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CANADA

MEDICAL & SURGICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Case of Acephalous Monster of seven Months' Fœtation. By
FRANCIS N. SHIRRIFF, M.D., L.R.C.S.E., Huntingdon,
Quebec.

In the October number of THE CANADA MEDICAL AND SURGICAL JOURNAL I reported a case of acephalous monster which had occurred in my practice shortly before. I again report another case which I met with a little over two months ago.

About the beginning of December last, I was asked to visit Mrs. B., who had been complaining for several hours. She was in the 7th month of her pregnancy, and on examination I found the os uteri slightly dilated. I remained in attendance six hours without much progress being made, and I determined, as in the previous case, to puncture the membranes as there seemed to be a large quantity of the liquor amnii. I had a vessel ready to collect it. A very great discharge took place, and in half an hour the child was born, precisely as occurred in the former case. On examining the child I found that the frontal, temporal, occipital and parietal bones, as also the brain and membranes were wanting, and that the base of the skull was covered with a thin purple-coloured membrane continuous with the skin. The child made no signs of life, and I cut the cord without tying it. A stream of blood issued from the cord, and I was obliged to tie it, shewing that the child had actually been born alive, but did not seem to possess

the instinct to breathe. Mrs. B.'s late history is very melancholy. She lived in this section of country some years and became the mother of a fine healthy boy, who still survives. Her husband and she removed to a distant State of the Union, and last summer, when she was about ten weeks pregnant she found her husband and his brother smothered in a well by mephitic air. Her health since her return home has not been good, and for a month previous to her confinement she became subject to rather alarming fainting attacks. The cause of the want of development of the brain of a child in utero, seems like other deficiencies of important parts, but little understood. The most ingenious theory I have seen is that of Professor Rudolphi of Berlin, who almost seems to have proved that these cases originate in hydrocephalus occurring at a very early period of the life of the foetus. An account of this theory, a discovery of Rudolphi, is given by Dr. Beatty in the *Medical Gazette* April 17th, 1846. One fact seems to bear out this explanation of Rudolphi's, that in every case there is an excessive quantity of liquor amnii. See note in Ramsbotham's *Midwifery*. I have within the last two years met with two other cases of deficiency of parts, which are worth recording, one a fine smart boy, now over 4 years old, who has no hands or metacarpal bones except one thumb, and who has to hold things by his wrists. One foot is entirely gone from the ankle, the other foot is all right, except that the big toe looks more like a thumb. The other case has only a thumb and two fingers on one hand, and these fingers are grown together. There is also a great deficiency of ribs, and also part of the sternum.

Case of Fracture of both Femora, and humeri and laceration of Scrotum. By JOHN MORRISON, M.A., M.D.

Hugh McD——, æt. 4.—strong, stout boy, on November 18th, 1873, was standing near a perpendicular shaft in his father's flour mill. This shaft was only $5\frac{1}{2}$ inches

from an upright pillar. The boy's clothes became entangled in the shaft whilst it was making 60 revolutions per minute, and before the mill could be stopped the little fellow had been carried through the space of $5\frac{1}{2}$ inches 15 or 20 times.

Dr. Shirriff and myself were called in by Dr. Anderson of Ormston, a short time after the accident occurred. On administering chloroform, we found an oblique fracture of the upper third of the right femur, with considerable bruising of the soft parts. The left femur also was broken at the middle third. There was a comminuted fracture of the right humerus a little below the surgical neck, and a fracture of the upper third of the left humerus. The posterior half of the scrotum was severed from its perineal attachment, leaving the testes exposed. The right ear was partially detached from the side of the head, and slight bruises were to be observed on different parts of the body. Liston's Splint was applied to the lower limbs, but the upper portion of the right femur would not stay in position, so we were obliged to devise or adopt some other appliance. Although a novelty in this section, it was deemed advisable to try the weight and pulley system; accordingly the weight and pulley were put on both limbs, after the manner adopted in the Montreal General Hospital, save that we used bags of shot instead of iron balls. The plan was successful in every way, neat, comfortable, and no difference in the length of the legs. In other respects the case did well.

