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ORIGINAL COMMUNICATIONS.

ART. VIII.—*Statistics of the University Lying-in Hospital, Montreal.* By ARCHIBALD HALL, M.D., Physician Accoucheur to the same; Professor of Midwifery, &c. University of McGill College; President of the College of Physicians and Surgeons of Lower Canada; Honorary Fellow of the Obstetrical Society of London, &c., &c.

The importance of Statistics is now acknowledged in the different Medical Sciences, and they have been happily brought to bear upon the settlement of many disputed points. But in none is their influence of such moment as in Midwifery, as they have established with a degree of precision which cannot be questioned, many highly important principles, if they can be so called, which lie at the foundation of its science and practice, and it is here, far more than in Medicine or Surgery, that their great influence must be chiefly confessed. Nature always operates by laws which we are enabled to appreciate only by this means, while at the same time, we become enabled by the same means to estimate the slightest deviation from them. The greater the amount of statistical information, therefore, which can be brought to bear upon certain given points, the more surely will these become established as principles or laws, and it is with the view of contributing to the mass of information which we already possess, on many interesting subjects connected with midwifery, that I throw the following results into the common fund; but, before entering directly upon the more immediate subject of this paper, it may be well to premise a few remarks on the history of the Institution, whose operation has furnished them, by way of shewing its advantages as a means of studying obstetrics practically.

The first Lying in-Hospital established in Montreal, was founded by the late Dr. MacNider, in the year 1841, and went into very successful operation. In consequence, however, of a refusal to allow the students of the University access to it on account of the practical advantages which it was thought capable of affording, (Dr. MacNider at that time being a lecturer on midwifery in the Montreal School of Medicine,) it was deemed proper about a couple of years afterwards by the Professors in the University of McGill College, to found one in connection with the University, and to place its professional control in the hands of the Professor of Midwifery, intimately associating it with the chair.

The practical advantages thus accruing to the students at the University by this arrangement are obvious. Shortly after the decease of Dr. MacNider, an event which took place in the year 1846, his Hospital was closed and has not since been re-opened.

At the present moment there are two Lying-in-Hospitals in Montreal. One is the Hopital de St. Pelagie, a Roman Catholic Institution, admitting Protestants, however. It is under the economic management of the Sisters of St. Pelagie, and the professional charge of Dr. Trudelle, the present Lecturer on Midwifery in the Montreal School of Medicine. It admits a considerable number of patients during the year, and the students of that school have, as I have understood, access to it. The other is the University Lying-in-Hospital, which was opened in November, 1843, as well for charitable purposes, as for the instruction of the students in the Faculty of Medicine of McGill College in practical midwifery, an object which it has carried out as successfully as its opportunities permitted. For the first ten years of its existence, the Hospital was under the able superintendence of the late much lamented Dr. McCulloch, then the Professor of Midwifery in the University, and since that gentleman's decease by Asiatic Cholera during the last visitation of that epidemic in 1854, it has been under the charge of the present Professor of that branch; the other members of the Medical Faculty of the University, having always constituted a Board of consulting Physicians. It is supported partly by voluntary subscription, and partly by an annual Legislative grant, increased during the last two or three years to £75 per annum. The amount received from the former source is very limited, but in consequence of strictness in collecting from pay patients and the extremely prudent economic management of its matron and resident midwife, Mrs. Hope, who is thoroughly instructed in midwifery, and has received the license of the College of Physicians and Surgeons, the Hospital has not only a sufficiency to meet its annual expenditure, but has been enabled to liquidate a considerable debt, which oppressed it a few years ago. A kind benefactress, the late Mrs. Maria A. Monk, bequeathed to it at her decease in 1853, the generous amount of £262 10s., which was immediately invested in Bank stock, and having been increased from time to time as circumstances allowed, the Hospital has now, to its credit, the sum of £500, which is reserved as a fund for the erection of a suitable building at a future day. The premises which it now occupies are by no means adapted to the purposes to which they are applied, but no better can at present be obtained. The Hospital is, however, conveniently situated, being close to the lecture rooms and the Montreal General Hospital, and of easy access to the students.

A minute record is kept of every case. As soon as a patient enters, the following particulars are noted in regard to her—the date of admission,—her name,—her age—and the country of her birth; and, when the accouchement has been completed, the following additional details are recorded,—the kind of labour—the nature of the presenting part—the duration of the labour—the time before the delivery at which the membranes ruptured—the sex of the infant,—its length and its weight,—the weight of the Placenta,—the length of the umbilical cord, the number of days since the last catamenial period—the condition in

which the child was born, whether living, still, or dead,—whether the case is a first, second or third, &c. gestation, and lastly the date of her discharge from the Hospital, and after a categorical reply to all these questions, any peculiarities in the labour are finally detailed under an appropriate heading. All these particulars are entered by the student in attendance on the case, immediately after the termination of the accouchement, so that in time a truly valuable amount of statistical information will be obtainable. The Hospital has now been in operation sixteen years, and it is the results which during that time have accumulated, which furnish the groundwork of this paper.*

It appears that during this period of time 1968 women have been admitted as patients, being an annual average of about 123. Of these five were cases of Abortion, which require to be deducted from our calculations. It is necessary to remark that the total number given includes a list of 747 cases of which a very minute portion only of their details has been preserved, viz.: their admission and confinement. I will only use these in a general way. Every endeavour has been made to discover where these records are, but without avail. It is exceedingly to be regretted that any portion of them whatever has been lost.

The sufficiently large number of 1216, however, yet remain whose details have been preserved in their comparative entireness. It must be further observed, that it is sometimes impossible to fill up answers to all the questions; and I may exemplify this remark by the well known difficulty in determining the number of days intervening between the cessation of the catamenia and the commencement of labour, but in all cases in which the results have been obtained from numbers less than the total, the precise number will be stated.

I propose to enumerate at first general details; and I will reserve to the conclusion of the paper, the narrative of such peculiarities in the labours as have been specially noticed in the records.

Of the 1960 women admitted, besides deducting the five cases of abortion already noticed, we have further to add to this latter number, 14, who either left the Hospital before delivery or were expelled for bad conduct. These deductions reduce the total number to 1949.

Of the 1949 patients 17 have died, the causes of the deaths having been the following:—five from puerperal fever; six from peritonitic and metritic affections; one from epilepsy complicating the labour, and ending in cerebral congestion; and five from puerperal convulsions. This proportion yields a ratio of mortality in the cases, of 1 to 114.6 labours, thus exhibiting a highly favourable ratio.

Of this number there are only 1208 entries in the register, which can be rendered tributary to the purposes of this paper, the record containing nothing

* In the *British American Journal* of February, 1847, the late Dr. McCulloch contributed an interesting paper on the statistics of the Hospital based upon 354 cases, which had up to that period of time been admitted. These cases which furnished the ground work of his deductions are among the 747, whose details are now all lost except the record of their admission and confinement. I will therefore avail myself of his labours whenever I find them suiting my purpose.

More lately, Dr. Fenwick, with my permission, has given, in the *Medical Chronicle* for September, 1857, the particulars of 1009 accouchements.

whatever, of the balance of 747, with few exceptions, except their name, date of entry, confinement and religion. It appears, however, that the 1208 gave birth to 1223 children, of whom 667 were boys, and 556 were girls, and adding the statistics of Dr. McCulloch, of the 354 which he reported, we have the following numbers, 845 boys and 732 girls.

The ages of 1301 are given, and after classification they appear as follow:—

15 years of age and under,	1	from 30 to 35.....	85
from 15 to 20.....	235	from 35 to 40.....	43
from 20 to 25.....	586	from 40 to 45.....	3
from 25 to 30.....	347	from 45 to 50.....	1

The age of the youngest admitted is recorded by Dr. McCulloch in his paper. It was 14 years and 7 months. In this case the presentation was a posterior occipito-iliac. The labour lasted seven hours, and the child weighed six pounds. The age of the oldest was 47.

Casualties among the births.—Out of the whole number of casualties among the births, I find that 42 were born dead, and 34 children were still born. Of these last the statistics are as follow: of the 34 infants, there were 21 males and 13 females. Of the males, attempts at resuscitation were successful in 17 cases, and unsuccessful in 4. Of the females, attempts at resuscitation were successful in 10 and unsuccessful in 3, exhibiting a total of 27 to 7, or three-fourths of cases of still-born children, in which the efforts for resuscitation have been crowned with the most complete success. In all the cases which have occurred since 1854, the application of the stethoscope, and the evidence furnished by it alone, as to the action of the infant's heart, prompted the perseverance in the efforts for resuscitation, which were frequently attended with success under the most unpromising circumstances. And on this point I may remark, that experience has served to convince me, that on no account whatever, should the means for resuscitation be discontinued, until that instrument, and *that instrument only*, furnishes incontestible proof of the cessation of the action of the heart.

With regard to the particular gestation in which the deaths and still-births occurred, I glean the following: of the 42 born dead, 27 were males and 15 were females. Of the males 20 died in the first accouchement, 4 in the second, and 3 in the third and subsequent ones. Of the females 9 died in the first accouchement, 2 in the second, and 4 in the third and subsequent ones. Of the still-births there were 21 males and 13 females. Of the males, 12 still-births occurred in the first, 6 in the second, and 3 in the third and subsequent accouchements; and of the females, 9 occurred in the first accouchement, 3 in the second, and 1 in the third or subsequent one. These figures strongly corroborate Prof. Simpson's views as to the influence of the male offspring in the induction of difficulties.

The following general averages are deducible from the foregoing: that the deaths of the infants were to the whole births as 1 to 46.4; that the still-births were to the whole births, as 1 to 60.90, and that the recoveries in the still-births were to the deaths in the same as 27 to 7, or nearly as 4 to 1.

Duration of labour.—In 1094 cases of accouchement, the mean duration of the labour was found to be 7 hours 35 minutes. The longest labour lasted

84 hours; a labour of such duration occurred twice; in both cases males were born, in one instance living, in the other dead. The duration of the shortest labour was 12 minutes. The time here meant is the completion of the two first stages of the labour or the birth of the child. I find the comparative duration of the labours as follows:—

Under 1 hour.....	24	from 45 to 50 hours.....	11
From 1 to 5 hours.....	291	" 50 to 55 "	1
" 5 to 10 "	394	" 55 to 60 "	3
" 10 to 15 "	254	" 60 to 65 "	0
" 15 to 20 "	82	" 65 to 70 "	1
" 20 to 25 "	78	" 70 to 75 "	0
" 25 to 30 "	29	" 75 to 80 "	2
" 30 to 35 "	9	" 80 to 85 "	2
" 35 to 40 "	8	" 85 to 90 "	0
" 40 to 45 "	2		

In 1192 labours.

Time between the rupture of the membranes and birth of child.—The period of time intervening between the rupture of the membranes and the birth of the child is recorded in 746 out of the 1949 labours, and the mean time was ascertained to be 2 hours 48 minutes. The longest period was 71 hours; the shortest, contemporaneous with, or shortly after the birth of the child.

Duration of gestation.—With regard to the number of days during which gestation progressed, the greatest pains were taken to ensure accuracy, and out of the whole number of patients admitted, there are only 714 cases whose information can be considered at all reliable. The period taken is the time intervening between the last day of the last catamenial flow, and that at which labour commenced. Every one in practice knows the difficulty that exists in ascertaining this period with precision. These difficulties are enhanced in Hospital practice, where there exists every motive for deception on the part of the patient. Retaining for the calculation all whose statements seemed probable, and rejecting all which bore even the seeming of improbability, we have then 714 cases for the basis of our statistics on this point; and it will be observed that the results, given below, bear out with singular exactitude the conclusions drawn from 150 gestations, and long ago published by Merriman on the same subject, and subsequently quoted, I believe, by Churchill. The following are the results obtained in the U. L. Hospital, of 714 women, at different ages.

4	were	delivered	in	the	37th	week;	i. e.,	from	the	252nd to the 259th day
37	"	"	"	38	"	"	"	259	"	266 "
127	"	"	"	39	"	"	"	266	"	273 "
265	"	"	"	40	"	"	"	273	"	280 "
157	"	"	"	41	"	"	"	280	"	287 "
85	"	"	"	42	"	"	"	287	"	294 "
29	"	"	"	43	"	"	"	294	"	301 "
10	"	"	"	44	"	"	"	301	"	308 "

I now notice the singular circumstance, singular, if the statements made by the several patients could be implicitly relied on, that the register enumerates

two cases whose gestation lasted only 237 days, and three in which it was prolonged to 319 days. Out of the whole number of 714 cases, labour commenced in 22, on the 270th day; in 44 on the 279th day; in 79 on the 280th day; and in 17 on the 281st day. Then comes a singular anomaly during the next seven days, from the 282nd to the 288th both inclusive, the relative numbers following each other in the following order, 21, 22, 24, 22, 21, and 30.

Number of gestations.—In 1208 cases the following figures represent the number treated at their different gestations. Doubt may be thrown upon the entire truthfulness of the statements, and it is fact that unmarried women have been known to falsify their true pregnancy, for the purpose of entering the Hospital, to avoid the operation of a rule, which is carried out as strictly as possible, that unmarried females shall not be admitted twice. But the greatest care has been taken to ensure correctness, and the following table will therefore shew the number of admissions at their several gestations. Out of 1208 accouchements

645	were delivered	of	their 1st	child.	15	were delivered	of	their 7th child.
283	"	"	2nd	"	6	"	"	8 "
124	"	"	3rd	"	9	"	"	9 "
66	"	"	4th	"	0	"	"	10 "
37	"	"	5th	"	0	"	"	11 "
22	"	"	6th	"	1	"	"	12 "

Weight of the Infants.—The weight of the infants is given in 1185 cases exclusive of the twin and triplet cases. I find the mean average weight to be 7 lbs. 3 oz. The heaviest was a girl weighing 11 lbs. 12 oz; the lightest was a boy, who weighed, at term only 4 lbs. The child measured however 17 inches, and did well.—It was his mother's third accouchement, who attributed its diminutive weight to the severity of the labour which she had undergone. The mother was very intemperate. Whether this had any influence on its nutrition in utero, I leave to others to decide.

The average weight of newly born infants has been found to vary in different countries. Why it is so, it is difficult to say. Thus in France according to Camus at the Hopital de la Maternité the average weight was $6\frac{1}{4}$ lbs. In Brussels $6\frac{1}{2}$ lbs., in Moscow, $9\frac{1}{12}$ lbs., and in the United States, according to Beck, the average weight is 7 lbs.

In the 13 twin pregnancies of which we have record, which yielded as many males as females, the average weight of the males was 6 lbs. $6\frac{5}{16}$ oz. and of the females 6 lbs. $6\frac{12}{16}$ oz., showing the average weight of the girls to be slightly the greater. The following is the relative weight of the triplets in the only case which occurred, No. 1, 5 lbs. 8 oz.; No. 2, 4 lbs. 12 oz., and No. 3, 4 lbs. 12 oz. In the whole births the average weight of the boys predominated over that of the girls by 10 oz—that of the boys having been 7 lbs. 8 oz., that of the girls 6 lbs. 14 oz.

Weight of the Placenta.—The weight of the Placenta is recorded in 835 cases. Its average weight was ascertained to be 1 lb. 4 oz.—The heaviest weighed 4 lbs. 1 oz. and occurred only once. Placentas weighing 4 lbs. occurred three times, all together with the first mentioned in primiparous women, the mothers and

children doing well. It might be supposed that this apparent hypertrophy (if it may be so called) was of a morbid nature. There is nothing in the record to favour any such idea. The lightest one weighed 10 oz. It occurred also once, and in a primiparous woman, who also with her child, at term, did well. This one also shewed no signs of disease. A placenta weighing 11 oz. also occurred once, and cases in which they weighed 12 oz. were noticed 6 times. With two exceptions these were also met with in primiparous women. The weight of the Placentas in the case of the triplets, to be hereafter mentioned, was 6 lbs. 8 oz. Battledore placentas were noticed 18 times, being once in 46.3 labours.

Length of the umbilical cord.—The length of the umbilical cord, was measured in 1180 cases; Its mean length was ascertained to be 19.5 inches. The longest measured 47 inches. It occurred only once, and was four times encircled round the infant's neck. The shortest measured 5 inches, and was nine times noticed. Between the extremes of 47 and 5 inches, the record furnishes examples of all the intermediate lengths, some of course more prevalent than others. I subjoin a table shewing the comparative frequency:

From	1 to 5	inches long,	there were 11
"	5 to 10	"	" 61
"	10 to 15	"	" 235
"	15 to 20	"	" 377
"	20 to 25	"	" 326
"	25 to 30	"	" 113
"	30 to 35	"	" 41
"	35 to 40	"	" 12
"	40 to 45	"	" 3
"	45 to 50	"	" 1

The foregoing table excludes the twin and triplet cases. The mean length of the umbilical cord in these cases was ascertained to be 18.5 inches.

Length of the infant.—The length of the infant is given in 815 cases. It ranged between 14 and 27 inches; 14 inches was the shortest, nine of the infants born having measured this length; 27 inches was the length of the longest, of which there were only three examples. The mean average length estimated from the whole number of cases is 20.3 inches. The relative prevalence of the lengths will be seen by reference to the following table.*

9	infants measured	14	inches.	221	infants measured	21	inches.
10	" "	15	"	142	" "	22	"
21	" "	16	"	45	" "	23	"
33	" "	17	"	18	" "	24	"
67	" "	18	"	4	" "	25	"
100	" "	19	"	2	" "	26	"
139	" "	20	"	3	" "	27	"

* Caseaux, in his admirable work "A Theoretical and Practical Treatise on Midwifery," American Edition, 1850, makes the following remark, in alluding to the induction of dystochial labours by excessive volume of the fœtus: "That the largest children are never more than twenty-three inches from vertex to heel." The foregoing table, upon which the utmost reliance can be placed, shews the large proportion of 27 out of 815 infants whose measurements exceeded that length.

