma	1	..
Carcinoma	1	2	Hœmorrhoid	1	..	Strict. os uteri.	1	..
Concussio Cereb	2	..	Hemiplegia	2	..	" Urethræ.	2	..
Cataract	2	..	Hysteria	1	..	Scarlatina	1	..
Debilitas	23	..	Hernia	2	..	Subluxatio	2	..
Del-tremens	6	1	Icterus	1	..	Tumour	2	..
Diarrhœa	1	..	Laryngitis Ac.	1	..	" Uteri	1	1
Diabetes mel	1	..	Luxatio femoris.	1	..	" Ovarii	1	..
Dyspepsia	1	..	Morbus Cordis.	2	1	Tormina	1	..
Epistaxis	1	..	" Coxæ	2	..	Tinea Capitis.	1	..
Emphysema pulm	1	..	Meningitis Spinal	1	..	Tonsilitis.	2	..
Eczema	2	..	Mastitis	1	..	Ulcus	12	..
Erysipelas	3	..	Orchitis	1	..	Variola	29	4
						Vulnus	3	..
						Total	282	17

OPERATIONS, &C., DURING THE QUARTER.

Major Operations.

Amputation of thigh, 1; For femoral hernia, 1; Trephining, 1. Total 3.

Minor Operations.

Hydroceles tapped, 1; Excision of Cysts, 2; Tenotomy, 2; Teeth extracted, 86; Incisions, 44; wounds dressed, 63; Cuppings, 14; Pterygium removed, 2; For Hypospadion, 1; Amputation of fingers, 2; Epithelioma removed 1; Knee-joints tapped, 1; Sequestra removed, 2; Actual Cautery applied, 1; For Strabismus, 1; Fistula in Ano, 1. Total 226.

Dislocations reduced.

In door.	*Out door.*
Of Femur on dorsum ilei, 1.	Of Humerus in axilla, 1.

Fractures Treated.

In door.		*Out door.*	
Simple.....	10	Fracture Radii	1
Compound.....	1		

Total number of operations during quarter..... 243

Attending Physicians.—Dr. MacCallum and Dr. Fenwick.

J. M. DRAKE, M.D.
House Surgeon, M.G.H.

DEATH OF DR. DOWIE.

Another medical practitioner has fallen a victim to the epidemic at present raging in this town. Dr. Dowie, we regret to say, died on the 2nd February, at the early age of 22 years, death resulting from typhus fever. Deceased was the son of Mr. E. T. Dowie, surgeon dentist, and had only commenced practice in town a few weeks ago. The fatal disease which cut him off thus early was contracted in the laborious discharge of his duties, to his fever stricken patients. The deceased gave every promise of being an ornament to the profession; and his early death has cast a gloom over the entire community. Only two days previous to his death, he was appointed one of the district surgeons in connection with the Parochial Board. This is the fourth physician who has died in this town during the past three months from typhus fever, viz., Drs. McClosky, Paton, Conway, and Dowie—all young men.—*Greenock paper, Feb. 5th.*

The above is a sad paragraph, and shows that four men, young, full of life and hope, faced that malady, usually so fatal in Scotland, and fell at their posts. How many outside the profession appreciate the true heroism which calls the physician, to be firm and undismayed, to face with coolness an epidemic, which is carrying death and desolation to almost

every third door. To the friends of all we would extend a heartfelt sympathy, and while looking to our Heavenly Father for that consolation which he so freely gives, we would remind them that our brethren fell, at the post of duty, nobly trying to save life and ameliorate human suffering. Personally acquainted with two—Drs. Paton and Dowie—we feel that Greenock has sustained no common loss in the death of the former, who during the few years he had practised his profession, had attained a position, held by few so young in years. Dr. Dowie we first met in the fever wards of the Glasgow Royal Infirmary, a few years ago. Though then but a first year's student, his zeal had already attracted the attention of his teachers. Scarcely had he received his degree, than the message came, and he "passed to that bourne from whence no travellers has yet returned." They have not died in vain; they have left behind them a noble self-denying record, appreciated at least by their professional brethren, and, let us hope, by some who may at times speak slightingly of the labours attending the life of a true labourer in the field of Medical Science.—(*Ed. Canada Medical Journal.*)

DR. BROWN-SEQUARD IN DUBLIN.

During the last week much interest has been excited in Dublin by the visit of Dr. Brown-Séquard to that city, and the performance of a very formidable operation under the advice of that gentleman, the result of which is looked forward to with great interest. The operation to which we allude was the excision of a portion of one of the vertebræ in a case of partial dislocation of the spine from injury, and was performed by Dr. Robert Macdonnell in Jervis-street Hospital. The very formidable nature of the operation made its performance a matter for the most mature consultation and deliberation. After examination of the case by Dr. Brown-Séquard, and in view of the absolute certainity of death as the only remaining alternative, it was determined to endeavour to relieve the symptoms of paralysis by operation. The vertebra, which was low down in the dorsal region, was, we believe, found to be twisted and compressing the chord, and portions of the laminæ were removed. Up to the present time we understand that a slight improvement in motive power or in the incontinence of the urine and fæces has resulted.—*Dublin Medical Press, Feby. 8th*, 1864.

We are glad to lear that Dr. Kenneth Reid, of Huntingdon, C.E., a former pupil of Dr. Hingston, and who occupied a distinguished position among the graduates of McGill College, at the last convocation has been appointed House Surgeon to the Birmingham Infirmary. After

his graduation, Dr. Reid was rather more than three months an assistant Surgeon in the army of the Potomac, and last fall proceeded to Europe. We are glad thus to chronicle the success of a Canadian graduate in one of the large manufacturing cities of England.

DAVIS'S SPECIFIC CIGARS.