A case of Epilepsy in the puerperal state. By JOHN BELL, A.M., M.D.. Read before the Medico-chirurgical Society, February 27th, 1874.

I met with the following case of Epilepsy in a parturient woman last summer, and consider some notes of it may be of interest to you, not only from the comparative rarity of this complication, but also on account of the field for investigation and discussion opened up by the etiology and

relations to each other of the whole class of convulsions occurring in the puerperal state. The horrible symptoms attending their manifestation, so painful to behold, and so dangerous to the patient, urge us on to fathom the mysteries of their causation, and apply effectual remedies for their prevention or relief.

Mrs. S., the subject of the malady, was a primipara, 27 years of age, and born in England. Her complexion is dark, and her temperament nervous. In the books to which I have had access I found the notes of only three cases of a similar kind, and in all of these the epileptic attacks began at the age of puberty, and in two it is mentioned that they were connected with irregularity in the production of the catamenia. The history of this case is similar, as the epileptic seizures, which at first occurred only during the night, began when she was 14 years of age. At this time menstruation took place only once, slightly, and did not occur again for five years, when it was fully established.

As is generally the case in these instances some unusual occurrence is given as the apparent cause of this unfortunate weakness, and here the onset of the attacks is attributed to fright from having seen the suspended body of a female companion who had committed suicide by hanging. This nervous excitement was also said to have been kept up, by her having frequently, late in the evening to carry letters to the post office in a garrison town in which she lived. Until her marriage, which took place about two years ago, she had two fits in the month, and after that event they became more frequent. During the first few months of her pregnancy she had about half a dozen fits altogether, which, she thinks, were more severe than formerly, but in the last months she was entirely free from them, and, as she says: "forgot all about them." In the fourth month of her pregnancy she was threatened with abortion, the danger of which, however, by the employment of rest and opium soon passed away, and I heard no more

of my patient until I was sent for on the 23rd July, when she thought labour had commenced, at its proper time. On making a vaginal examination, I found there existed a pretty free discharge, which was probably leucorrhœal, and also a free band about a third of an inch in diameter extending horizontally across the vagina, from side to side, about an inch and a half above its orifice. This band I divided. Although she had numerous pains during this and several following days, labour had not really commenced, nor was her full time apparently completed, judging from the condition of the os externum and cervix.

On the morning of Saturday the 26th July, I was sent for in a great hurry, as she had taken a most violent convulsion, during which, the prolonged spasms of all the voluntary muscles produced extreme congestion of the vessels of the head, with the most hideous hissing, snorting sounds on expiration. She had considerable difficulty in swallowing after the fit passed away. Another convulsion took place in the evening, and two or three on the following day. There was not at this time, nor had there been any œdema of any part of the body, nor did the most careful examination show the presence of any albumen in the urine.

I at once put her upon gr. xx doses of K. Br. every four hours, and afterwards added the same dose of chloral, to be given every four or six hours. as required.

Beginning on the 28th, I find the following jottings of the case, which I will transfer, as giving an idea of her state until delivery, which took place nearly two weeks after the commencement of this fearful nervous storm.

July 28th, morning visit ; she had one fit last night (27th) and two shortly after 8 this morning. Slept well all night. Had xx gr. doses of chloral hydrate every four hours. Had had several pains of three minutes' duration without fits. Can drink better than formerly. Had one injection of beef tea at midnight, and an alvine evacuation at 5.30 a.m. Pulse 104 ; temperature 98.6.

11 p.m., 28th.—Was sleeping when I went in. Has had no chloral since 2 p.m. Had one fit about 4 p.m., and now seems more rational than she has been for some time. Pulse 98; temperature 99.

July 29th, 11 a.m. Had two fits since visit last night—one for three quarters of an hour. Has had several pains. Fits preceded by bearing-down pains. Had a fit of 15 minutes duration just before my arrival this morning.