From the foregoing statistics we are enabled to draw the following general conclusions.

The mortality of the mothers was as 1 to 114·6 admissions.

The mortality of the infants was to the whole births as 1 to 46·4.

The still-births were to the whole births as 1 to 60·9.

The recoveries in the still-births were to the deaths as 4 to 1.

That the mortality among the mothers occurred chiefly in primiparous women.

That the still-births occurred chiefly with male offspring.

That the chief mortality occurred also with the same.

That the average duration of labour was 7 hours, 35 minutes.

That the average time intervening between the rupture of the membranes and the delivery of the child, was 2 hours 48 minutes.

That upon the whole, the labours lasted longer with male than with female infants, and that the principal difficulties occurred chiefly with the former.

That by far the largest proportion of women were confined in their 40th week, or between the 273rd and 280th day, thus affording additional testimony to the law upon this point.

That the average weight of the infants was 7 lbs. 3 oz.

That the average length of the infants was 20·3 inches.

That the average length of the umbilical cord was 19·5 inches.

And that the average weight of the placenta was 1 lb. 4 oz.

In an ensuing paper I propose to analyse the labours, specifying the presentations and positions, with their relative prevalence; and conclude with a sketch of the peculiarities witnessed in the most important cases of parturition of which the books of the Hospital contain a record, whether occurring in my own time or in that of my predecessor.

Montreal, January 30th, 1860.

ART. IX.—*Contributions to Clinical Surgery and Medicine. By* ROBERT L. MACDONNELL, M.D., Surgeon to St. Patrick's Hospital, Montreal.

3. *On the propriety of Castration in certain cases of recent descent of the Testicle.*
4. *On Spermatozoa in the fluid of Hydroceles.*

My object in bringing forward the following cases, is to draw the attention of the profession to a point of practice as yet but little discussed, viz: the propriety of performing castration in cases other than those of malignant disease of the testicle, and particularly in certain examples of recent descent of that organ. Hitherto it has been laid down by surgical writers, that malignant disease of the testis, was the only affection for which this operation should be performed, and even within the last year or two, an eminent authority has asserted that "castration is only justifiable in cases of disease of the testicle, whose justly-suspected malignancy, leaves no hope of its restoration to health."* Other writers, as

* Skey's Operative Surgery, p. 610.

Curling, and Erichsen, include strumous disease of the testicle, sinuous ulcers, and fungous degeneration, as requiring sometimes the performance of castration; but it is to Mr. Hamilton, of the Richmond Hospital, Dublin, that we are indebted for directing attention to the particular cases about to be considered. He published an interesting case of non-descent of the testicle, which had given rise to so many attacks of inflammation in the groin, that its removal was proposed to the patient and readily assented to.† The tumour surrounding the testicle was composed of fluid, the testicle itself was ill developed, and the epididymis and vas deferens contained no true seminal fluid, and exhibited other abnormal features. It was in fact a useless organ. Previous to becoming acquainted with Mr. Hamilton's views, I had met with two cases in which the testicles having recently descended, had caused great annoyance to the patients, from the frequency and severity of the attacks of inflammation they occasioned. The case I am about to detail, and those mentioned by other writers, present in addition some anatomical features, which have escaped the attention of surgeons and physiologists, and which in my mind, reconcile the practical surgeon to the performance of the operation, and should induce him to resort to it with less hesitation, than if he were about to remove a healthy and normal gland. It is with a view to attracting attention to these points that I bring forward the following case.

A young man aged 22, was admitted into St. Patrick's Hospital, under my care, having a large tumour occupying the left side of the scrotum, which he stated was the left testicle that had recently descended, and had become swollen, and so painful, that he earnestly requested me to remove it. It appeared that until about a year before his admission, he remarked that the scrotum contained but one testicle, which was situated on the right side, and that on one occasion whilst lifting a heavy weight, he felt something give way in the left groin, and a small, hard substance escaped from the abdomen, and from that time he had suffered from frequent attacks of pain and swelling in the groin, and latterly, down in the scrotum. He had suffered so much from these attacks that he was unable to work, and he requested me to remove the testicle that he might get rid of a substance which not only caused much distress, but which also prevented him earning his livelihood. The tumour was of the usual shape of an inflamed testicle, and about the size of a goose egg; it was not very painful except at the back part; the scrotum was tense and shining; the surface of the tumour smooth and even; its weight considerable, and in no part was it transparent. The cord was not thickened, it was not painful to the touch, but he suffered a dragging sensation and pain running along the cord in the direction of the loins. The pain in the tumour was constant, but notwithstanding his frequent appeals to have castration performed, I did not deem it justifiable till milder measures had been employed, and accordingly the usual treatment was resorted to, but without any effect except that of rendering him weaker, and less capable of bearing pain. This condition, with a threatening appearance of gangrene in the scrotum, near the raphe, and excessive pain in the right testicle,

† Dublin Quarterly Journal of Medicine.

caused by the weight of the diseased one lying upon it, (for he could not ... on the left side) and the ill success of the treatment first employed, induced me to comply with his request, and the operation was performed in the presence of my colleagues, Drs. David and Howard. I had explained to these gentlemen that I should seek for, and tie, the spermatic artery before dividing the cord, as I considered it the best practice, and because I was anxious to ascertain the facility of reaching the artery and tying it, to enable me to form an opinion of the advantage of doing so, as a cure for varicocele, a plan of treatment recommended by some American surgeons, and practised with success by Dr. H. Nelson of this city. To our surprise we could not find the artery, and on division of the cord, there was no hemorrhage, and no trace of a spermatic artery to be found on either end of the cord, and no ligatures were required. The tumour consisted of non-organized, plastic material, breaking off in masses like putty, without any trace of a blood vessel, and of a uniform buff color, filling up and distending the tunica vaginalis. At the back part of this mass was the testicle, little more than half the natural size, with a small epididymis and vas deferens. It did not appear to be inflamed itself, but to have caused inflammation in surrounding parts, *as a foreign body*. The wound was completely healed at the end of three weeks.

Until the valuable paper of Mr. Hamilton was published, I was influenced by the prevailing doctrines which restricted castration to cases of malignant disease and those already mentioned, and I had refused to perform the operation on two patients who most urgently requested it, not having a rule of surgery to sanction the proceeding. One of them was a man about forty five years old, the father of a large family, whose left testicle had not descended for some years after his marriage, and had ever since been a cause of much annoyance from its causing attacks of inflammation in the scrotum, which interfered with his occupation. He requested me to remove it, to which I would not consent, but as there was at the time he applied to me, a small hydrocele of that side, I tapped it and drew off half an ounce of fluid, and then applied tincture of iodine to the interior of the sac, by means of a camel hair brush, introduced through the canula, as directed by Mr. Adams of London, and which I can recommend as a very safe and successful method of treatment, having employed it myself on several occasions. The patient was not satisfied, however, and left me to consult some one else, and I heard he died some months after of phthisis. The third case was that of a strong, robust young fellow, who was admitted into St. Patrick's Hospital, under my care, with a large tumour of the left side of the scrotum, which he said was the left testicle, which had not descended until a year previous, when it suddenly moved from the inguinal region, after he had made a severe exertion, and since then it had been the seat of inflammation on three or four occasions, and these attacks, besides giving rise to great suffering, had thrown him out of employment, and prevented him earning a livelihood. He was most urgent in his appeals to have the testicle removed, as he felt satisfied it was "no good and would inflame again as soon as he went to work." It was not a little ludicrous to see this strong young fellow, follow me round the ward, and into the passage, urging his request to be castrated, and yet it was evidently the best

plan for his relief, and would have been performed had I then been acquainted with Mr. Hamilton's case.

It is foreign to my purpose to enquire whether the non-descent of the testicle in the first case I have given, is to be attributed to the arrest of development of the spermatic artery, or if the non-development of the spermatic artery is a consequence of the retention of the testicle, the important fact for the surgeon to know is, that whereas ample provision for the arterial supply of the healthy testicle has been made, by giving it a special artery, remarkable for its origin, size, and course, and that it also obtains for itself and its envelopes, nourishment from the spermatic branches of the epigastric and the deferential branches, of the superior-vesical, yet in the cases alluded to, there was an absence of these vessels, and that in a case mentioned by Broca, and quoted by Curling, where the left testicle was within the abdomen, about an inch above the inguinal ring, it was "small, flattened, resembling a haricot bean," and "the spermatic artery was as fine as a thread."* In Mr. Hamilton's case, it is distinctly stated that there was *no hæmorrhage, and no vessels to be tied*, and the same remark is made by Mr. Spry, surgeon to the Royal Cornwall Infirmary, who removed a recently descended testicle, that had become the seat of encephaloid disease. He also observes, "the hæmorrhage attending the operation was so slight, that no vessels required to be ligatured.† These defects in the arterial supply, taken in connection with the arrests of development of other structures, intimately connected with the testicle, as the epididymis, vas deferens, and seminal tubes; the atrophied and mis-shapen form of the organ itself, and the absence of spermatozoa in all those cases in which those bodies were sought for, clearly show that the organ is in most cases a useless and withered gland, incapable of performing its functions,‡ and acting, when it suddenly leaves its original position, *as a foreign body*, causing excessive pain and inconvenience from the inflammation it excites in neighbouring parts, rather than from the inflammation of its own structure, for in the case of Mr. Hamilton and in mine, the testicle itself was free from disease, though it had caused effusion of serum in two of them, and of badly formed plastic matter in the third. We have no reason then to hesitate about removing these bodies under the circumstances I have mentioned, whenever they give rise to frequent and severe attacks of inflammation. It would appear that in some of these cases, the patient seems conscious of the organic imperfection, for we can hardly explain on any other supposition, the readiness with which a patient submits to castration, and even urges its performance on his medical adviser.

It may not be out of place to allude to opinions lately expressed at a meeting of the Royal Medico-Chirurgical Society, and reported in the Lancet for Jany. 22, 1858. A great many cases were detailed to show that retention of one testicle was not injurious to the procreative powers of the patient, and some of the speakers asserted that the retention of both, should not be considered a bar to matrimony. Mr. Coulson said, the minds of the public should be disabused

* Curling, on the Testis, Second American Edition, p. 72.

† Lancet for 22nd January, 1858.

‡ See cases by Cloquet, Follin, quoted by Curling.

on this point, "for not only was the non-descent of *one* testicle of little importance, but even the non-descent of both testicles was no impediment to marriage." At this meeting Mr. Hulke related the case of a man aged forty-five, the father of a family, whose left testicle was found within the abdomen. It was small, ill-shapen, and without an epididymis and vas deferens.

Now, if we recollect, that the retained testicle may be deficient of a spermatic artery, or an epididymis, or vas deferens; that it may be merely rudimentary "the size of a pea," as in the case mentioned by Dr. Washington, "ill-shapen and flattened, and the size of a haricot bean," as in Broca's case, and otherwise blighted; and moreover, if it is borne in mind, *that Spermatozoa have never been found in these retained testicles or their appendages, although discoverd in the sound one,** I think the surgeon should hesitate before asserting that the retention of both testicles is no impediment to entrance on the married state.

There are many other points connected with these cases requiring more extended and careful investigation.

Postscript.—The No. of the *Lancet* for 21st January, 1860, has this day (8th Feb.) reached Montreal, and I am enabled to quote a few sentences from it, highly corroborative of the views contained in the latter part of the above communication, which was in the hands of our able editor, before the opinions alluded to, were expressed in London. At a meeting of the London Pathological Society, held on the 17th Jany., 1860, "Mr. Partridge exhibited specimens of spermatic fluid from a patient, aged twenty five, with two testicles in his belly. Several specimens were examined, and *no spermatozoa had been found.* Another case had been examined and the same result obtained. It was probable that a misplaced testicle was a non-prolific one. Mr. Curling corroborated this view, by two cases examined by himself."

SPERMATOZOA IN THE FLUID OF HYDROCELES.

In the year 1843 Mr. Liston and Mr. Loyd, discovered, about the same time, Spermatozoa in the fluid of encysted hydrocele of the cord. The former surgeon accounted for their presence by supposing that they were found in a dilated duct which had undergone the same process as took place in the formation of ranula, namely a simple dilatation of a duct which became distended with the fluids usually passing through it. When Mr. Liston's discovery was first announced it attracted a good deal of attention, from the fact that it was said to account for the failure of injection in certain cases of encysted hydrocele of the cord, because, as he stated the cyst was lined by a mucous membrane, but little prone to take an adhesive inflammation, whereas the serous lining of the tunica vaginalis quickly poured out plastic

* "In three instances M. Folin examined the sperm contained in the vesicula seminalis, corresponding to the testicle retained in the ring, and found a complete absence of Spermatozoa. They were present in the other side. In a fourth case, the Spermatozoa were wanting on both sides." In Mr. Hamilton's case, they were also absent, and the vas deferens was blocked up with a yellowish matter. I regret very much that an accident prevented me searching for these bodies in the cases I have given.

matter when stimulated by injections. Passing from Dublin to London at this time, I conveyed to Mr. Liston, a small phial of the fluid of an encysted hydrocele of the cord which Mr. Cusack had tapped the day on which I left Dublin, and its contents were examined by Mr. Liston, in my presence and found not to contain spermatozoa. Ever since then I have examined the fluids I have drawn off from hydroceles of the tunica vaginalis and of the cord, and in 1849, I published a case of hydrocele of the tunica vaginalis which contained *forty ounces* of fluid, in which a large number of spermatozoa were discovered. Since then I have found them occasionally in the fluid of hydroceles of the tunica vaginalis, but not so frequently as in that of encysted hydroceles of the cord. I lately tapped one of the latter, which the patient supposed to be a hernia, and for the relief of which he had worn, for several years, a nicely adjusted truss. Large quantities of spermatozoa were found in it. I sent a specimen of them to Dr. Howard to exhibit to his clinical class at McGill College. Various explanations have been offered to account for the presence of these bodies in the fluid of hydroceles, besides that advanced by Mr. Liston. It has been supposed that in some cases the trocar has pierced the testicle; but this explanation has been disproved by the fact of spermatozoa being found in the dead body when the operation has not been performed. Mr. Paget published a paper in the Medico-Chirurgical Transactions, Vol. 27, giving the following explanation, which he has more recently repeated in his admirable work on Surgical Pathology,—"the most probable explanation of these cases, therefore, seems to be, that certain cysts, seated near the organ which naturally secretes the materials for semen, may possess a power of secreting a similar fluid; and this explanation is in some measure supported by the analogy of those cysts which are found in the ovaries, and more rarely in other parts of the body, especially beneath hairy parts of the skin, and in which the ordinary products of the skin, such as epidermis, sebaceous matter, hair, &c., are formed on the genuine cutaneous tissue of their internal surface."

To these explanations I made the following objection which I quote from a paper I published in "*British American Journal of Medicine*" *for March* 1849, and reprinted without abbreviation in *Ranking's Abstract for* 1849.

"It appears to me that neither of the above explanations is satisfactory. It is true that by a careless operator the testicle or cord might be punctured in a small hydrocele, but in one so large as to contain forty ounces of fluid, and in which the testicle and cord were removed to a great distance from the point of entrance of the trocar, the escape of spermatozoa cannot be accounted for on such grounds. And Mr. Paget's solution of the difficulty seems equally untenable; for without resting our objection to it on the fact that cysts in the neighbourhood of other glands, whose secretions are purely (or nearly so) excrementitious, as the kidney and liver, are not found to contain the most essential elements of these secretions, and that the fluid of cysts developed in close contact with the testicle and seminal ducts is found destitute of seminal animalcules, as proved by the recent observations of Gosselin,* it is impossible to believe that a diseased

* Vide Archives Générales, tom xvi.; and British and Foreign Medico-Chirurgical Review, No. IV, p. 533.

serous membrane should possess the property of secreting a fluid so elaborate as the semen, and one which *is so clearly endowed with vitality.**

It seems to me to be more consistent with the facts of the different cases that have been placed on record, and with the particulars of that just detailed, to suppose, that in the first instance, *the disease is merely a simple dilatation of one of the ducts, the result of contraction or obliteration of its canal from local inflammation, caused by some injury to the part: that after some time, this dilatation gives way and pours its contents into the cavity of the tunica vaginalis—in which they accumulate, in some instances without interfering with the functions of the membrane;* but in other instances the serous membrane takes on diseased action, and its secretion becomes mixed with that originally poured out from, and still secreted by, the ruptured cyst. In this way we can understand how the fluid may, in one case, present a limpid appearance, devoid of albumen; and in the other exhibit a copious admixture of albumen, and a variety of colours; and in both, we may find, on microscopic examination, a quantity more or less abundant of spermatozoa, in some cases alive, in others dead and partially disorganized.

The practical deduction to be drawn from the above case, however, is, that the detection of spermatozoa should not deter us from attempting the radical cure, which, if we should not accomplish by one method, we may succeed in effecting by another."

Mr. Paget considers his explanation unrefuted,† and Mr. Curling, in the second edition of his excellent work on the Diseases of the Testicle, published in 1856, has given an explanation similar to that published by me in March 1849. The following are his remarks:—"The explanation which I offered shortly after the discovery of spermatozoa in these cysts was, *that their presence was probably owing to the rupture of one of the tubes of the epididymis and the escape of semen into the sac of the hydrocele.*" As Mr. Curling seems to attach some importance to this explanation, by his repetition of it, in his recent article on the "Testicle" in Todd's Cycl. of Anatomy, I may be pardoned for claiming for the Journal in which my paper was published, and for the school of medicine in which the views it contained, were first promulgated, any merit that attaches to it, particularly as the case alluded to was one of large hydrocele of the tunica vaginalis, containing spermatozoa and cured by local application of iodine, precisely the case previously considered unsuited to this plan of treatment.