Mr. Davis of this city has prepared medicated cigars with a view of affording to those who are smokers a means of indulging in the weed, at the same time that they can by the same means procure medication. Smoking stramonium, conium, belladonna and other narcotics is no novelty; and we find in works on the subject of materia medica mention made of this method of introducing these agents into the system. Those who prefer smoking to swallowing drugs, have thus an opportunity afforded them of indulging their appetite. Each box contains ten cigars, which are well made, and full particulars are given as to the method of using them. They are to be had of all druggists.

SYRUP OF THE DOUBLE IODIDE OF QUININE AND IRON.

We have received a bottle of the above elegant preparation from Messrs. Kenneth Campbell & Co., Apothecaries to H.R.H., the Prince of Wales, Great St. James street. It is an exceedingly clear syrup, and is unaffected by exposure to light. We have tried it in several strumous affections, and find it a valuable tonic and alterative; it is especially useful in this class of disease in children, and we can with confidence recommend it to the profession.

COLLEGE OF PHYSICIANS AND SURGEONS FOR LOWER CANADA.

At the semi-annual meeting of the Board of Governors of the College of Physicians and Surgeons of Lower Canada, held at the Laval University, Quebec, on the 11th of October last, the following amendments to the Rules and Regulations of the College were unanimously approved, and will be submitted for adoption at the triennial meeting of the College, to be held in the town of Three Rivers, on the second Wednesday of July next, according to law.

REGISTRAR AND TREASURER.

The first section under the following heading shall be amended by substituting the following in lieu thereof:

1. The Registrar shall keep in his possession the books of enregistration, one of which shall be for students entering upon the study of medicine or pharmacy, and the other for the members of the College,

licentiates, midwives, apothecaries, and all other persons practising medicine or pharmacy in Lower Canada, and he shall have charge of the seal of the College.

The third section shall be amended by substituting the following:

3. The registrar shall receive as remuneration the sum of twelve pounds ten shillings currency annually, out of the contingent fund.

OF LICENTIATES.

The following shall form the fourth section of the Rules and Regulations under the heading "Of Licentiates."

4. Every person now practising medicine, surgery, midwifery, or pharmacy, or who may hereafter practice in Lower Canada, shall enregister his or her name, age, place of residence, nativity, the date of his or her license, and the place where he or she obtained it, in the books of the College, within three months after the publication of this By-law.

REGULATIONS, &c.

The following shall be substituted for the second section of the Regulations, and be in lieu thereof:

2. Candidates for Provincial license to practice either medicine, surgery, and midwifery or pharmacy, will be required to submit to a literary and classical examination on entering upon their studies, and a professional one, at the close.

The following shall form the eighth section under the above heading; the present eighth and ninth sections of the same to form respectively the ninth and tenth sections:

8. The candidate for pharmacy must also furnish proof that he has attended lectures on the following branches, at some University, College, or incorporated school of medicine, or pharmacy, within Her Majesty's dominions:

Chemistry, materia medica and pharmacy, two six months' courses of each.

Toxicology and botany, one three months' course of each.

It was moved by Dr. Sewell, and seconded by Dr. Gilbert, and resolved, That the proposed amendments to the by-laws now read, be published in the *Canada Medical Journal* of Montreal.

A true copy of the minutes.

W. MARSDEN, M.D., President.
Coll. Phys. & Surgs. L. Canada.
R. H. RUSSELL, M.D.E., } Secretaries.
H. PELTIER, M.D.E. }

Quebec, 12th October, 1864.

MEDICAL NEWS.

The Castleton (Vermont) Medical College has ceased to exist, and the property been sold. The attendance of students at the New York colleges the present session is as follows: College of Physicians and Surgeons, 300; Bellevue Hospital College, 300; University of New York, 200. It is said that J. P. Lippincott & Co., of Philadelphia, will shortly publish a new edition of the United States Dispensatory, by Wood and Bache. Dr. Kirk, one of the physicians to St. Bartholomew Hospital, London, died recently at the early age of 41 years; he is well known in this country from his work on Physiology. Twenty-two thousand people live in cellars in the city of New York. A new fever Hospital has just been erected at Liverpool; it has accommodation for 160 patients: the cost was £6,000. The operation of Cæsarean section was performed in Belfast, Ireland, in the early part of January: the child was saved, but the mother died; she had been in labour four full days previous to the operation. An ophthalmic department has been added to Kings College Hospital, London.

The inauguration of a statue to the memory of Baron Larrey, Surgeon in chief of the armies of the first French Empire, took place recently. His son, who now occupies the post of Medical Director of the French armies, was present. Dr. Sims of Alabama, but for two years past a resident of Paris, has had the cross of the Legion of Honour conferred upon him by the Emperor Napoleon in recognition of his successful treatment of uterine diseases. The London *Lancet* of December 10th, 1864, says, that two children were brought up before the Wisbich Police Court charged with stealing several bottles of homœopathic medicine from the shop of a Mr. Finnell. It was said in Court that the children had eaten the contents of more than twenty bottles, "without being either the better or worse" for it.

A *conversazione* of the geologists' Association was held on Tuesday week at 32A, George street Hanover square, which was numerously attended by the members and their friends. Mr. Highley, F.G.S., exhibited, by the aid of his oxy-hydrogen demonstrating lantern, a fine series of microscopic objects enlarged by microphotography. Mr. Highley claimed for his invention that it supersedes the old system, all objects presented being faithful copies of nature, rendered with an accuracy impossible to be attained by hand-painting. Mr. T. Boverton Redwood explained to the visitors the nature and properties of the metal magnesium, and showed the beautiful light it produces when burned. A number of interesting objects were displayed by the members, amongst which may be mentioned a splendid series of crystals from Germany.—*Medical Circular.*