July 30th, 11 a.m.—Had four fits since last night's visit. Bowels not moved. Is again taking the Bromide of Potass. at the rate 3ij per diem. Pulse 106; temperature 98.4.

30th, 5 p.m.—Had seven fits during the day; ordered a pill of *Zinci Valerian* gr. j, *extract valerian* gr. iij every four hours.

At two or three of my visits I attempted to dilate the os uteri by the introduction of two or more fingers, but on the advice of Dr. Howard, who saw the case with me, desisted, to await the natural advent of labour, which would evidently be not long delayed.

July 31st, morning visit.—Slept soundly and had only one fit during the night.

Evening visit.—During the day had only two, what the nurse called "inward" fits, was not generally convulsed.

Pulse 112; temperature 98.4.

August 4th.—Had 4 fits last night.

August 5th.—Had only one of the slight "inward" convulsions.

August 6th.—Has not had any fit to-day. Head clear; tongue clean, and better generally. Temperature 98.4.

Genuine labour pains began about 2 p.m., and I was sent for at 11.30 p.m.

There was no convulsion during labour, which was completed at 1 a.m. of the 7th. (The presentation was a vertex in the first position if I remember rightly.)

Is doing very well. Has had no return of the convulsions. Is rather thirsty, with tongue a little coated. Has a slight headache, and her bowels are somewhat sore, but is otherwise doing well. Is to continue to take gr. xv. Pot. Bromid each day.

A small abscess formed in the left labium, which was opened and gave no further trouble. She nursed the child, a girl, and was up and about the house in two weeks from the time of her delivery. There was no return of the fits for nearly three months. Then they again began and have since continued, two, and sometimes three, times a month.

The child is now very fat and strong, and has exhibited at no time any tendency to convulsions, which took place in one of the cases reported by Elliot in his CLINIC.

In the case reported above, neither the bromide of potass nor chloral hydrat seemed to have their usual sedative effect on the excited nervous system. The convulsions at once diminished in frequency and intensity after the administration of the zinc and valerian, which were apparently more suited to the irritation of nervous exhaustion, induced by the number and force of the fits. I have little doubt that a full dose of morphia would have had a similar or even more beneficial effect, had it been exhibited. But, again, the comparative freedom from fits as parturition approached, might have been due to the direction of the disturbed nerve force into a new channel. The convulsions began, at first, with a disturbance or misdirection of a newly formed nerve force, in the non-evolution of the catamenia. It found a new channel for its action during pregnancy, when its abnormal manifestation ceased—but which was again exhibited when another change was about to take place in the structure and function of the uterus owing to the completion of gestation.

I. BEAVER HALL TERRACE, }
Feb. 27th, 1874. }

HOSPITAL REPORTS.

Case of Scorbutus, treated by Iron tonics and Dieting, under the care of DR. WRIGHT.

F. D.—, aged 33, schoolteacher, a tall well made man, but looking pale and delicate, was admitted into the Montreal General Hospital on the 5th February, complaining of pains in the legs, and of a number of purple patches on the limbs. He is quite grey, but states that his hair commenced to turn when he was 18. He has generally enjoyed good health and has not suffered from dysentery, hæmorrhoids, or other diseases causing loss of blood, with the exception lately of epistaxis. For nearly a year he has been living chiefly on bread and butter, eating meat only about once a month, and using no vegetables. About three weeks before his admission he got his feet wet, this was followed by pains in the muscles of the thighs and legs, swelling about the ankles, and the eruption of a fine red rash, gradually becoming purple. The pains in the limbs increased so as to make him complain when he attempted to stretch out his legs or walk. He had diarrhœa, the bowels being opened three or four times a day, but no blood being noticed in the stools.