ART. X.—*Medical Evidence in the Wellington Street Murder case.* By Wm. H. Hingston, M.D., L.R.C.S.E. &c.

Within the last few days the very unedifying, and latterly too frequent spectacle has been witnessed at one of our Courts of Justice, of several medical men, two of them the principal witnesses in the case, stating an opinion concerning the death of a woman said to have been murdered by her husband; and of an

* Vide Müller's Physiology, by Bayley, vol. 1, p.

† See *Paget's Surgical Pathology.*

equal number of other medical gentlemen, equal in social and professional respectability, bringing forward a theory totally conflicting.

Were these eight gentlemen members of rival schools—disciples of Stahl Hoffmann, Hahnemann or Prisnitz on the one hand; or of Cullen on the other—a key might be found to unlock the mystery, but 'tis not so—all disciples of the same school—all deriving their information from the same sources probably—all having opportunities of verifying or rectifying any preconceived views, varied and extensive. One, the *doyen* of the profession in Montreal; four, professors in two respectable and friendly schools; one, physician to one of our largest hospitals, another, house surgeon to the same; and one, the writer, bearing no higher title than that of a medical practitioner.

The whole thinking public has become a talking public, and remarks, not at all complimentary to the disciples of Esculapius, have been freely indulged in. The members of a profession hitherto always treated with respect in investigations requiring their aid, have been censured for having mystified what was plain, and medical evidence generally, such as is forthcoming upon similar occasions; stigmatized by the presiding judge, as having obtained such proportions as to have become here, as in England, a nuisance to which it was high time to put a stop. The following is a report of the case.

COURT OF QUEEN'S BENCH.—HON. JUSTICE AYLWIN, PRESIDING.

FRIDAY, *Jan. 13th* 1860.

The Court opened at 10 o'clock. A mixed jury was sworn in the case of James Connell who stood charged with having, on the 24th of May last, in this City, murdered his wife, Sarah Nolan.

Mr. Johnson, Q.C., conducted the prosecution: Mr. Devlin, with Mr. Morin, for the defence.

Mr. Johnson opened the case, by narrating briefly the circumstances to the jury. The first witness examined was,

James Brennan.—Lived in the same house with the prisoner, in Wellington Street. Knew the deceased. On Monday evening he smashed all the delf and was arrested shortly afterwards, there was nothing but quarrelling from that until the day she died. During that interval I often had to come down out of my room at night to save her, having heard her cries of murder. I saw him kicking her about the shins and thighs and also saw him catch her between the breast and stomach, and twist her by the flesh and then punch her with his fist about the body. This was about two or three days before her death. A very short time before her death, she came to my room for protection, he wanted to drag her down stairs, my wife then came between the two. The prisoner struck at deceased with an axe handle; my wife ran between them and received the blow on her shoulder. [The axe handle was here produced and identified.] This occurred three or four days before her death, and they continued to quarrel up to the time of her death. About 6 o'clock upon the evening she died, I heard a noise in the prisoner's apartments; and heard his voice in a high tone. Shortly after this my wife went down stairs; she immediately came up in haste, and I heard a footstep after. It was the prisoner; he wanted her to come down stairs, she said she would not as he would murder her as he had done his wife. I left the house and had the prisoner arrested in his own room. Deceased was then in bed in her own room. I went over to the deceased and spoke to her, but I could not understand her answers; at that time there was a kind of froth in her mouth. I immediately sent her son for a medical man, who arrived about half an hour after. The prisoner and his wife quarrelled over a dozen of times to my knowledge, within six or eight days of her death about money which she had in the bank

in her own name: Cross-examined by Mr. Devlin.—I smelt liquor on the deceased about five days before her death. During the quarrels I have often seen the deceased in a helpless state, but I cannot say if it was from intoxication or from the usage she received. Her speech was always plain, not like a person the worse of liquor.

Mary Brennan, wife of the previous witness examined.—Had remonstrated with the prisoner about ill-treating his wife, when he replied he could not help beating her unless he would kill her: she then remarked if he pursued this course it would be all the worse for him, when he said he did not care a d——n, as he would as soon suffer as live in the way he did. One night the deceased came up to witness's room for protection. Prisoner came up stairs and broke the door; and in a furious manner called for his wife. The prisoner then went down. During that night witness heard faint cries from deceased and also heard prisoner make a noise, and swear frightful oaths. Went down to prisoner's room afterwards, and saw the prisoner stooping over his wife, twisting her by the breast. Deceased said in a weak voice, "James, darling, don't kill me." He then said that if she did not leave that, (alluding to her bed) when he came again that he would either kill her or take a revolver and blow her into h——ll or into the elements. *Between six and seven o'clock, on the evening of the 24th of May, deceased was talking freely and appeared to be pretty well.* Prisoner came home after witness's husband, and witness heard a noise at the door of deceased's room and moaning; this proceeded from the deceased. Witness finding the door fastened, pushed it, found that the prisoner was inside and had his feet against the door. Witness, however, managed to get beside the sick woman, and putting her hand on her, said—"Mrs. Connell are you better or worse?" The reply was "Oh, Mrs. Brennan, I am killed." Witness then going up stairs, prisoner followed her; she then said, "Don't come up Mr. Connell, you have done enough." He appeared unsettled in mind. When the prisoner was arrested witness went to deceased's room. *The deceased drew witness down to her, but she could not speak.* There was red froth at her mouth. After death witness saw large sores on the shoulders and head of the deceased. Before she died she was never before known to utter an angry word, cursed the prisoner three times. [Witness here identified the axe-handle with which she herself had been struck in saving the deceased.] About a week before she died, the prisoner said if she would turn over the money to him which she had in the bank in her own name he would be good to the children when she would die. Deceased at this time was sick from the treatment of her husband.

Cross-examined.—I never saw him attempt to strike his wife, except with an axe-handle. I once saw him slap her severely on the face. I have seen him three or four times of a day catch her about the breast with his hands and bruise her. I have also seen him kick her. From 16th day of May till her death, the prisoner continued this treatment three or four times a day, and sometimes oftener. When she was in bed, I have seen him put his hands under the bed clothes, to squeeze her. He would then smother her down to prevent her making a noise. When I would go in deceased's bed-room I would see the prisoner with his hands under the bed clothes, squeezing her. When he would see me, he would start away, and commence again when I left. She used to complain of the soreness of her head. The wounds on her shoulder were as broad as my hand. The prisoner, would often try to give her a kick unperceived by me.

Margaret Brennan, the sister of the first witness, examined.—She repeatedly saw the prisoner during this time go into the room every day, abuse her in some way or other. On the Tuesday of her death, heard prisoner say his wife was not dying half fast enough. The same day saw him coming into the room with the axe-handle, he said to kill his wife with.

Saturday Jan. 24, 1860.

Continuation of the examination of

Margaret Brennan—About 3 o'clock in the afternoon, prisoner went to the bedroom, and I followed him; he went up to the bed of his wife, caught her by the night-dress,

and told her to get out of bed; she begged of me, for God's sake, to prevent her from being murdered in bed; I saw his hand under the bed clothes, and the deceased would scream out that he was hurting her; I always followed the prisoner into the room, and he would raise his hand over the deceased's head, and say that he would have killed her long ago, if it were not for the leaving of her children alone; the deceased used to show me the state of her body; I saw black and blue spots on it from the ill-treatment she received, they were on her side, stomach, arms and neck. I never saw the deceased take liquor; up to the last time of abusing his wife, she had *her senses about her.* It was about four o'clock on the afternoon of her death that I saw the prisoner pull his wife out of the bed and throw her back into it, it was after this she lost her senses, the last words she uttered before her death were, "bad luck to him, he has murdered me."

Cross-examined—The deceased was insensible on the evening of her death from the last time the prisoner abused her. She was speechless from about five o'clock till the hour she died; *all she could do was to make signs.* She died, I think, between eight and nine o'clock.

Catherine Donovan examined.—When the prisoner was drunk he would strike the deceased I think I saw the prisoner strike deceased with a whip and with his hand, about a week before her death. He once struck at her with the whip and I received the blow on the shoulder.—(Identifies whip, which, witness said, had once a piece of lead on the butt end.) I suppose it was with the beating that the lead came off. About a week before her death the deceased was lying on the floor of her room, and prisoner beat her. (To a Juror—She was not sober at the time.) On the day in question I saw the deceased drink beer, as well as some whisky or gin. The prisoner himself was intoxicated.

Cross-examined.—Deceased was in the habit of drinking often for four weeks before her death. I have seen her take half a tumbler at a time, either of whisky or gin. I have seen her fall out of the bed more than once. From the 17th of March till the time I left the house, she drank all the time, with the exception of two weeks. I have brought liquor to her in bed—wine, whisky and beer. The deceased fell different times when her husband was not present. Upon one occasion after the deceased fell I saw blood come from her nose.

Dr. Hingston, examined.—On the 23rd of May, I was called upon, in the evening, about 8 o'clock, to visit the prisoner's house. I found the deceased suffering from injuries she had received. She was lying on her side—her back towards me. I asked her to turn over, she seemed from pain unable to do so. The prisoner was not there at the time. My visit was short; it was occupied in hearing her statements. She did not turn. She appeared to be partially under the influence of liquor, and suffering much from other causes. I prescribed a dose of opium. I saw the woman about the same hour next evening. She was in a dying state. She died about nine o'clock. I was present when she died. *She was quite sensible from the time I entered the house till she died, though unable to articulate distinctly.* Before she died I saw several marks of violence about the head, they were contusions or bruises, and abrasions of the skin. They must have been produced by external violence.

On the following day at about 3, p.m., I made a post-mortem examination of the body in conjunction with Dr. R. P. Howard. The body lay in bed in the same room and in the same position in which I had left it on the previous evening. It appeared very much emaciated, pale, and ill-conditioned. The marks of violence were numerous—very numerous; but the following recent ones were noted: A bruise in the centre of forehead; another higher up; one over right eye; one over each ear (that over the right being several inches in area); an abrasion on the right side of the larynx; an ecchymosis of upper end of breast bone; an abrasion of considerable extent over right shoulder; three bruises of right side of chest near the mamma; four of left arm; three of right thigh; an abrasion of left knee; another of left leg. In addition to these there were numerous ecchymoses of longer date on different parts of the body, they were *too numerous to*

count. Some were less recent than those enumerated, others were fast fading into health; there was more skin discoloured than in its natural state.

Beneath the scalp extensive effusions of blood were found corresponding to the injuries over forehead, right eyebrow, and both ears; that of right ear extending over nearly whole of right side of head. The *membranes of the brain were pale and healthy,* an *extravasation about the size of a six pence was observed in the arachnoid sac, corresponding to the injury over right ear; and a similar one upon the left side.* The *substance of the brain* like the membranes, was *pale* and *healthy.*

Muscles covering larynx natural; larynx and trachea uninjured: *Lungs* healthy, except a small patch of congestion at lower lobe of left; there was also an old but unimportant pleuritic adhesion on this side. *Heart* normal, containing usual quantity of blood. *Liver* paler and somewhat more friable than usual; an ecchymosis about the size of a shilling on lower surface of left lobe. *Stomach* slightly congested at cardiac and pyloric extremities; *intestinal tube* empty and natural; small ecchymosis in front part of *uterus*; *other abdominal viscera* healthy. She was about 4 months advanced in pregnancy. After a description of the marks discovered on the body of the deceased during the *post mortem* examination, Dr. Hingston came to the conclusion that death was probably caused by external violence, causing a series of lesser shocks to the nervous system.

Cross-examined by Mr. Devlin.—Did not believe the discolouration of the skin could have been produced by falls—they were two numerous and most of them on parts of the body least likely to be injured by falls. A fall down stairs would not cause such appearances as he found upon the body. Would not a few blows or falls have produced many discolourations on a person of her habits? No! no matter what her habits may have been a blow or fall must have been received for each discolouration. They were not a few large, but a great number of small ecchymoses.

By the Court.—Had the deceased been ill treated between 12 o'clock and nine on the day she died, death would have unquestionably been accelerated. A woman when pregnant, as she was, is more susceptible to injuries than at other times, from the exalted state of the nervous system.

Dr. Howard who assisted at the *post mortem* examination, concurred with the opinion of Dr. Hingston that death was probably caused by external violence. The Doctor was cross-examined at some length, but adhered to the opinion that death was probably caused by violence. He described the bruises as presenting an appearance of recent and severe infliction. In addition there were many old bruises scattered all over the body. There were no internal symptoms of disease, and the probable cause of death was "external violence."

Cross-examined at some length, but witness still adhered to his opinion. In ordinary language, the body was black and blue all over.

To the Court.—Her pregnant condition would render her more susceptible to injuries. Injuries received between 12 and 9 on the day she died would have accelerated death.

Dr. Jones believed that death was caused by extensive violence, and corroborated the evidence of Drs. Howard and Hingston.

Dr. Beaubien.—Had listened carefully to the evidence of Drs. Hingston and Howard. Their examination of the dead body had evidently been made with care, and the conclusion at which they had arrived was the only one to which he could arrive, namely, that death had been caused by external violence.

Sergeant McLoughlin, of the Water Police, deposed that on the 24th of May he went to the house of the prisoner, after he had been arrested. Deceased was not dead when he arrived, but died while he was there. (Identified the whip and axe-handle.)

Louis Pion, police-constable arrested the prisoner. Deceased was lying on the bed cov-

ered with a sheet, but unable to speak. The doctors came in and said there was not much life in her.

William Nolan, son of the deceased, a lad about 12 years old. His mother was not sick on the Sunday before she died; she was up and walking about; his mother often drank.

This closed the case for the prosecution.

Monday Jan 16, 1860.

PRESENT:—THE HON. JUSTICE AYLWIN.

Evidence for the Defence.

Reverend Mr. O'Brien.—Cannot speak of her habits from personal observation; I last saw her on the day of her death; it was between three and four o'clock in the afternoon; she was then lying on her bed, and the impression left on my mind was that she was apparently drunk; remained only a few minutes, *did not speak to the deceased.* From the evidence I have heard in this Court, I have doubts of my impression being correct, that when I saw the deceased on the last occasion she was drunk.

Dr. Archibald Hall was then sworn:—Has been a physician and surgeon since 1834, and also lecturer on midwifery in the McGill College for the last 4 years; has heard the evidence of Drs. Hingston and Howard, and believes from their evidence there is very great doubt as to the cause of the woman's death, his reasons for saying so were, first, the condition in which Dr. Hingston found the deceased on his first visit, namely, that she was sensible, for she complained of certain pains and he prescribed for her, and that he gave her opium, which is a medicine that he would not have given her, had there been any serious cerebral illness; thinks that the subsequent death on the day following was due to some causes which supervened between the first and second visits of Dr. Hingston, for on his second visit he found her insensible; the frothing he would conclude was caused by disease of the brain; Dr. Hingston had described the injuries on the body of the deceased, particularly the abrasions on the back of the ear and the crown of the head; on the summit of the brain, in one of the membranes, were two ecchymoses; he could not determine whether there was *ecchymoses*, or merely an *effusion* of blood on the brain; after commenting upon the evidence given by the previous medical witnesses, Dr. Hall said that he was inclined to think that the deceased died of an apoplectic attack to which she was predisposed by the state of the liver and stomach; thought that the spine should have been examined in this case; from what he had heard of the evidence he did think that the death of the woman could not fairly be attributed to violence.

What effect could shock of nervous system produce? I don't think the symptoms detailed, warrant that idea at all. Was it necessary in this case to examine the spine? It is my opinion that it should have been examined. Is it impossible to suppose that there might have been disease of the spine? If cord was examined some disease might have been found.

By Mr. Johnson.—What sign do you find indicative of apoplexy? Her insensibility, I base my opinion upon the idea that she was insensible.

Dr. Hingston re-called.—In previous evidence said that the woman was sensible, but could not speak distinctly.

Dr. Hall resumed—Notwithstanding what he had heard he still thought that death was caused by apoplexy; would have known had he been by her bedside an hour before the death of deceased, the symptoms of apoplexy; in case of death by a nervous shock there might not be any appearance of injury. The frothing of the mouth was a sign of apoplexy.

To the Court—Had the deceased been lifted and thrown back on her bed, a shock would have occurred on the nervous system; when women are pregnant, they are far more susceptible to shocks on the nervous system; most decidedly death would have been accelerated by violence.

Dr. Crail, House Physician and Surgeon to the Montreal General Hospital—Heard all Dr. Howard's evidence, and part of Dr. Hingston's evidence; from what he heard considered himself competent to give an opinion as to the cause of death; from the statements he had heard, he would attribute the death of the deceased to apoplexy, and not to external violence.

To the Court—The intemperate habits of the deceased might cause apoplexy. Blows with a stick behind the two ears, if severe, would be likely to cause apoplexy if the woman was intoxicated. I cannot say whether or not apoplexy was caused by blows given with a stick. I doubt whether the treatment deceased received could have accelerated it. The fact of deceased being pregnant would not lead me to any other conclusion if the parties had been accustomed to habitual quarrelling. (The Judge then read to witness the testimony of Margaret Brennan as to the last attacks made upon deceased by the prisoner.) Witness said that, as the evidence was now read, he had no doubt but that death had been accelerated by such treatment. There was however, a discrepancy between the evidence of Margaret Brennan and that of Dr. Hingston. Believed the cause of death to be apoplexy, but how occasioned witness could not tell.

By the Court—Would conduct of prisoner to deceased have done her any harm or accelerate death. I doubt whether such treatment as your Honour has described, 3 or 5 hours before death would have accelerated it.