On admission the pains in the limbs were still present, and he walked lame. His face was pale, tongue flabby, gums spongy, and a large purple patch was found on the inner side of the left thigh, about 6 inches long by 4 broad, looking like a large bruise, dark in the centre, and becoming yellowish-green round the edge. Over the outer ankle which, along with the foot, was somewhat œdematous, was also a purple patch. Patches, similarly situated and nearly the same in hue, were also found on the right leg, and numerous petechial spots were also noticed on the anterior surface of this extremity.

He was put on half diet with porridge and milk, beef-tea and chop, and was ordered 6 lemons in the 24 hours, also the following mixture :

R. Tinct. Ferri Mur. ʒiʒs; Quinæ disulph ʒjs; Syrup Zingib oz. i. Aquæ Acid. ad oz. vi; dessert-spoonful in water every two hours, and to remain in bed.

Feb. 7th.—Ordered Potass. Chlor. ʒi. Aq. oi., as a drink every day.

Feb. 9th.—The ecchymoses are becoming paler, and of a more yellowish color.

He has had no diarrhœa since his admission. Gums somewhat less spongy.

12th.—He can move his limbs more freely, his appetite is now good. The patches are fading.

13th.—Ordered 2 eggs.

16th.—The œdema of the left foot has nearly disappeared: He can move his limbs freely; the pains in the ankles have disappeared.

20th.—The purple patches have disappeared; the sponginess of the gums has gone; his color is better, and there is generally a marked improvement in his condition; he is allowed to get up and walk about.

23rd.—Discharged cured.

Case of Typhoid Fever. Hæmorrhage from bowels, and death. Great enlargement and Ulceration of Peyer's Patches found at Post Mortem. Under the care of DR. ROSS.

L. A——, aged 19, well nourished, was admitted into the Montreal General Hospital on the 5th January, under the charge of Dr. Ross. She had been employed in a store and of late had very long hours.

For about 10 days before her admission she had been feeling unwell, and complained of headache, loss of appetite and pains in the back and down the limbs. On the Sunday before her admission she was obliged to take to her bed;

and the following day came to hospital. On admission her expression was dull, cheeks somewhat flushed, pupils large, tongue furred, with red tip and edges. Some abdominal tenderness but no spots. No diarrhoea.

She complained of headache and pain in the back.

On the evening of the 5th, her pulse was 120. Temperature 103 2-5. She was ordered Pulv. Rhei. Co. ʒi. Milk diet, with extra milk.

6th.—Morning.—Pulse 120; Resp. 28; Temp. 101 2-5.

Condition much the same; bowels acted once since yesterday.

Evening.—Pulse 120; Resp. 28; Temp. 103 3-5; sleeps pretty well. No diarrhoea, no head symptoms.

7th.—Morning.—Pulse 120; Respiration 28; Temperature, 102 3-5; tongue more dry.

She was ordered the following:

R. Liq. Ammon. Acet. oz. ijs. Tinct. Aconit. M. xxxvi.

Aq. ad oz. vi. Tablespoonful every 4 hours.

Evening.—Pulse 130; Respirations 28; Temp. 104.

8th.—Bowels opened several times since yesterday. Motions loose and rather dark in color. Turpentine stupes followed by poultices, ordered to be applied over bowels. Pulse, 126; Resp. 28; temp. 104 1-5.

9th.—Slept pretty well last night; tongue much the same; bowels opened twice since yesterday. Complains of great weakness. One or two spots noticed. Tenderness in right iliac fossa. Not much tympanites; has a slight cough but no expectoration, and no physical signs of any moment discovered by auscultation or percussion.

Morning, pulse 120; respiration 26; temp 102. 1-5.

Evening, pulse 120: respiration 28; temp. 102 1-5.

10th.—Morning, pulse 120; resp. 28; temp. 101 1-5.

Evening; pulse 120; resp. 28; temp. 102 3-5. Bowels opened twice.

11th.—Morning, pulse 120; resp. 28; temp. 101 3-5.

One or two new spots. Ordered more milk and corn starch. Not sleeping so well at night. Tongue smooth and glazed.

Evening, pulse 120; resp. 28; temp. 102 4-5.

12th.—Morning, pulse 120; resp. 28; temp. 101 3-5. Ordered a sleeping draught, containing Potass. Bromid, Chloral Hydrat. aa gr. xv. 7-30 p.m., pulse 120; resp. 28; temp. 100 1-5.

Bowels open this morning; motion scanty and containing a little blood.

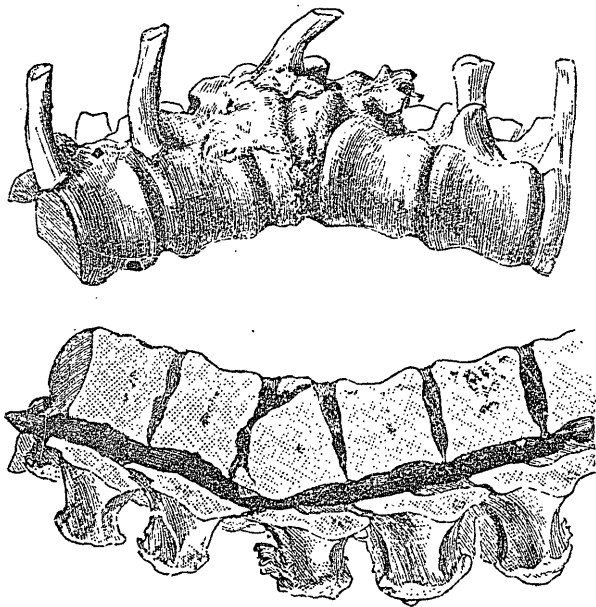
11 p.m.—Sleeping quietly; not up since Dr. Roddick was called to see her towards morning, and found that she had passed a considerable quantity of blood at stool. He gave her gallic acid and stimulants, in spite of which, she sank and died at 8 a.m., on the 13th.

AUTOPSY,—Rigor mortis pretty well marked. * On opening the abdominal cavity no signs of peritonitis presented themselves. On slitting up the bowel in the neighborhood of the ilio-cæcal valve, Peyer's patches were found very much increased in size; one being nearly two inches long, and containing numerous deep and ragged ulcers. They were also considerably raised above the mucous surface of the bowel. A small deep ulcer, covered by a small clot was also observed. Clotted blood was also found in the bowel.

Case of Fracture of the Spine from indirect Violence. Loss of Sensation and motion below the seat of Injury.—Death, after eighty-six days. Post mortem appearance of the parts. Under the care of G. E. FENWICK, M.D.—Reported by Mr. J. C. CAMERON, House Apothecary of the Montreal General Hospital.

J. A., æt 32, a healthy vigorous young man was admitted to the Montreal General Hospital on the evening of February 1st, 1873, suffering from a severe injury to the back, received while tobogganing. At the time of the accident, he was seated in front with his feet in the "Hook," and while endeavoring to steer clear of some ladies, who were coming up the hill, his toboggan ran at full speed against

a mound of ice ; his feet came with such force against the mound, that his body was jerked violently forwards, his back bending so sharply and quickly upon itself that his head almost touched his toes ; the toboggan veered and he rolled off upon the snow. Dr. Fenwick was immediately summoned, and advised removal at once to the Hospital where he arrived about 6 p.m.



On examination, absence of the spinous process of the 12th dorsal vertebra was ascertained—neither sensation nor motion below the seat of injury—no bruises nor signs of violence in any other part ; not quite recovered from the shock of the accident. There was obviously injury to the spinal cord, but to what extent or of what nature, was by no means clear. Accordingly, to relieve pressure as much as possible, he was placed face downwards upon a water bed, with an air cushion supporting the abdomen opposite the seat of injury, in order to arch the back ; the head and extremities were consequently lower than the rest of the

body. A gum-elastic catheter was passed into the bladder, tied in situ, and connected with a urinal by means of a rubber tube; ice-bags were kept constantly to the back. Diet liberal and nutritous.