Would it produce shocks to the nervous system? It is not impossible, but I doubt whether such conduct would have produced shocks to nervous system.

It was necessary, you say, to examine the spine, if shocks had been produced what external signs would you expect to find. *I should expect to find none.*

Re-examined by Mr. Devlin—If she could sustain the injuries to her head, without loss of sensibility the day before she died, would the injuries as described next day be likely to injure her? "I have doubts if they could do so much."

I am still of opinion that death was due to apoplexy. The spinal cord should have been examined. The external and internal injuries taken together are not sufficient to account for death.

Dr. W. Nelson—Was not in Court but had read evidence of Drs. Hingston and Howard in the morning papers, and their depositions before the Coroner. I have heard Dr. Hall's description of the appearances found in the deceased. (Judge refused to read Dr. Hingston's evidence. He would give Dr. H's. evidence as to facts, but not his opinion,) I concur in the opinion expressed by Drs. Hall and Craik as to the cause of death being apoplexy. I do not agree with them, however, that the external and internal injuries would probably have produced death, they might, but not necessarily, taken altogether. No medical man *acquainted with the modern researches of physiology and pathology and having respect for himself and for the profession* could take upon himself to say that death resulted from the injuries found upon the body of the deceased. If Dr. Hingston had carefully examined the patient at his first visit he would perhaps have ascertained whether she were the subject of paralysis, (Dr. Hingston examined her sufficiently at his first visit to satisfy him that she was *not* the subject of Paralysis) and not having done so, the spine ought to have been examined. Apoplexy terminated her existence. We are often called to cases of epilepsy produced by irritation of the stomach; the insensibility passes off, and in those cases ends in death. There is an illustration of how apoplexy might have been produced by irritation of the stomach. Apoplexy may come on without any premonitory symptoms. From my experience persons of intoxicated habits are more predisposed to apoplexy. Is it not probable that apoplexy might have come on without violence? Yes most probably. Apoplexy does not always leave a trace. Congestive apoplexy may disappear before death. I must infer that there was congestive apoplexy because there was no evidence as to cause of death. I have not heard of any congestion of brain in this case. I have of two ecchymotic spots in membranes these may have even led to the apoplexy. I call it a complicated case. Ecchymosis is not an extravasation of blood like a he-

morrhage, and does not come from a ruptured vessel. This must have been an ecchymosis and not an hemorrhage for there were no ruptured vessels found. The treatment in this case would be likely in a person predisposed to apoplexy to induce it. A medical man would not give opium in a case of apoplexy. The apoplexy of the deceased was the *apoplexie foudroyante* of the French authors.

Cross-examined.—The idea of paralysis is inconsistent with the idea of patient being up next day.

To the Court.—The injuries would have, or might have, but not necessarily have predisposed to apoplexy.

(The above so much in accordance with the "modern researches of physiology and pathology"—were, for the most part, replies to interrogatories of prisoner's counsel.)

Dr. Peltier examined.—Was not in Court on Saturday—*had not heard evidence of medical witnesses for the Crown* but had that of Drs. Hall, Craik and Nelson, and had read that of Drs. Howard and Hingston before coroner. The present is one of those cases in which it was difficult to say what was the cause of death. My opinion is that immediate cause of death was apoplexy. The examination of the spinal cord would have contributed to clear up doubts. It is not necessary to open spine to determine whether apoplexy exists. The deceased could not have been benefitted by the treatment she received from her husband, on the contrary, injured. The marks in arachnoid corresponding to external marks might result from external violence. If no external injuries had existed I should have attributed death to apoplexy—if, on the contrary, external injury existed it might (the violence) have caused the apoplexy.

By the Court.—If I had made an examination of the body myself I should have been better able to offer an opinion. The medical witnesses for the prosecution had certainly an advantage over me; they spoke from what they saw at the *pvst mortem* examination; while I only speak from opinions founded upon the evidence I had heard them give, and from the depositions I had read.

This ended the case for the defence.

Dr. Hingston re-called. Mr. Johnson asked him whether on the 23rd of May there were any symptoms of apoplexy on the deceased.

Mr. Devlin objected to the question. The Crown had already examined their witnesses at length; it would be placing his client in a very bad position were the question allowed.

Mr. Johnson replied that the defence having started a theory which he was not prepared for, it was his duty to reply to it. He was prepared to charge in theory the prisoner with shooting a person through the brain, and the defence theoretically speaking supposed him to have died of the small-pox.

The Court stated that if it allowed the subject to be opened again, the defence would have a right to bring up twenty or thirty witnesses if it liked. It overruled the application.

Mr. Johnson, on behalf of the prosecution, then proceeded to address the Jury, recapitulating the evidence, and speaking in very strong terms as to the discrepancy in the medical evidence. It was well known that no medical man could now be put into the witness box to make a deposition, without having a crowd of aspirants ready to contradict him, and depose to the exact contrary.

The Judge at three o'clock, proceeded to sum up in a most masterly manner, analysing the evidence very carefully. Observing in the course of his remarks, the theories of the medical men amounted absolutely to nothing, for he was sorry to say that medical men now came into the Court prepared to doubt of every thing; almost of their own existence. We have first the evidence of the medical gentleman who attended the deceased during her life time and performed the examination of her body after death. Then the evidence of another medical gentleman who had the next best opportunity, namely, that of being present at and assisting at that examination. Then of two other gentle-

men who being here present in court and having heard the whole of the evidence, corroborating the evidence of the two principal medical witnesses, and agreeing with them in the opinion that death was caused by external violence. But then a most extraordinary line of defence is set up by prisoner's counsel, (whose duty it is to do all in his power for his client,) that deceased did not die of the injuries she received (one says they did not hurt her), but that she died in the ordinary course of nature, and that the disease which carried her off was apoplexy, and four medical men are brought here in support of that position. The counsel for the crown has well told you that no where but in England is such latitude allowed to prisoners counsel, as to summon any number of scientific witnesses, knowing nothing of the case, to give an opinion. It has there grown into an abuse, for no case, however trivial, can be there disposed of, without a host of aspirants for fame rushing to the court to throw doubts upon every thing.

It has there grown into an abuse; it is becoming a nuisance here to which it is high time to put a stop. I shall not dwell upon the evidence of the four medical men for the defence, for three of them were, as you observe, compelled to admit that death must have been accelerated by the ill treatment. All except one, Dr. Craik, who says it did her no harm inasmuch as she was accustomed to it. Gentlemen, this is a point upon which you are as capable of judging as any medical man, and your common sense must be your guide.

It is much to be regretted that medical science has not attained a greater degree of precision, than, judging by the exhibitions of its votaries latterly in criminal courts, it seems to have attained, where technicalities and sophisms are indulged in to the exclusion, seemingly, of common sense, and where medical men so widely differ upon points where non professional persons would have no difficulty in arriving at some conclusion. Medical evidence *of a proper character* is of the highest value, and being of such value, its legitimate limits should be well defined; and medical men prevented from becoming the advocate of the prisoner: and if courts of law do not censure the unjust interference with the purity of medical evidence, the results to society would be terrible.

The Jury returned a verdict of "Guilty of Manslaughter," and prisoner was sentenced to 10 years imprisonment in the Penitentiary.

The evidence of the medical men for the defence, is perhaps, the best comment that could be offered, and the only comment which (considering the distance which separates some of them in professional experience and reputation from the writer,) prudence would suggest. Yet as no remark of mine will be penned in a spirit of harshness, ill-nature or disrespect, I may be permitted to follow some of the more remarkable statements to their legitimate conclusion.

One Witness.

Question. You have heard the evidence in this case?

Answer. A portion of it.

Ques. What in your opinion was the cause of death?

Ans. Apoplexy.

Ques. Why do you say apoplexy?

Ans. Because the woman was unconscious—unconsciousness is a sign of apoplexy—therefore 'twas apoplexy.

(The medical man who saw deceased during her lifetime was placed in the box, and swore that she was perfectly sensible,)

Ques. What is your opinion now?

Ans. Apoplexy.

Ques. What! notwithstanding consciousness, still say apoplexy?

Ans. There was frothing at the mouth. Frothing at the mouth with other symptoms is a sign of apoplexy, therefore 'twas apoplexy.

Ques. Would you, had you been at her bed-side an hour before death, have recognized apoplexy, had it existed?

Ans. Certainly. But still thought that death was caused by apoplexy.

Surely the air of the Court House, and the presence of so many limbs of the law, must have had a singular effect upon my friend Dr. Hall, in leading him to advocate a theory, even after the facts upon which he had predicated his hypothesis, were found (and admitted) to be erroneous.

Another witness.

Ques. Do you consider yourself competent to give an opinion as to the cause of death of deceased?

Ans. I do. (emphatically.)

Ques. To what would you attribute death?

Ans. To apoplexy. (very emphatically.)

Ques. But would not the violence she received at the hands of her husband have caused apoplexy?

Ans. Cannot say that it would. (more emphatically.)

Ques. Would that violence have done her any harm?

Ans. She was accustomed to being pounded. And accustomed as she was I do not think it would have done her any harm. (more emphatically.)

Ques. But she was pregnant.

Ans. That makes no difference. (still more emphatically.)

Ques. Would it have done her any good?

Ans. No, I can't say it would have done her much good. (somewhat *less* emphatically.)

The medical reader will perceive that there are more things between heaven and earth than are even dreamt of in philosophy. As a child of the soil I should be proud to see any great truth first promulgated in Canada, and as Dr. Craik, (whose abilities no one will question,) has announced the startling fact, (fact it must be, since it was sworn to) that persons receiving frequent beatings are uninjured by them, I should suggest to him, temporarily to martyrize himself to science, by submitting to a thrice daily, or hourly flagellation or pounding, in order to ascertain what number of bruises a man may bear (being duly accustomed to them) without their "doing him any harm." There could be found many of James Connell's stamp to attend to the details. Perhaps some future Don Quixote may arise, who, having accustomed himself to knocks, and therefore proof against them, would efface the stain on the scutcheon of his great prototype, and overcome the windmill.

Another medical witness.

Ques. Have you heard the evidence of Drs. Hingston and Howard?

Ans. No, but I have read it in the morning papers (!)

Ques. What in your opinion was the cause of death?

Ans. Looking at it with an experienced eye, and not perceiving sufficient injuries, externally and internally to account for death, and taking into considera-

tion the predisposition to apoplexy, and the intemperate habits of deceased, (not proven,) I am of opinion, an opinion based on the experience of years, that death was caused by apoplexy.

Ques. But Dr. there was no *proof*, no evidence of apoplexy in the dead body?

Ans. Very true, but it was that form of apoplexy which leaves no trace, the "apoplexie foudroyante" of the French writers, or congestive apoplexy. *

Ques. What about the opium given deceased?—That was decidedly wrong in a person predisposed to apoplexy. Why say congestive apoplexy?—Because there was no evidence as to cause of death.—But what about the ecchymoses in the arachnoid, corresponding to the *coup* and *contre coup?*—Mere ecchymoses or exudation as in apoplexy, not a hemorrhage from ruptured vessels as from violence, for no ruptured vessel was found.

Never till now did I fully recognize the important truth once revealed to us by that dear departed Sarah Gubbins; "The longer we lives the more we knows." To continue—"No medical man acquainted with physiology and pathology, and having respect for himself or the profession, could say that death was caused by violence." But medical men had said that death was caused by violence. Then they must be ignorant of the modern researches of Physiology and Pathology. But men, bold enough, too, to claim an acquaintance with physiology and pathology, had said &c., *ergo*, they must have no respect either for themselves or for the profession.

"Opium will induce apoplexy in a person predisposed to it." The predisposition to apoplexy evidently existed, since the attack came on upon the following day (though at what hour, of what duration, or of what form, none but the medical men for the defence could say.) What could have induced the attack? Oh fatal poppy juice! thou hast done that which a fiend in human shape armed with an axe-handle had failed to do. It was thou who sapped life—cheated society of one who had become tolerant of, and proof against, all future injuries, by pounding, and the *dummer junge* who prescribed thee, and not the prisoner—the culprit!

Where is the "respect for the profession," and charity for the members of it now? I well know that Dr. Nelson, whose goodness of heart I have long rated fully as high as his discretion, and for the possession of which I respect and esteem him, scarcely contemplated saying what he has said; nor do I believe that he seriously intended to deliver a judgment *ex cathedra* upon the opinions of others, as little likely as himself to lag behind "the modern researches in Physiology and Pathology." And yet the tendency of his observations is to usurp such a position, though it may be without his having fully perceived it.

With the *substance* of the evidence of the fourth medical witness, Dr. Peltier, I cannot find fault. He predicated his hypothesis upon the meagre statement made before the Coroner—a statement drawn up in the language of the Coroner's Clerk—and not upon the evidence of Dr. Howard and myself in the witness

* The Dr. will permit me to observe that he is particularly unfortunate in his selection. I have searched all the French authors within reach, for an *apoplexie foudroyante* which leaves no trace, but there is as little trace of such a statement in the works consulted, as there was of apoplexy within the cranium of deceased.

box; (where circumstances were more fully brought out,) and was wrong in so doing. But upon the imperfect *data* afforded, he advanced an opinion, with caution and modesty. He was consistent throughout, not the least consistent portion of his testimony being that he necessarily knew less about the case than those from whom he differed.

And now as to the external violence, which, according to the medical gentlemen for the defence, did not *cause* death, (though three of them admit that it *accelerated* it !) it was such as I had never before witnessed—and as Dr. Howard described as "*black and blue all over*"—such as the Coroner and Clerk had never seen—such as to shock and sicken the majority of the jury, many of them doubtless not unused to seeing bruises—and such as to defy any attempt at description—less skin being in its natural colour than discoloured. Yet as none of the contusions were, singly, mortal, they were said not to have caused death.

Apropos—I shall quote from Taylor, the highest authority in legal medicine:

"There is no medical doubt that a person may die from what is termed shock, without any marks of severe injury being discovered," * * * * * * * * * * * * * "A medical witness must give his evidence with caution in such cases since it is the custom to rely in the defence upon the absence of any visible *mortal* wound to account for death—a *principle which, if once unrestrictedly admitted as correct would leave a large number of deaths, undoubtedly occurring from violence, wholly unexplained.*" * * * * p. 211. A person may have received *many injuries* as by blows or stripes, not one of which, taken alone could in medical language, be termed mortal, and yet he may die directly or very soon afterwards. Death is commonly referred to exhaustion, but this is only anothor mode of expression; the exhaustion is itself dependent on a fatal influence or impression produced on the nervous system."—*Ibid.* * * * * * * * * "It is a well ascertained fact, that a *multiplicity* of injuries each comparatively slight,—are as capable of operating fatally as any single wound. * * * * * * * * p. 212. "From these considerations, it is obviously *absurd* to expect—that in every case of death from violence or mal-treatment there must be some specific and well defined *mortal lesion* to account for that event; when the circumstances accompanying death are unknown, a medical opinion should always be expressed with caution; but if we are informed that the deceased was in ordinary health and vigour previous to the infliction of the violence, and there is no morbid cause to account for her sudden illness and death, there is no reason why we should hesitate in referring death to the effects of a multiplicity of injuries. Among non professional (and we might now add, in Canada among professional) persons, a strong prejudice exists that no person can die from violence unless there be some distinct *mortal* injury actually inflicted on his person. By this we are to understand a *visible* mechanical injury to some organ or blood vessel important to life; but this is obviously a very erroneous notion, since death may take place from the disturbance of the functions of an organ without this being necessarily accompanied by a perceptible alteration of structure. The prevalence of this popular error often leads to a severe cross examination of medical witnesses." * * * * * * *

Beck, Morton and Stille, Duvergie, &c., might be quoted to the same purposes, but sufficient and more than sufficient has been said, to show the untenable position of the medical gentlemen for the defence. But there are questions of far greater moment than the correctness of this one or the error of that. What is to be the effect upon the public of these exhibitions of contrariness? What must be thought of a profession, the members of which are found so ready and so willing

to oppose each other? What must be thought of its teachings when men educated in the same principles are found to disagree? Where that *esprit de corps*? "Doctors differ" is a Proverb. We do not all see through the same medium, otherwise we could be all of one mind, but educated men should carefully ascertain the correctness of the data given them. In this case it was not so. One gentleman hears the evidence of those whom he intends to support; another, of those he is about to confute; a third takes the evidence furnished before a different tribunal; while a fourth gleans his information from the morning papers! The only ground on which they meet, is, the opinion formed as to the cause of death. But then the cross-examinations are inconvenient; the data are found to be incorrect; *n'importe*, the witness box in a public Court is not the place to retract, and they will not retract; although they might do so with grace. "No! no! our facts were wrong but our theory is right! Yea and it shall be so." One gentleman discovers a fancied discrepancy between the evidence of an ignorant excited woman, and that of the Physician whose peculiar province it was to decide in the premises; the choice must be made, and the choice is made; the theory must be supported; the evidence of the old woman suits better than that of the medical witness, and is accepted! What, let me ask, would be thought of the physician, who, when called in consultation were, to listen to the symptoms detailed by an ignorant nurse in preference to those of the physician in attendance?

That noble specimen of female obstinacy and determination which submitted to be gagged, kicked and cuffed, and at length drowned, because she would not be prevented from saying "scissors," deserved a better fate. She died for principle. She had a perfect right to string any number of characters together, and to form, and when formed, to read, write, sing or speak the word "scissors," unless her husband showed her, that, besides being more euphonious in the mouth of a female, a jack knife, for cutting and other purposes, would do as well. She had reasons, valid ones too, for continuing to cry out "scissors" so long as she had breath to do so; and a right, though the sequel was against her, to continue with her fingers to describe the cutting motion of the scissors when the air bubbles rising to the surface told the happy swain that indeed she would ne'er again *say* the word. In the evidence for the defence a parallel may be found in tenacity, but not in reason. The advocate who should succeed in making a jury believe that black was white, would, according to Lord Brougham, be merely doing his duty; the duty of a physician is one, and the duty of an advocate is another. The former has to state facts, and to state them truly: he has to go further, and to deduce certain conclusions, which he alone can deduce, from the facts; but in *no* case is he required to "confute, change hands, and still confute," as in the Connell trial. That the mode of tendering medical evidence is felt to be an abuse in England, I should glean from an able review of "Taylor on Poisons," "We (the reviewer) have ourselves expressed our opinion strongly as to the disreputable mode in which medical evidence is proffered. We have said that the witness box seems to be sought by some as a cheap advertisement, by others as the means of discomfitting a rival; but from whatever cause it may arise, the worst danger to the administration of justice, and the greatest

injury to the scientific character will be incurred wherever it shall be known, that professional witnesses may be retained to establish indifferently a case for either side. This is no fanciful danger; for we believe that there are few lawyers of considerable practice who could not within their experience give instances of *the profligacy with which scientific testimony is tendered*..... That there have been frequent occasions where (to use Lord Campbell's expression) *the medical witness is turned into the retained advocate*, is as true as it is grievous, and when such occasions occur they call for most unrelenting comment."

I shall not say whether I do or do not assert the applicability of the above to Canada, for I must bear in mind that at least one of the gentlemen for the defence was an experienced physician, long before the writer was a fœtus; whilst another had entered upon the study of his profession before the writer had entered this breathing world. The same disparity would prevent insisting that my evidence should be received in preference to that of an ignorant woman, as to the consciousness or unconsciousness of a dying person; and it might appear vain in me to attempt to establish my claim to credence upon the possessing of commissions of competency from high medical tribunals in Britain, on the Continent of Europe, and in Canada; but I may claim, and I do claim, for the gentlemen associated with me, an advantage over those for the defence in having seen things with his own eyes, an advantage over any real or written evidence or description. Dr. R. P. Howard's talents and habits of close observation are well known, and his position as professor of legal medicine in the University is, or should be, a guarantee of efficiency.

A few words in conclusion: Come my co-mates and brothers in physic, are not these exhibitions unseemly? or are they calculated to advance the interests of, or respect for that profession whose members so frequently appear in open array against each other? Is it modest to deny to the medical witnesses who saw things with their own eyes, and who, from the poverty of language could not convey what they saw to others—those others being non-medical persons who require to have submitted to them non-medicated evidence, the right to judge of certain facts? who is the best qualified to judge, the physician who walks through the wards of an hospital and prescribes for what he sees, or he who reads a partial detail of the case long after? But the medical men for the defence seemed to say:—"True! Medical witnesses, for the Crown," one of you saw the woman the day before she died, was at her bedside an hour before, and at her death; true that two of you performed the post mortem examination; that your evidence and your opinion were corroborated by other two gentlemen of experience and ability from your *complete* evidence—but what of that? Your opinion is wrong. You said that death was caused by violence, but it was no such thing—for apoplexy terminated her existence—that "*apoplexie foudroyante*"—"that thundering apoplexy" the reverberations of which were sufficient to disturb us in the quiet of our studies some eight months afterwards; and to cause us to rush to the Court-house to rescue innocence, manacled, and in the relentless grasp of the law, from the doom to which a number of medical men, ignorant of the modern researches of Physiology and Pathology were about to consign him"—Percival lays it down as a principle in medical

ethics that "when two or more gentlemen of the faculty are to offer their opinion or testimony, it would sometimes tend to obviate contrariety, if they were to confer freely with each other, before their public examination. Intelligent and honest men, fully acquainted with their respective means of information, are much less likely to differ, than when no communication has previously taken place." And who can doubt the correctness of this principle who is willing to admit that medical gentlemen are, and should be, responsible for, and, to a certain extent, the guardians of the honour of each other?

Montreal, 1st February, 1860.

REVIEWS, &c.

ARCHAIA; or Studies of the Cosmogony and Natural History of the Hebrew Scriptures. By J. W. DAWSON, LL. D., F. G. S., Principal of M'Gill College; Author of "Acadian Geology," &c., &c. Montreal: B. Dawson & Son. London: Samson Low, Son & Co., 1860, 12mo. pp. 400.

We have always considered that matters theological should, of right, have no place in our Review department. But the receipt of Principal Dawson's "Archaia," presents us with two alternatives; the first, to pass by this truly valuable book in silence; the second, to ascertain as part of our duty what is the character or authority our author attaches to the Mosaic Cosmogony in the "Studies" he has laid before us, and then pronounce how far we deem him right or wrong in his views. We prefer the latter alternative, not only because we think by adopting it, we shall be doing more justice to Dr. Dawson, but, because although it may involve us in a discussion of the authority of the original Hebrew record, *we see no other way of deciding upon the value of the oldest published statements having any reference to geological science now extant*, either as they are presented in Archaia, or as they are viewed by ourselves. But we scarcely think we need to crave the indulgence of our purely scientific readers, if for the nonce, we enter into the consideration of matters which they, not less than we, must regard as infinitely more important than the theories and deductions of mere human science. We propose then, as absolutely essential to a proper review of Dr. Dawson's work, an examination of the manner in which it speaks of the *word* as well as the works of God, giving to this word, as it appears in the Hebrew text, such a grammatical analysis as seems also indispensable to the task upon which we now desire to enter, in the same "spirit of fair and truthful investigation," which Dr. Dawson proposes to himself in his introductory chapter.

The necessity for the exercise of such a spirit of fair and truthful investigation, has perhaps never been more clearly shown, than in the writings which have been the result of the apparent incongruity of Biblical and Geological tes-

timony respecting the age and development of our planet. On the one hand we have had a class of writers boldly advocating the giving up, as untenable and unessential, the statements of the Mosaic Cosmogony, because these were to be regarded as irreconcilable with the teachings of modern science; and we have also had, and still have among us, that "shallow school," which, says Dr. Dawson in his Preface, deserics Bible philosophy as a thing of a by-gone time, and attempts to raise an insurmountable barrier between the domains of faith and reason, by excluding from nature the idea of creative power, or from religion, the noble Cosmogony of the Bible." On the other hand we have had, and still have, a class of "theologians, who know nothing of nature," and to whom, by the way, our author in company with "a living divine,"* and "the patient botanist of the marine algæ"† reads a salutary lesson (pp. 22–24.) So we have had a class of weak reconcilers, who but repeat the glaring errors of the days of Galileo, when the fear was that, not geology, but astronomy, would undermine the authority of revelation—men who, like Foscarinus in his famous attempt to reconcile the earth's rotation with the language of Scripture, "by means of refined glosses and interpretations put upon the opposing texts," have attempted to twist Scripture into accordance with apparently conflicting scientific facts; or like Tycho Brahe, who invented a "new system of the universe" with the same pious design, they have invented new systems of Geology, wherein they have compelled apparently conflicting scientific facts to accord with Scripture. But none of these seem ever to have realized the value of the idea, that the Geological like the Copernican, heresy, might triumph, only to leave the truths of revelation standing with increased support on the rock of their proper evidences. There could be, however, but one result of their misdirected efforts. Although the great mass were disposed, as perhaps they are yet disposed, to take their religion as well as their geology, on trust; yet, the number of thoughtful inquirers steadily increased, and as their doubts were only met in the manner just adverted to, it is not surprising that something very like rank infidelity should have spread itself in their ranks, and that pious people should look with suspicion and dislike on a noble department of science. The well known Dr. Andrew Ure, who although Professor of Physics and lecturer on Chemistry in the Andersonian University, was also head teacher of a Mechanics Institution, at Glasgow, pathetically remarks, that "the agency of sceptical principles, was no longer restricted, as before the French Revolution, to the upper sphere of speculative *savans*, but that their grosser particles had settled down among the lower grades of society." With the avowed design of curing his auditors of their scepticism, the Doctor published his "New System of Geology,"‡ wherein, among the many remarkable things he advances, he does not scruple *to add* to the Mosaic record, by asserting a second post-diluvian creation. That such efforts should not have been deemed satisfactory, and that the number of inquirers should not have diminished, but that

* Hamilton, "Royal Preacher."

† Harvey, "Nereis Boreali Americana."

‡ As was remarked at the time of its appearance, there is nothing new or systematic in the "New System" of Dr. Ure, who does but closely follow the leadership of Granville Penn.

it should become greatly increased in our day, is not surprising. This increase has been evidenced by the avidity with which the brilliant writings of the late lamented Hugh Millar have been read, and from the great interest attending the appearance of Dr. Dawson's "Archaia." In connection then with the observations just made, we can duly appreciate its following prefatory remarks:—

"This work is not intended as a treatise on Elementary Geology, with Theological applications, nor as an attempt to establish a scheme of reconciliation between Geology and the Bible. It is the result of a series of exegetical studies of the first chapter of Genesis, in connection with the numerous incidental references to nature and creation in other parts of the Holy Scriptures. These studies were undertaken primarily for the private information of the author; and are now published as affording the best answer which he can give to the numerous questions on this subject addressed to him in his capacity of a teacher of Geology. A farther use to be served by such a work, even after all the numerous treatises already published, is that of affording to geologists and the readers of geological works, a digest of the cosmical doctrines to be found in the Hebrew Scriptures, when treated strictly according to the methods of interpretation proper to such documents, but with the actual state of geological science full in view. On the other hand, biblical students and Christians generally, may be interested in noting the aspects in which the scriptural cosmogony presents itself to a working naturalist regarding it from the stand-point afforded by the mass of facts and principles accumulated by modern science."

With reference to the character and authority of the Mosaic Cosmogony, Dr. Dawson will not allow that there is "any hypothesis short of that of *plenary inspiration* which may allow us to attach any value whatever, to this most ancient document," p. 32. And again on p. 48, he concludes, "that the Mosaic Cosmogony must be considered, like the prophecies of the Bible, to claim the rank of inspired teaching, and must depend for its authority on the maintainence of that claim." Thus clearly and unequivocally does Dr. Dawson state what is after all the most important point in his book. That such statements from so eminent a working naturalist, will afford complete satisfaction to many, as they have afforded it to us, we cannot doubt. And we believe it will be found not the least recommendation of "Archaia," that while it fully claims for philosophical inquiry, that freedom of discussion and independence of research so essential to it, yet claims for the crediblity of the sacred narrative its own appropriate foundation, which, says Chalmers, "is the recorded testimony of numerous and unexceptionable witnesses, so that the only way in which that credibility can be overthrown, is by attacking the testimony, or disproving the authenticity of the record, and since every other science is tried upon its own peculiar evidence, the same justice should be done to theology."*

Various important propositions result from this assertion of the plenary inspiration of the Scriptures, in such a book as "Archaia." First, the deductions of a finite human philosophy with reference to the nature of God's creations, can never be by any means true, if they are at variance with God's revelation; and when they are at variance, it is because either that such philosophical deductions are imperfect and erroneous, or that the statements of the revealed word are not correctly understood. Again, we shall be exhibiting not more our piety

* Dr. T. Chalmers "Evidences," &c., ch. VII.

than our wisdom, if in the present state of our knowledge we be cautious in applying to the divine word the results of geological research; for, as long as they seem to require reconciliation, it were better to let them pursue apart their own separate lines until that day of light arrives, when men shall be able to see them clearly converge to the one point. Of the disposition of inquirers so to regard the subject at present, Dr. Dawson speaks cheeringly:—

"There can be no question that the whole subject is at the present moment in a more satisfactory state than ever previously; that much has been done for the solution of difficulties; that theologians admit the great service which in many cases science has rendered to the interpretation of the Bible, and that naturalists feel themselves free from undue trammels. Above all, there is a very general disposition to admit the distinctness and independence of the fields of revelation and natural science, the possibility of their arriving at some of the same truths, though in very different ways, and the folly of expecting them fully and manifestly to agree, in the present state of our information." P. 14.

Again, it results from the doctrine of the plenary inspiration and infallibility of the word of God, that we cannot permit human interpretation and human error, completely to neutralize its teachings. We can consequently have little respect for a "document theory" of the Cosmogony, a "poetical theory," a "mythos theory," a "day vision theory," or any theory that tramples the authority of the Scriptures into the dust. These theories which in the main make Moses the mere collector of "the waifs and strays of old floating traditions," which he has embodied in his cosmical and other writings, are after all but a re-hash of the favourite doctrines of Voltaire, and are not more opposed to the dogma taught by Christianity, "All Scripture was given by inspiration," than they are adverse to the more ancient teaching of Judaism, "*Mosheh katab mipi Hageburah* i. e. Moses wrote from the immediate dictation of God." We may well press the advocates of the document theory, with the question which Hume found it impossible to answer, and demand their proof, that Moses did not write what has been attributed to him, and why we should prefer to assign to doubtful and unknown authors, the writing of certain passages in the Pentateuch, rather than to the inspired prophet of God.

We readily admit that when we meet with a scriptural passage, the understanding of which in its literal sense would involve a physical impossibility, a plain contradiction or an evident absurdity, that such a passage must be understood in a figurative sense. We also admit, nay claim, that the main object of scripture is not to teach physical science—that its language is not always technical or precise, as when, e. g. it speaks of "the ends of the earth," "the pillars of the earth," and that when referring to objects of the natural world, it presents us with an optical view of them, that is, it presents them under the aspect in which they would be *commonly* viewed, because otherwise its allusions would not have been comprehended by the popular mind. This we find to be a very ancient teaching of the Jewish Synagogue, which informs us "*Diberah Torah Kilshon Benai Adam*, i.e.," the law employs the ordinary expressions of the sons of men. Dr. Dawson's views on this subject he gives thus:—

"I must observe here, however, that a careful consideration of the facts, gives to a naturalist a much higher estimate of the real value of the observations of nature embo-

died in the scriptures, than that which divines and expositors have ordinarily entertained; and consequently, that if of human origin, we must be prepared to modify the views generally entertained of early oriental simplicity and ignorance. The truth is, that a large proportion of the difficulties in scriptural natural history appear to have arisen from *want* of such accommodation to the low state of knowledge of nature among translators and expositors; and this is precisely what we should expect in a veritable revelation. Its moral and religious doctrines were slowly developed, each new light illuminating previous obscurities. Its human history comes out as evidence of its truth, when compared with monumental inscriptions, and why should not the All-wise have constructed as skilfully its teachings respecting His own works. There can be no doubt whatever that the scripture writers intended to address themselves to the common mind which now as then requires simple and popular teaching, but they were under obligation to give truthful statements; and we need not hesitate to say, with Dr. Chalmers, in reference to a book making such claims as those of the Bible—"There is no argument, saving that grounded on the usages of popular language, which would tempt us to meddle with the literalities of that ancient, and, as appears to us, authoritative document, any farther than may be required by those conventionalities of speech which spring from "optical" impressions of nature." P. 42.

And, on page 43, in a note, he says:—

"It is a leading excellence of the Hebrew scriptures that they state facts without giving any theori s to account for them. It is, on the contrary, the circumstance that unscientific writers will not be content to be "optical," but must theorise, that spoils much of our modern literature, especially in its descriptions of nature."

We may admit, then, that Moses employs occasionally a *popular* mode of expression rather than the precise language of science; but we no more impugn his veracity on this account than we would that of the man who would now use the popular though unscientific expressions "sun set" "sun rise," "fine day" *cum multis aliis.* This is far from attributing to him that absolute falsehood which must needs attach to him if we believe that he has given us in his Cosmogony a mere myth, a poetic amplification or a vision,—that he gives us a recital of facts that are not facts—a relation of events that never occurred—that the only result of all his communications with the God of truth was the compilation of a tissue of errors, physical impossibilities, plain contradictions and evident absurdities—and all these in a cosmogony which as Dr. Dawson ably shows in his second chapter "it behoved revelation to have." But although Dr. Dawson has shown this so satisfactorily, as we think, and although he insists with the same ability on the plenary inspiration of the Scriptures and devotes a very powerful and comprehensive article on the Mosaic authorship of the Pentateuch (Appendix A,) we find the day vision theory yet recommended even, subsequent to the appearance of "Archaia." But we would ask, in what respect would the belief that the Mosaic is a visionary cosmogony elevate the great lawgiver above the impostor Mahomet whose teachings were mainly the result of alleged interviews with the angel Gabriel, or Joseph Smith and his visionary book of Mormon? Scripture itself utters a most vehement protest against such views, for if words mean anything, the Psalms and many other portions of the Book refer in language plain and unequivocal to the particulars of the Mosaic Cosmogony as *facts* and not as visions. Dr. Dawson has not overlooked this, for he "sifts carefully the scriptural cosmogony, as it appears

not only in Genesis *but in every other book of the Bible,*" p. 16. Moses himself in the words of the living God protests against these views in Num. XII, v. 6. "He (God) said, hear now my words: If there be a prophet among you, I the Eternal will make, (or, make) myself known unto him in a vision and will speak (or, speak) unto him in a dream. My servant Moses is not so who is faithful in all mine house. With him will I speak (or, I speak) mouth to mouth, clearly (*bemarch*) and not in dark speeches, and the similitude of the Lord shall he behold &c." Scott's esteemed Commentary thus concisely gives its views on this passage which are the views of an overwhelming proportion of both Christian and Jewish Commentators, "God made himself known in dreams and visions to other prophets when their bodily senses were locked up, &c. But to his faithful servant Moses he spoke openly, *when he was fully awake*, in the clearest manner, &c." We reject, then, this day-vision Cosmogony of Kurtz, because we believe it to be plainly unscriptural, and entirely opposed to the testimony of the best commentators and authorities both in the Church and in the Synagogue. We reject it, because we cannot believe that God would allow such important doctrines as the origin of the Sabbath, the original creation of matter by Him, to rest on the mere baseless fabric of a vision. We utterly reject this piece of German rationalism because it, not less than the teachings of Powell in England—who is severely called to task by Dr. Dawson on page 39—enunciates the monstrous absurdity that the *facts* of Scripture may be given up, though the *doctrines* must be insisted upon. This method of simplifying revelation by giving up half of it, has been sufficiently exposed; we shall only wait now to insist again that as these physical facts are the external evidences which support the doctrines of Scripture; as it is by the evident untruthfulness of the *facts* of other cosmogonies and religious systems not based on the Bible, we can decide upon their worth; as we cannot decide where the physical facts end and where the doctrine commences, we cannot give up the cosmical facts of the Bible by pronouncing them visions, or myths, or poetical amplifications, without giving up the doctrines that are connected with them. We may be permitted to cite one example in illustration. The Israelites were ordered to observe the Sabbath not only because God rested on the seventh day, but it was to be a memorial of their departure from Egypt. Now, we cannot separate the doctrine of the Sabbath from the physical facts accompanying the redemption from Egypt, the miracles wrought in that land, more than we can from the physical facts or miracles of the six *yamim* of creation; so we cannot separate the decalogue which teaches the Sabbath doctrine, from the physical facts of the *koloth ubrakim vekol shofar*, the thunders, lightnings, sound of the trumpet and voice which accompanied its delivery. There is nothing more miraculous, nothing involving greater physical impossibilities in the one series of events which the Sabbath commemorates, than in the other series of events of which it is to be the memorial. Thus, then, we are not disposed, to see any thing more mythic or visionary in the production of *taninim** in Genesis, than in the production of the *tanin* in Exodus; not more in the division of the waters of the Red Sea in Exodus

* Shown in Archaia to be properly rendered "great reptiles," see Appendix G.

than in the division of the waters above and under the *rakiang* (expanse) in Genesis; not more in the production of herb and tree for food in Genesis, than in the production of manna for the same purpose in Exodus; not more in the earth producing every living creature after its kind, in Genesis, than the dust of Egypt producing vermin, in Exodus; not more in the dividing of the light from the darkness, in Genesis, than in giving light to Israel's habitations, while a thick darkness covered the Egyptians. In brief, we are not disposed to give up any of the facts of the Bible nor any of its miracles, which are after all but physical facts inseparably connected with certain doctrines, more than we are disposed to give up the physical facts of profane history while we accept and maintain the value of its teachings. And if we are to regard the miraculous operations of God as detailed in Genesis as merely visionary, visionary also shall we pronounce the geological readings of his operations as they are inscribed on the tablets of the physical universe. We now take leave of what may be more properly regarded as the theological aspect of "Archaia," with an eloquent extract showing how Dr. Dawson recognises the vital necessity for plain and not ambiguous teachings in the Mosaic Cosmogony.*

"But the religion of the Hebrews especially required to be explicit as to the origin of the earth and all things therein. Its peculiar dogma is that of only one God, the Creator, requiring the sole homage of his creatures. The heathen for the most part acknowledged in some form a supreme god, but they also gave divine honours to subordinate gods, to deceased ancestors and heroes and to natural phenomena, in such a manner as practically to obscure their ideas of the Creator, or altogether to set aside his worship. The influence of such idolatry was the chief antagonism which the Hebrew monotheism had to encounter; and we learn from the history of the nation how often the worshippers of Jehovah were led astray by its allurements. To guard against this danger, it was absolutely necessary that no place should be left for the introduction of polytheism, by placing the whole work of creation and providence under the sole jurisdiction of the One God. Moses consequently takes strong ground on these points. He first insists on the creation of all things by the fiat of the Supreme. Next he specifies the elaboration and arrangement of all the powers of inanimate nature, and the introduction of every power of organic existence, as the work of the same First Cause. Lastly, he insists on the creation of a primal human pair, and on the descent from them of all the branches of the human race, including of course those ancestors and magnates who up to his time had been honoured with apotheosis; and on the same principle he explains the golden age of Eden, the fall, the cherubic emblems, the deluge and other facts in human history interwoven by the heathen with their idolatries. He thus grasps the whole material of ancient idolatry, reduces it within the compass of monotheism, and shows its relation to the one true primitive religion, which was that not only of the Hebrews but of right that of the whole world, whose prevailing polytheism consisted in perversions of its truth or unity. For such reasons the early chapters of Genesis are so far from being of the char-

* It may be said that Dr. Dawson does not utterly condemn the day-vision theory of Kurtz; but this idea cannot for a moment be entertained if we see how he insists that Moses wrote his cosmogony as he did the other portions of the Pentateuch, under divine inspiration. The fact is, that Dr. Dawson, after placing Moses and his cosmogony on the safest of all rocks, permits as many waves of hypothesis to roll near them, as may. But let us quote one all convincing passage on p. 41. "The Mosaic cosmogony is a direct revelation from the Creator. ***Many attempts have been made to find intermediate standing ground, but it is so precarious, that the nicest of our modern critical balancers have been unable to maintain themselves upon it.*

acter of digressions from the scope and intention of the book, that they form a substratum of doctrine absolutely essential to the Hebrew faith, and equally so to its development in Christianity." P. 48.

With reference to the *style* of the Mosaic cosmogony, Dr. Dawson says: "The labors of the ablest critics give us every reason to conclude that the received text of Genesis preserves, almost without an iota of change, the beautiful simplicity of its first chapter" Here Dr. Dawson takes a view (which a close examination of the original text has always led us to adopt) in direct opposition to those critics who maintain a document hypothesis founded on the assumption that the difference of style in the earlier chapters of Genesis is clearly marked. The main ground of this thesis is the employment of the text of the divine titles *Elohim* and *Adonai*. This hypothesis, "now much less in favour than before," and which Dr. Dawson "by no means wishes to maintain," (p. 28.) has been sufficiently disposed of by Schlegel, who calls it "a remarkable monument of critical error in our century." These words we also apply to that objection to the style of the cosmogony which requires that the first verse of Genesis should run thus: "*God said unto Moses*, In the beginning, &c.," and asserts that, as these prefatory words are wanting, therefore there are no grounds for believing that a direct revelation is here meant. To which the answer is evident, there are many other important passages in the Mosaic writings not prefaced by these words, and yet were evidently direct communications to Moses, and if this species of criticism is to have any weight, we are justified in asserting that Eve and the serpent ought not to have received blame for eating of the forbidden fruit—for we find nowhere that God said to them in a direct manner, ye shall not eat. But this class of critics answer themselves: "The Divine sanction is evidently impressed on the Mosaic law," and this being so, it is utterly inconecivable that God would suffer his own revelation to be debased by any heterogeneous mixture with human error, and consequently every portion of the book of Genesis, no less than of the law property so called, is stamped with the same character of truth.

To be continued.

PERISCOPIC DEPARTMENT.

CHEMISTRY.

PURITY OF GLYCERINE.

It becomes a question sometimes to test the purity of Glycerine. This may be done by dropping into a glass of it a drop of a solution of nitrate of silver. If, as is often the case, the glycerine contains any chlorides there will immediately take place a cheesy precipitate.—*Bull. Ther.*

MEDICINE.

MUCOUS DISEASE OF THE COLON.

By Dr Andrew Clark.

Experimental physiology, the microscope and chemical analysis, conjoined with clinical observation have done much to correct and enlarge our knowledge of disease. They have enabled us to detect and discard many of the illusory conclusions drawn from observations made under imperfect light, to determine the true nature of many morbid states and growths, and to indicate the methods of enquiry to be pursued for the solution of questions still unsolved. And in enabling us to do these things, they have enabled us also to make them fruitful, to obtain clearer views of the laws of disease, to form legitimate hypotheses of the relation of diseased states, and secure the guidance of a rational empiricism in availing ourselves of the known resources of our art. It is true that these aids to investigation have apparently diminished our possessions, and demolished some of our fancied strongholds. But then it is equally true that they have rendered those which remain almost impregnable, and laid down for us a sure basis for all future operations of attack, annexation, and advance.

We are prone to boast of these achievements, and to deride the labours of our predecessors; we scorn their narrow views; we laugh at their cautions; we condemn their practice: but we forget, the while, that it was only by mounting upon their shoulders that we have been enabled to command a wider prospect and a clearer gaze. There is no better check to this self-sufficient exultation than the reflection that, though our conquests of knowledge have been great, our successful application of them to the exercise of our art has been but small. For there are many diseases of whose intimate nature we know more than our forefathers did, and quite as much as we can hope to know for years to come; yet we are not a whit more successful in treating them—oftimes, it must be confessed, less successful. How is this? They had imperfect knowledge; were guided by erroneous hypotheses; possessed but limited resources. We have large knowledge, sound hypotheses, great resources. They were the servants of empiricism: so are we. But their empiricism was a blind one; ours, as we say, is an enlightened one. The advantages, clearly, are all on our side. Why are not the results? A very hard question this, and one which deserves a better answer than we can afford to give it.

Let the truth be told. It is much to be feared that many of us are striving after a kind and degree of knowledge which is unattainable; that we are fast losing the great broad features of disease in burrowing amongst its minute and accidental details for new and irrelevant facts; that we are hunting analysis to death whilst synthesis is left unheeded; that we are being daily distracted from the main business of our lives by the glare of abstract novelties; and that under such illusions of progress we are becoming intolerant or distrustful of that plain, prolonged, and patient clinical experiment which is essential to all real improvement in the practice of our art, and its only security, But we cannot ,and ought not, to forget that however valuable science may be for its own sake,and as a necessity of our nature, it is after all chiefly valuable to us in proportion to its applicability to the practical business of our daily lives. Knowledge readily buds into blossom; but we require that it should be forced into fruit.

We have been led into these remarks by the study of a class of cases brought under our notice by Dr. Andrew Clark, of the London Hospital. These cases are distinguished by one common and concurring series of pathological conditions,—congestion of the mucous membrane of the colon, the excessive secretion and accumulation of vitiated mucus, and its periodical discharge. The symptoms developed by these pathological conditions, the order in which they appear, and the course which they pursue, are sufficiently characteristic to admit of clinical isolation, and to justify our classification of such cases under the designation of "mucous disease of the colon."

The disease thus named is of frequent occurrence, and seems incidental to advanced civilisation. It manifests itself by various anomalous and distressing symptoms; pursues a tedious course; is, in its graver forms, but little amenable to treatment; and though not in itself fatal, occasionally terminates in death by the superinduction of other organic disease.

Mucous disease of the colon may be naturally divided into three stages; in the first stage, the characteristic discharge from the bowel consists in flakes or masses of more or less inspissated mucus; in the second, of tubular casts of the gut; in the third of membranous shreds of lymph, mixed with the blood and pus.

The first stage is generaly curable; the second, occasionally curable; the third resists all treatment.

In his early treatment of mucous disease of the colon, Dr. Clark having formed no hypothesis of its nature, proceeded quite empirically. He classified his cases into sets. In one set he tried astringents, in another, purgatives; in a third, tonics; in a fourth, mercury. Sometimes a low diet was enjoined; sometimes a full one. At one time stimulants were prohibited; at another allowed. A fluid diet was contrasted with a dry one; and rest with exercise.

After a considerable number of cases had been laid under contribution, the results of those opposing clinical experiments were carefully collated and compared. It then appeared that there were several circumstances almost uniformly influential in maintaining or aggravating the disease. Of these may be enumerated too much food, vegetables, preserved fruits, all irreducible articles of diet, most condiments, beer, undiluted spirits, excess of liquids, (particularly when hot,) sexual or other emotional excitement, a sedentary life, a damp or hot atmosphere, and the abuse of purgatives, but above all of aloes.

Dr. Clark next proceeded to classify the symptoms, and endeavoured to trace them back to the general pathological states in which they inhered. He found that although in one sense each case was regulated by laws peculiar to itself, there were, nevertheless, certain pathological states common to the whole series of cases. Of these are a feeble circulation, giving rise to frequent local capillary congestions; a highly excitable condition of the nervous centres; a thin blood, deficient in fibrine and red discs; a dry, furfy, and imperfectly acting skin; and an excessive secretion of vitiated mucus by all the mucous surfaces.

Then, by a process of analysis and seclusion, Dr. Clark became satisfied that the *immediate* cause of the symptoms referable to mucous disease of the colon is the excessive secretion and accumulation of mucus on the free surface of that viscus; that this mucus diminishes absorption on the one hand, and excretion on the other; and that, by fermenting itself and inducing fermentation in the contents of the bowel, it developes gases which poison the blood and disturb the order of nutrition and secretion throughout the body.

Reviewing now the question of treatment in the light of these pathological states, and with an experimental knowledge of the agents which aggravate them, and seeing that the direct indications of treatment are (1st) the removal of the accumulated mucus, and (2ndly) the prevention of its subsequent excessive secretion, Dr. Clark has at last, after many suggestive failures, (and what honestly recorded failures are not eminently suggestive and useful?) arrived at the conviction that the following scheme of treatment is the most generally successful in the class of cases under review:—

Dr. Clarke, in the first place removes the mucus by means of the internal use of alkalies, with gentle laxatives, in infusion of buchu or uva ursi and rhubarb, and by the exhibition of alkaline enemata. When the removal of the mucus has been achieved, endeavours are made to prevent its reproduction in excessive quantities by the following means:—

1st.—The enforcement of a solid diet (excluding vegetables, fruits, and all hard sub-

stances), consisting of fresh meat, bread and occasional farinaceous puddings, taken at intervals of six hours thrice daily.

2nd.—Abstinence from tea, coffee, beer, all hot liquids, and much liquid of any kind; the occasional use at dinner of diluted wine, and more rarely spirits.

3rd.—Cutaneous friction night and morning, with or without cold or tepid sponging, the former being generally ill borne in this class of cases, but when well borne of great service.

4th.—Gradually increasing daily exercise, even to fatigue.

5th.—Avoidance of emotional excitements hot and damp atmospheres, and close rooms.

6th.—The use of astringents and tonics suited to the peculiarities of individual cases. The chief of them are iron, alum, pernitrate of iron, gallic acid, sesquichloride of iron, pyrophosphate of iron. These ought to be given in a liquid form, in small and gradually increasing doses and in combination with small doses of nux vomica, which, when it agrees, greatly improves their action. Copaiba is sometimes useful.

7th.—The regulation of the bowel, when needful, by means of rhubarb, soda, and ipecacuan, with or without a little grey powder.

8th.—Counter-irritation to the abdomen.

9th.—In obstinate cases, the injection of astringent solutions into the bowel.—*Lancet.*

ON DIPHTHERIA.

By Dr. Charles Kingsford, Clapton.

Diphtheria may be divided into the *mild* and the *severe* forms.

The mild form, which for the sake of distinction, may be designated the *diphtheritic sore-throat*, is ushered in by a variable amount of feverishness, loss of appetite, and at first only slight pain in swallowing; the tongue presents a thick, white, creamy coat, through which some of the papillæ are visible; the velum palati, uvula, and pharynx are of a bright-red colour; the tonsil glands are much swollen and of the same livid hue, and upon the inner side of one or both of them distinct white patches are seen, which in some instances resemble an exudation from the sulci of the tumid gland, but more frequently are flat and filmy in appearance, not confined to the tonsils alone, but spread over the uvula and posterior wall of the pharynx. Both the exudation and the filmy deposit adhere tenaciously to the submucous surface, and cannot easily be scraped off. Ulcerative stomatitis not rarely precedes and accompanies this mild form of diphtheria,—indeed, by some, they are considered to be identical; the parotid and submaxillary glands are not much swollen, although one or two enlarged glandulæ concatenatæ may often be detected.

The severe form, or *genuine diphtheria*, is always characterized by a high state of fever a hot pungent skin, flushed countenance, congested lips, a rapid feeble pulse, a great difficulty in swallowing, and hurried respiration; the tongue is covered by a thick, dirty, yellowish-brown, or some times slaty-coloured coat; the velum palati, uvula, and pharynx are of a deep, dusky, *erysipelatous* redness; the tonsils usually enormously swollen and of the same dark-red colour, but instead of the white patches observed in the mild form, a large ash-coloured membrane is spread over the inner side of one or both tonsils, and also upon the uvula and posterior wall of the pharynx. As the disease advances, the above symptoms increase in severity: the breathing becomes stertorous from mechanical obstruction; deglutition so painful that young children will refuse to swallow even liquids; the saliva dribbles from the mouth, and a foul, acrid discharge often flows from the nares; the pulse becomes more rapid and feeble; the glands of the neck are now swollen and tender, and the voice is hoarse and indistinct; the patient, restless, tosses about in the bed, or else lies on his back in a semi-comatose state. These cases,

when fatal, terminate either by rapid prostration of the vital powers, or by an affection simulating croup, from extension of the diphtheritic membrane into the air-passages; in both instances, death is usually preceded by obstinate vomiting, probably the result of inflammation or irritation of the par vagum.

The prognosis must, at all times, be very guarded, but will depend much upon the disease being from the first recognised and energetically treated; for the mild form, if left alone or improperly handled, will quickly pass into genuine diphtheria, when the prognosis becomes more unfavourable, although modified by the duration of the disease, and the age and temperament of the patient.

The treatment is divided into constitutional and local, and varied according to the severity of the case. Even in the mild form, or diphtheritic sore-throat, it will be found advisable in the first instance, to confine the patient to bed in a well-ventilated room; if the bowels be sluggish, a brisk calomel purge should be given, but under no circumstances should any other antiphlogistic measure be resorted to, but a liberal diet at once enjoined, consisting of strong beef-tea, port-wine, jellies, and farinaceous food, which ought to be administered at short intervals, and in moderate quantity. The following draught to be taken every three or four hours:—Chlorate of potass, from ten to thirty grains; dilute hydrochloric acid, ten to thirty minims; decoction of bark or water half an ounce to an ounce. The dose of the salt and mineral acid to be increased according to the age of the patient. The topical treatment consists of sponging the fauces, two or three times a day, with a compound solution of alum (L. P.), by means of a piece of soft sponge attached to the end of a pen-holder, or portion of whale-bone; the patient, also, if not too young, should gargle frequently with a strong solution of alum. The speedy removal of the white patches, by this local application of alum, renders highly probable the suggestion that the deposit is a fungus.

In treating the severe form, or *genuine diphtheria*, is it most important to guard against being misled by the feverish excitement, and thereby be induced to adopt antiphlogistic remedies. It should be borne in mind, that the fever is the result of a poison analogous in type to adynamic erysipelas; and as it would be unwise to treat the latter disease by lowering the system, so would any depleting means, for the purpose of reducing the fever attending diphtheria, be fraught with danger. The pharynx should be sponged every eight hours with a solution of lunar caustic (sixteen grains to an ounce of distilled water), and for this purpose the sponge, by being easily compressed between the swollen tonsils, will be found preferable to a brush. A most liberal allowance of wine and nutritious diet must be instituted from the first, and the following draught:—Chlorate of potass, from ten to thirty grains; tincture of sequichloride of iron, ten to thirty minims; syrup, a drachm; water, seven drachms; given every one, two, or three hours, according to the age of the patient and the degree of pyrexia present; the more intense the inflammatory symptoms, the oftener should the draught be exhibited; nourishment also should be given in definite quantities at short intervals. It will happen, not unfrequently, with very young children, that *some time* before the mechanical obstruction precludes deglutition, all voluntary efforts at swallowing will be obstinately resisted, from pain, and disinclination to be aroused. These cases excite the greatest anxiety, as unless a sufficient quantity of support can be taken the vital powers must quickly succumb to the influence of the poison. Still all attempts to give medicine or food by the mouth should now be discontinued, and an enema of strong beef-tea and port-wine (one ounce of each), be administered, per rectum, *every two hours*; also, for a child above three years old, five grains of quinine should be added to each alternate injection. At bed-time, to procure rest, it may be advisable to add five minims of Battley's sedative. The glysters may be thickened with arrowroot; and, at intervals, milk substituted for the beef-tea and wine. The quantity injected should never exceed two or three ounces at a time, or it will fail to be retained); and hence the necessity for the frequent repetitions. The topical application of the nitate of silver must be persevered in, and the patient allowed to sip any nutriment he will. By adopting this

procedure, time is gained, and life maintained until the virulence of the poison is overcome or exhausted. Mercury, in any form, excepting as a cathartic at the onset of the disease, seems to be especially contra-indicated. Blistering and external stimulants to the neck are worse than useless, by adding to the irritability of the sufferer, without exercising any beneficial or derivative effect upon the fauces.

Tracheotomy, if entertained, should be adopted immediately after the croupy symptoms have become established, and not deferred as a *dernier resort*. The presence of vomiting I should consider sufficient proof that the disease had already advanced too far to warrant any hopes of success from an operation.

It will be observed that the plan of treatment above advocated is based upon that of two analogous affections—viz., ulcerative stomatitis, and acute asthenic erysipelas of the head and neck,—viewing the mild form of the disease as allied to stomatitis, and therefore prescribing the chlorate of potassa with the mineral acid: but regarding diphtheria as a complication of diphtheritic sore-throat with erysipelas, and hence ordering, in addition to the salt, large and frequently-repeated doses of the sesquichloride of iron.

The question of infection is very difficult of solution, yet the rapid spread of the malady in schools, and the recorded deaths of several members of a family from this disease, render it imperative that every precaution be used to prevent its dissemination. In some cases, I have most conclusively traced the origin of the disease to emanations from putrid, stagnant ponds and sewers.

When the affection of the throat assumes the malignant or putrid type, which is recognised by a livid, gangrenous appearance of the tonsils and by an intolerable fœtor of the breath, the treatment recommended for general diphtheria, with the addition of a gargle consisting of one drachm of liquor of chloride of lime and eight ounces of water, will be found most serviceable.

A very serious complication occasionally arises as a sequela to the severe form of diphtheria—viz., paralysis of the muscles of the neck, of the pharynx, and of the larynx. Dr. Gull, who has already drawn attention to this subject, informs me that he has met with a case in which the upper extremity was involved; and this morning I was consulted by Mrs. C., who was recovering, not only from loss of speech and of deglutition, but also from partial blindness, and paralysis of both arms, the result of this formidable complaint. These cases are to be treated upon tonic principles, by change of air, and those remedies which are calculated to improve the general health. The nervine tonics are especially indicated. When the head falls forward upon the chest, from paralysis of the spinal accessory nerve and cervical plexus, great relief and comfort will be afforded by a collar of soap plaster spread upon leather. Also when, from paralysis of the glossopharyngeal nerve, the efforts to swallow are attended by violent fits of choking, all medicines and a large proportion of nourishment must be administered per rectum. Even under the most favourable circumstances, recovery will be slow and gradual; but when the phrenic nerve is implicated, the greatest danger to life is threatened.

In fatal cases the *post-mortem* examination reveals the ash-coloured membrane spread over the pharynx, extending to the posterior nares and down the œsophagus; but when death is preceded by symptoms of croup, it is found also in the larynx and trachea. Upon detaching this membranous exudation, the sub-mucous surface presents an ecchymosed appearance, but no distinct signs of ulceration.

In conclusion, I would most strongly urge the importance of injection in the treatment of the severe forms of diphtheria; nor ought they to be delayed until the patient is unable to swallow, but administered as soon as he ceases to take a sufficient quantity of nourishment. I would likewise beg to add my conviction, that if a sthenic plan of treatment were adopted from the very commencement of an attack, the mortality from this now much dreaded affection would be greatly reduced.—*Lancet*.

SURGERY.

THE CURE OF VARICOSE VEINS.

A MAN aged about thirty-five years was recently admitted into University College Hospital with a varicose condition of the veins of his left leg and thigh, associated with a varicose ulcer. From the latter a good deal of blood had been lost lately, and much inconvenience was felt from the presence of several knots and clusters of tortuous veins extending up the inner side of the thigh. The dilated vessels running up the leg to the middle of the thigh were of considerable size. Two pins were placed beneath the veins above and three below the knee, and the usual sutures applied over a small piece of bougie, on the 19th October; this was done without chloroform being given. The varicosed knots were reserved till a future occasion for injection with the solution of the perchloride of iron. A week later the veins were found to be obliterated, and the effect of this was to diminish the venous knots already referred to. The ulcer had completely healed. Finally, some of the dilated veins were injected with the solution, but not the others, as coagulation had taken place within them. This was followed by some inflammation and an abscess, with a little constitutional disturbance, but the man has gone on well.

We saw some remarkably large varices at the above hospital on the 16th ultimo, situated at the inner side of the left thigh of a man of sixty, who had a varicose ulcer of both legs, in which the veins were in a varicosed condition. Three pins above and three below the knee of each leg were placed in the usual manner under the veins, and complete obliteration has ensued, with a cure of both ulcers. A second case of varicose veins and ulcers of both legs was submitted to the same treatment in a man whose constitution was broken down; two pins below each knee, and one above the left knee were introduced. It is important to observe that this patient had been similarly operated upon three years ago, on his left leg, with a cure of the varix at that time; but the present knot of enlarged veins was an entirely fresh batch. There can be no doubt that in the majority of cases the veins operated upon are completely obliterated; but we believe, with Dr. Pirrie of Aberdeen, that a permanent cure of the tendency to varix is not accomplished, and that in many cases, sooner or later, the varix returns in some other veins.

The obliteration of varicose veins we saw also attempted at King's College Hospital on the 22nd October, by Mr. Fergusson, the subject being a young woman, a housemaid, who was much upon her feet, and the veins of whose left leg were enlarged and tortuous. A pin was passed underneath a large vessel at right angles to its trunk, and another was introduced through the vein itself in the direction of its length, so that some amount of inflammation might be induced; a twisted thread was now passed round the pins, with the effect of producing obliteration by the compression thus established.—*Lancet.*

ARTIFICIAL LIMBS IN FRANCE.

We alluded a short time ago to the reappearance, at the Grand Opera at Paris, of M. Roger, the celebrated tenor, who had the misfortune to lose his arm from a gun-shot wound. The benefit of this favourite singer took place on the 18th inst., before a crowded house. The friends and admirers of M. Roger were very apprehensive of the result of the experiment, knowing well that though any imperfect acting in consequence of the sad loss the singer had sustained would be looked upon with sympathy and commiseration, yet that his career would thus be completely marred. Their anxiety was, however, soon relieved; for the performance of M. Roger was such that a person not knowing that the right forearm was the work of art would never have suspected the calamity which has

befallen him. In the "Dame Blanche," the tenor has a letter presented to him; and when M. Roger deliberately stretched out his *right hand* (the artificial substitute) and took it with the ease of nature, a burst of applause broke from the house, and expressed the mingled feelings of the audience. This beautiful result of mechanical art comes from the establishment of the well-known surgical instrument maker, Charrière; and it should be known that M. Matthieu, who enjoys an equally high reputation in the same calling, has largely contributed to the perfection of this master-piece.—*Lancet.*

IODINE INJECTIONS IN SPINA BIFIDA.

Drs. Brainard and Crawford have now treated seven cases in this way, and of these five were cured of the disease, one dying seven months after of chronic hydrocephalus. The fluid injected consists of a solution of iodine and iodide of potassium, in water, the amount varying from a quarter of a grain to four grains of iodine and three times that quantity of iodide, dissolved in from one drachm to several ounces of water. The immediate effect of the operation is pain and some febrile reaction, and, if the quantity injected be large, some symptoms of cerebral compression are apt to occur. The injections are to be repeated as often as necessary, their strength being increased. The puncture should be made in the sound skin, at the side of the tumour, and no more of the fluid of the tumour should be evacuated than the quantity of the injection about to be thrown in. After the operation, collodion should be applied, in order to contract the skin, and this should be continued for some months after the swelling has disappeared.—*Boston Medical Journal.*

NECROSIS OF VARIOUS BONES.

We constantly observe the best results to ensue from the common practice, at the present day, of removing the necrosed parts of different bones of the body. With the exception of the vertebræ, almost all the bones of the skeleton have been submitted to the notice of the surgeon for relief. On the 10th instant, a young girl was brought into the operating theatre of St. Bartholemew's Hospital, and had chloroform administered to her by Dr. Batten. This was an ordinary case, but not the less interesting and practical. The left foot was much swollen, and on its external surface, over the os calcis, were two or three prominent granulations communicating with sinuses leading to necrosed bone. She received a blow at this spot three or four months ago, which was followed by abscess; and, in spite of the most careful treatment, the disease advanced, with the formation of sinuous openings leading to the interior of the bone. With this state of her limb, Mr. Skey observed that he would be justified in amputating it, but he preferred a minor operation, by cutting down and removing all the dead bone that could be got away. This he did, and gouged out the interior of the os calcis, leaving a mere shell. If she goes on favourably, of which there is every probability, the hollow bone will become filled up by fibrous material, and the wound will heal. This Mr. Skey stated would not occur if any dead bone remained, and he would prefer repeating the operation rather than remove the limb.

A strumous boy, aged about seventeen years, was now brought in, with disease of the articular ends of the first phalanx of the great toe and metatarsal bone of the left foot. The cartilages of the joint were completely destroyed, and grating of the bones, suppuration, and numerous sinuses existed. The entire toe, with half of the metatarsal bone, were removed by Mr. Lawrence.

We saw a third case of necrosis, in a boy of thirteen years, at St George's Hospital, on the 8th inst., in whom it was present in the shaft of the left femur. Five years before this bone became inflamed, and matter formed; subsequently, necrosis ensued, and he

was submitted to an operation by Mr. Cæsar Hawkins, and portions of dead osseous material were removed. This proceeding was now repeated, by the same surgeon, who took away a large flat piece of bone from the lower part of the shaft, corresponding to the commencement of the popliteal artery in position. As it was believed there was some of the morbid action extending towards the front part of the bone, this patient will require additional assistance on another occasion.

All of the above patients are doing well.—*Lancet.*

MIDWIFERY.

CURE OF VESICO-VAGINAL FISTULA BY LIQUOR AMMONIÆ.

We are anxious to record an instance of the cure of vesico-vaginal fistula by the application, direct to its edges, of the liquor of ammonia. The case occurred in St. Bartholomew's Hospital, in June last, under Mr. Lloyd's care. The patient, who was twenty-six years of age, had been the subject of a fistula of the kind mentioned since her confinement in August of last year, and was, as is usual, much troubled and inconvenienced by the continual dribbling of her urine. A catheter was kept constantly in the bladder to relieve this condition, and the caustic ammonia was applied to the edges of the fistula, situated rather high up the vagina; and this was repeated a few times, with the effect of causing perfect closure, so that she was enabled to get up and walk about the ward without the escape of any urine into the vagina. On passing the finger into this passage, a deep indentation could be felt in the situation through which the urine had so long passed. She left the hospital, apparently cured, many weeks back. There can be no doubt, as we heard Mr. Lloyd remark recently, that the parts have been well tested by this time, and that the cure is complete.—*Lancet.*

PERIOD OF OSSIFICATION OF THE FONTANELLES,

M. Henri Rodger, whose researches respecting the auscultation of the head we lately referred to, [see *The Lancet* of Nov. 19th, p. 514,] has been led by these researches to attempt settling the exact time when the Fontanelles close. This occlusion, should according to the author, be studied clinically, and in the dead-house. By post-mortem examinations we may ascertain whether the occlusion is really of an osseous nature, and by the bed-side, we judge whether the fontanelle is or is not firmly closed, by the occluding medium being a dense membrane or bone.

M. Roger thinks, however, that, in the 300 cases which he examined clinically, the resistance was sufficient to prove that the fontanelle was closed by bone. From the tables given, the author concludes that the "period of ossification of the fontanelles (the anterior has been alone studied) lies between the age of fifteen months, when the ossification is very rare, and the age of three years and a half, when it is always met with. Between these two extremes, it may be reckoned that the most usual period of occlusion is between the second and third year."—*L'Union Médicale. Nov.* 26, 1859.

ON SLOUGHING OF THE FŒTAL SCALP AS A RESULT OF TEDIOUS LABOUR.

Dr. Priestly, at the December meeting of the Obstetrical Society of London, related a case, under the care of a midwife, in which the head had been impacted for about forty-eight hours in the pelvis, in a first labour. Eight days after delivery the child died. On the third day, the back of the head was much inflamed;

later, the scalp assumed a darker colour, and the child gradually sank. A slough, of the size of a shilling, had separated, leaving a wound, which extended nearly to the bone; over the occipital protuberance; and there was extensive ecchymosis around almost to the ear on each side; and the pericranium was in part separated from the bones. The sloughing in question resulted, in the author's belief, from the long impaction of the head in the pelvis.

CASE OF EXTREME EMACIATION, THE RESULT OF OBSTINATE VOMITING IN PREGNANCY,

A girl, aged nineteen unmarried, was admitted into St. Mary's Hospital in July last. Obstinate vomiting, at first supposed to depend on cerebral disorder, continued from the time of her admission. She became so extremely reduced in flesh, that at the end of six weeks her weight was only forty-seven pounds and a half. At this time she was unable to move in bed, delirium was frequent, bed-sores appeared over the sacrum and nates, and she appeared to be dying. Pregnancy was now suspected. The catamenia were found to be absent; the breasts were full, notwithstanding the emaciation of the rest of the body; and the uterus had increased in size. Remedies had been of no avail. She was too weak to permit of artificial abortion. A nurse was put by her bedside to give her a single teaspoonful of nourishment every half hour. The body was rubbed with oil, and beef-tea injections were administered daily. Under this plan the sickness ceased: the quantity of nourishment was slowly increased, and she improved in strength, and became comparatively stout. Pregnancy went on to December 3rd, when she miscarried at the fifth month, and is now recovering.—*Lancet.*

ROUGET'S UTERO-OVARIAN MUSCLE.

Mr. Cooper having the credit of being the first to demonstrate it in this country. It was plainly seen to consist of bundles of muscular fibres, forming a fan-shaped muscle between the folds of the broad ligament, and showing that the uterus, the ovary, and the Fallopian tube, are enveloped in a common muscular membrane, and that the contraction of the bundles of muscular fibres would draw the ovary and the fimbriated extremity of the Fallopian tube together; and, by inclosing the venous plexuses near the ovary, would complete the erectile system of the female organs of generation so beautifully delineated by Dr. Savage, and explain very simply the mechanism of ovulation.—*Med Times.*

MATERIA MEDICA.

A NEW METHOD OF PREPARING AND APPLYING CHLORIDE OF ZINC.

By. G. W. Spence, M. D.

Dissolve fifty grains of prepared chalk in two drachms (by measure) of commercial muriatic acid; dissolve a hundred and fifty grains of sulphate of zinc in two fluid drachms of boiling water. When required for use, mix the two solutions, and the result will be a paste weighing nearly an ounce, and containing about one-sixth of pure chloride of zinc. The proportions are nearly, but not exactly, those indicated by the atomic weights. A little study would easily produce a paste of harder or softer consistency, —*Lancet.*

THE

British American Journal.

MONTREAL, FEBRUARY, 1860.

THE MEDICAL EVIDENCE IN THE CASE OF THE QUEEN AGAINST JAMES CONNELL FOR THE MURDER OF HIS WIFE.

An incident occurred during the trial of this case which we feel bound to notice. It will be remembered, that certain medical evidence was adduced to establish a probability that Mrs. Connell died of Apoplexy, an opinion which we apprehend there will be little difficulty in justifying, notwithstanding Dr. Hingston's lengthy communication on the subject, which we have admitted into this number of our Journal. The medical gentlemen, who stated upon oath that such was their common opinion, were Drs. Wolfred Nelson, Peltier, Craik and Hall; and it will, we think, be admitted, that the *status* of these parties respectively, was such as should, at the least, have secured for them courteous consideration, not only from the Crown prosecutor, F. Johnson, Esq., but also from the Bench. Strange to say, however, that notwithstanding the grey hairs of one, and the unquestionable qualifications of all, they were flippantly taunted as "young aspirants for fame" by Mr. Johnson, which words were adopted by His Honor Mr. Justice Aylwin, who also took occasion to remark upon the "scandal," which in these latter days was often occasioned in Courts of Justice by contradictory medical testimony, and finally disposed of the evidence in question by the somewhat undignified remark, that "it was not worth a snap of his finger," suiting at the same time the action to the word.

It should be known, that while the medical gentlemen whom we have named were being thus treated, because they presumed to differ from the medical evidence given in support of the prosecution, the Queen's Counsel had actually secured the attendance during the whole trial of two medical men, Drs. Jones and Beaubien, for the express purpose of giving their judgment on the case as developed in open Court. Surely, it was not predetermined that the testimony of these gentlemen should have been *in favour of the prosecution;* and if not, in what a position would they have found themselves, had they, like Dr. Nelson and others, differed from Drs. Hingston and Howard who deposed that the woman died from personal violence, a conclusion at which they were unable to arrive until the very day of the trial, eight months after the decease of the woman! They would have been actually rebuked by the very parties, who had retained them to give, no doubt, a conscientious opinion.

We respectfully submit, that the course pursued by the learned Judge and Queen's Counsel in this matter was entirely at fault. Either medical witnesses

must be ruled out of Court altogether, or if admitted, they must be allowed each to speak his honest opinion, even should they differ as much as lawyers and Judges notoriously do. And above all, it is not to be tolerated that one medical man is to be censured, for no other apparent reason than that his opinion does not tend to the conviction of a prisoner, while another, though his opinion is formed on no better data, is to be received with favour, because it has an opposite tendency.

It is with no little pain that we have felt ourselves called upon to make these reflections upon the proceedings of the Court; but an imperious sense of justice to our own profession, compels us so to act; and we do most sincerely trust that we shall not soon again have to discharge so unpleasant a duty.

We will only add, that the examination as detailed by Dr. Hingston, in his communication on pages 70 and 71, is drawn largely from his imagination, a mental endowment of which we had not previously deemed him possessed.

THE LATE DR. MONTGOMERIE.

Since the death of Sir Philip Crampton, the faculty of Medicine in Ireland has sustained no greater loss than that which it has experienced by the death of Dr. W. F. Montgomerie, who expired on the 21st December, after a very short illness. His reputation extended far beyond the boundary of the British Isles. He was educated in Trinity College, Dublin, in which he obtained a scholarship in 1820; took the degree of B. A. in 1822; those of M. A. and M. B. in 1825, and finally that of M. D. in 1852. In 1825 he was admitted a Licentiate of the King and Queen's College of Physicians, and was elected to a Fellowship in the same in 1829, and finally became President of it. He secured a very elevated rank as a practitioner of Medicine, but chiefly of Midwifery to which his writings bear tribute. About seven weeks ago, the Obstetrical Society of London elected him an Honorary Fellow, among thirteen other gentlemen. His literary labours were extensive; but the following will be found the chief. In 1826, conjointly with Dr. Francis he published his "Observations on the Dublin Pharmacopœia," which which soon became a standard work. One of his best and most enduring works is the one "On the signs of pregnancy," of which a new edition has only recently been published. His work also, "On the spontaneous amputation of the Limbs of the Fœtus in Utero" is an admirable monograph. Few had stood higher in practical obstetricy than the late Dr. Montgomerie. Of sound judgment, and admirable practical skill, he stood unrivalled in Dublin in Midwifery, that branch of the medical sciences, to the elucidation of which he had devoted unsparingly the best part of his life. We have abbreviated the foregoing from the *Lancet*.

OBSTETRICAL SOCIETY OF LONDON.

We notice with pleasure, that at the first annual meeting of this society, of which Sir Charless Locock was elected the President, our former fellow citizen and colleague, Dr. George D. Gibb was elected a member of council. This is a just tribute to his untiring abilities which are of a high order, and we have not

the slightest doubt that the Society will reap largely the benefits of his unflagging industry. Nothing is more gratifying that to hear of the favours bestowed upon Colonists (as they were wont to be called,) in the mother country, especially when we at a distance feel satisfied that they are the rewards of merit, and therefore deserved.

ESCAPADE OF MEDICAL STUDENTS.

The late *emeute* in South Carolina, dignified by the title of the "Harper's Ferry insurrection," and which resulted in the execution of John Brown and several others, was attended with a somewhat comical effect, as regards the medical students of that and some adjoining states. A large number of these young men were annually in the habit of frequenting the medical schools of New York and Philadelphia, doubtlessly on account of the superior advantages which they afforded. After having matriculated and paid their class fees, about two or three hundred became suddenly impressed with the idea, that no better punishment could be inflicted upon those abominable northern abolitionists, than for them to leave their Alma Maters *en masse*, which they accordingly did, and were received in Charleston, by a grand turn out of the inhabitants, with the Governor of the State, Mr. Wise, at their head, who made a flaming speech to them on the occasion "full of sound and fury." The worst part of the story is, that the move is strongly suspected to have been suggested by some of the southern medical colleges, the professors in which, contributed the means for the defrayment of the necessary expenses. At any rate, the students were warmly received, and every facility extended to them for the continuance of their studies. We trust that the students have come to their senses by this time, and above all that the Southern professors have repented of the gross breach of etiquette which it is almost certain they have committed. It is a trite remark that "corporations have no souls," and that as bodies, men will do acts, which, personally, they would be ashamed to commit. This may be true in the main, but can hardly apply to faculties in Universities, whose highest aspirations should be, to observe in the strictest manner, the amenities of the Profession.

AN OPENING FOR PRACTICE.

We have received a communication from a Medical gentleman who has left the place, requesting us to announce that a very good opening for practice at the present moment exists in the Township of Osgoode, a flourishing settlement about 20 miles south of Ottawa.

VICTORIA COLLEGE.

Although we took every pains to ensure correctness in the attendance of students at the several medical schools in Canada, we have very unintentionally committed an error with regard to those attending the medical classes at the above school. Instead of 50 the number assigned, it should have been 64 in accordance with letters received from three professors of this school since our last issue.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT *MONTREAL* IN JANUARY, 1860

By Archibald Hall, M.D.

Day.	DAILY MEANS OF THE: Barometer corrected and reduc'd to F. 32°	Temperature of the Air.	Dew Point.	Relative Humidity.	Ozone.	CLOUDS: Amnt.	CLOUDS: General Description.	THERMOMETER: Maximum read at 8, P. M.	THERMOMETER: Minimum read at 7, A. M.	WIND: Its general Direction and Mean Force from 0 Calm to 10 Violent Hurricane.		RAIN AND SNOW: Rain in 24 hours read at 10, A.M.	RAIN AND SNOW: Snow in 24hours read at 10 A.M.	RAIN AND SNOW: Total rain and melted snow.	GENERAL OBSERVATIONS.
	Inc's.	°	°	0.100	0.10	0.10		°	°		0.10	Inch.	Inch.	Inch.	
1	30.202	—2.76	-16.56	.60	0.75	0.3	Strat.	5.4	— 6.0	W.N.W.	1.0	.....	.....	.....	Auroral light.
2	30.358	—6.56	-16.40	.60	1.25	6.0	Cu. St.	—3.0	—14.0	W.S.W.	1.0	.....	.....	.....	Auroral light.
3	30.215	—6.66	-13.73	.65	3.00	10.0	Cir. St. Nim.	0.8	—17.4	S. E.	0.6	.....	.....	.....	Snow.
4	30.022	9.00	0.46	.77	3.00	10.0	Nim. Cu. St.	18.4	— 5.0	W.	0.6	.....	3.10	0.18	Snow.
5	30.324	—0.56	-11.40	.58	1.75	5.3	Strat.	7.0	—12.5	W.S.W.	2.0	.....	Inap.	Inap.	
6	30.136	18.70	10.42	.83	3.00	10.0	Cu. St.	24.8	3.0	S.	1.0	.....	.....	.....	Lunar Halo.
7	29.786	33.56	30.90	.93	8.75	10.0	Cu. St. Nim.	37.5	18.5	S.S.W.	1.0	.....	.....	.....	Rain.
8	29.729	37.70	34.90	.90	5.50	10.0	Nim. Cu. St.	41.7	35.0	W.S.W.	1.6	0.30	.....	0.30	
9	30.195	27.60	21.33	.84	5.00	6	Cu. St.	38.2	21.0	N.N.E.	3.0	.....	.....	.....	Snow ending in rain.
10	29.913	35.30	34.46	.96	10.0	10.0	Nim.	37.4	20.0	S.W.	1.0	0.16	1.60	0.23	Rain, dense fog in evening.
11	29.944	21.80	15.10	.84	8.75	9.0	Cu. St.	37.0	11.0	N.	2.0	0.05	.....	0.05	Slight snow.
12	29.978	14.40	6.16	.80	7.65	6.0	Cu. St.	23.3	2.9	S.W.	2.0	.....	0.40	0.04	
13	30.475	—6.00	-14.50	.61	3.00	3.3	Cu. St.	24.0	—10.5	N.E.	2.0	.....	.....	.....	Slight snow.
14	29.918	5.70	—1.23	.80	3.50	4.6	Cu. St.	11.4	— 7.1	N.	0.6	.....	1.00	0.06	
15	29.477	27.66	21.80	.84	6.35	10.0	Cu. St. Nim.	35.6	6.8	W.S.W.	1.3	.....	.....	.....	Slight snow.
16	29.582	35.33	33.03	.90	8.50	9.0	Cu. St.	41.3	31.7	W.S.W.	2.3	.....	.....	0.02	Slight rain.
17	29.807	11.26	4.53	.82	5.75	8.3	Cu. St.	35.2	7.0	N.	1.3	Inap.	0.20	Inap.	
18	29.836	3.20	—4.13	.74	5.50	10.0	Cu. St. Nim.	8.2	— 4.0	N.	1.3	.....	.....	.....	Snow p.m.
19	29.821	14.73	6.03	.81	6.00	6.3	Nim. Cu.	22.0	2.8	W.S.W.	1.0	.....	.....	0.07	Snow a.m.
20	29.650	31.13	26.10	.85	4.50	6.3	Cu. St.	37.8	10.2	W.S.W.	1.0	.....	1.90	0.13	
21	29.632	38.33	33.63	.81	7.00	8.3	Cu. St. Nim.	42.8	25.4	W.S.W.	2.3	.....	1.50	.....	Slight rain in evening.
22	29.784	33.23	29.26	.86	7.00	9.0	Cu. St. Nim.	37.8	26.4	W.S.W.	1.3	Inap.	.....	Inap.	Slight rain—slight snow.
23	30.167	21.83	14.10	.85	5.60	0.6	Cu. St.	36.2	15.3	W.	1.6	0.04	.....	0.04	F't. Aur. Lt B't. Zod. L't.
24	29.744	32.53	28.86	.89	6.50	10.0	Cu. St. Nim.	39.5	17.4	S.W.	1.6	.....	Inap.	.....	Rain.
25	29.593	31.66	21.70	.68	4.50	5.0	Cu. St.	43.0	25.0	W.S.W.	4.0	0.19	.....	0.19	Faint Zodiacal light.
26	29.997	16.16	7.43	.82	2.50	1.6	Cu.	21.0	11.0	W.	2.6	.....	.....	Inap.	
27	29.875	8.16	0.00	.81	5.00	7.0	Cu. St. Nim.	16.4	3.2	N.W.	1.6	.....	In p.	.....	Snow.
28	29.840	10.13	1.06	.78	5.50	6.6	Cu. St.	15.8	5.0	N.W.	0.6	.....	0.50	0.03	Solar Halo.
29	29.943	13.93	5.88	.61	5.00	3.6	Cu. St.	22.0	— 2.2	S.	1.6	.....	.....	.....	Slight rain.
30	29.561	30.93	27.13	.88	4.00	8.0	Cu. St.	37.2	20.3	W.S.W.	3.1	Inap.	.....	Inap.	High wind during night.
31	30.183	3.43	—5.50	.72	5.50	10.0	Cu. St.	36.0	— 4.0	W.N.W.	3.0	.....	.....	.....	Lunar Halo.
S's	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.74	10.20	1.34	
M's	29.939	18.00	10.68	.796	.....	7.1	.....	26.80	7.57	.....	1.0	.....	.....	.....	

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT *TORONTO* IN JANUARY, 1860.

Compiled from the Records of the Magnetic Observatory.

Day.	DAILY MEANS OF THE: Barometer reduced to 32° Fah.	Temperature of the Air.	Relative Humidity.	Amount of Cloudiness.	THERMOMETER.: Max'm read at 6, A.M. of next day.	THERMOMETER.: Min'm read at 2, P.M. of same day.	Dew Point at 3, P.M.	WIND.: General Direction.	WIND.: Mean Velocity in Miles per hour.	RAIN AND SNOW in 24 hours, ending at 6 A.M. ext day,: Rain.	Snow.	Total rain and melted Snow.	Ozone in 24 hours ending 6 A.M. of next day.	GENERAL REMARKS.
	Inches.	°	0—100	0—10	°	°	°			Inch.	Inch.	Inch.		
1	.....	Sun	day	.....	9.6	—3.0	.....	N. 85 W.	6.85	.....	.....	.....		
2	30.104	4.40	83	7	11.8	—1.8	—1.5	N. 87 W.	6.54	.....	0.2	0.200		Lunar Halo.
3	29.773	16.42	87	10	22.2	5.0	15.0	S. 66 W.	12.68	.....	1.5	.150		
4	.867	9.32	83	5	20.2	10.8	1.0	N. 58 W.	11.43	.....	0.2	.020		
5	30.111	12.33	83	6	18.4	—6.8	9.5	S. 77 W.	9.77	.....	.....	.....		
6	29.758	24.32	79	9	33.9	11.2	19.5	S. 52 W.	9.92	.....	Inap.	Inap.		Lunar Halo well defined.
7	.393	35.18	93	10	37.0	28.1	36.0	S. 54 W.	3.78	.200	.....	.200		
8	.....	Sun	day	.....	38.6	33.4	.....	S. 68 W.	8.00	Inap.	.....	Inap.		
9	.695	33.82	87	10	39.0	32.0	32.0	S. 89 E.	6.17	.170	Inap.	.170		
10	.550	38.22	90	10	42.5	33.8	36.5	N. 15 E.	7.73	.340	0.1	.350		
11	.743	19.60	87	10	28.5	19.8	15.0	N. 25 W.	11.27	.....	0.2	.020		Auroral light and streamers
12	.812	18.85	77	4	24.0	10.4	6.0	S. 78 W.	11.62	.....	.....	.....		
13	.950	12.32	88	7	19.2	8.6	9.0	N. 43 E.	5.23	.....	0.5	.050		
14	.473	20.08	87	7	28.0	9.5	20.0	S. 67 W.	2.51	.....	.....	.....		Dense ground fog a.m.
15	.....	Sun	day	.....	37.0	22.4	.....	S. 56 W.	14.10	.....	.....	.....		
16	.360	32.98	79	8	38.2	33.5	29.5	N. 65 W.	8.46	Inap.	.....	Inap.		
17	.491	20.20	81	10	23.2	19.4	11.0	S. 17 W.	4.81	.....	0.1	.010		
18	.364	25.25	86	9	29.2	17.0	25.0	S. 78 W.	10.17	.....	2.0	.200		
19	.510	24.33	80	8	28.5	16.0	21.0	S. 73 W.	13.12	.....	Inap.	Inap.		
20	.393	34.68	77	6	40.2	23.9	30.0	S. 52 W.	9.81	.....	.....	.....		Faint Aurora.
21	.442	33.98	77	2	42.4	31.7	32.5	N. 79 W.	4.58	.....	.....	.....		
22	.....	Sun	day	.....	38.2	22.2	.....	N. 79 W.	10.83	.....	0.2	.020		
23	.838	30.15	70	2	35.5	23.0	26.0	S. 56 W.	4.49	.030	.....	.....		
24	.422	41.48	77	10	46.4	30.8	35.5	S. 70 W.	13.49	.....	.....	.030		
25	.621	31.92	64	3	37.8	32.5	16.0	N. 66 W.	19.28	.....	.....	.....		
26	.751	20.68	75	9	23.0	19.5	12.5	N. 59 W.	1.51	.....	.....	.....		
27	.557	19.57	81	6	27.4	16.8	14.0	N. 71 W.	8.62	.....	1.0	.100		Faint Aurora.
28	.492	17.13	84	5	24.4	10.8	10.0	N. 3 W.	7.60	.....	2.5	.250		
29	.....	Sun	day	.....	38.5	8.0	.....	S. 56 W.	16.29	.....	.....	.....		Lunar Halo,
30	.379	28.35	68	4	34.0	22.2	24.5	N. 86 W.	20.31	.....	0.1	.010		
31	.872	2.35	74	7	7.9	4.3	—3.0	N. 9 E.	9.36	.....	0.1	.010		Lunar Halo well defined.
S's	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.740	8.7	1.610		
M's	29.6431	22.38	81	7	29.83	17.58	18.56	N. 89 W.	9.37	.....	.....	.....		