On the *Second day*, he became delirious at times. Dr. G. W. Campbell was called in consultation, approved of the treatment, but gave no hopes of ultimate recovery. As the delirium continued, and the cerebral congestion became great, on the *Sixth day*, his position was altered, and he was placed on his back. At the same time an injection was given which brought away a copious stool. The urine at this time was thick, alkaline, and ropy. Notwithstanding the water-bed and pads, bed-sores had formed over both anterior superior spinous processes of the ilium, and also on the knees, showing great want of vitality. There was no positive sensation below the injury, although at times he imagined that he had slight feeling at different points both above and below. On the *Eighth day*, he was removed into the largest and most cheerful private ward in the hospital.

On the *Ninth day*, a consultation of the entire staff was called, to consider the propriety of cutting down on the depressed vertebra, and raising it, or trephining, as the nature of the case might demand. But considering the unfavorable statistics of operation, it was decided not to interfere, but to make him as comfortable as possible; keep up his general strength, prevent or retard bed-sores as far as practicable, and in fact give nature every chance to effect a cure. The patient himself was very confident and hopeful, and fully determined to get well, and seemed to hope against hope, to the very last. In spite of all efforts, however, the bedsores increased in extent; the one on the left knee, opened into the joint, so that the eroded cartilaginous extremities of the tibia and femur were readily felt. The legs became swollen and œdematous, and pus burrowed in every direction. The sore on the right hip also opened up the joint, and a sac of pus was formed in the cavity. Wherever there was the slightest pressure, even

for a few hours, a bed sore formed. The bladder was washed out with salt and water every fifth day, and an injection administered per rectum, about every tenth day, to clear out the bowels thoroughly, although motions to a greater or less extent were passed involuntarily every day. Having no sensation below the fracture, these immense sloughing sores did not trouble him at all: but he did suffer a great deal from one situated directly over the seat of injury, and from two others on his back, the upper margins of which came within the bounds of sensibility. The pain he described as being sharp and stinging, becoming at times almost unendurable, especially if the slightest pressure was made upon them; it was always worse at night, but great relief was always afforded when the sores were dressed, and the clothing comfortably rearranged. Pyrexia and delirium supervened towards evening—More marked after the third week. Chloral in 15, 20, and afterwards in 30 grain doses, was administered at night, with good results; a hacking cough set in, due, probably, to the implication of the intercostal nerves from the extending loss of nervous power. His memory became much impaired, especially during the last three weeks of his life; at first this was noticeable in his losing all recollection of conversations with friends or calls from visitors, although he spoke quite rationally and sensibly; then his talk became more rambling, he used to mis-call persons and things, forget what he was saying, and in the middle of a question or answer, wander off into something totally different. He was a great dreamer, and seemed to dwell upon these dreams with a morbid delight, assigning them peculiar significance. For the last three or four weeks, he was subject to peculiar chills, no doubt pyæmic in origin. They came on regularly about 9.30, a.m. and lasted till 1 p.m.; and again at 10 p.m., lasting till 2 a.m. The cold sensation he described as seeming to start from his toes, proceeding with a wave-like motion till it reached the head, when another chill began at the toes and ran the same course, chill following chill in rapid suc-

cession. The period of cold was followed by one of warmth and comfort. It is a strange circumstance, that chloral had no effect whatever during a chill ; and indeed he became so well aware of this, that latterly he refused to take his draught during these periods, saying he did not wish to waste it. During these rigors, his temperature ranged between 103° and 104° . The pulse was shorter and quicker, sometimes running up as high as 160. The skin was dry and hot.

From a number of observations made, when free from chills, the following record was obtained ;

	MORNING.		EVENING.	
Temperature.....	100°	to 102°	101°	to 103°
Pulse.....	110	to 125	135	to 150
Respirations.....	18	to 22	18	to 22

During the last two weeks he kept constantly trying to blow his nose, but seemingly with very little success, probably from paralysis of the abdominal muscles. The paralysis at this time seemed to extend somewhat, and then the bedsores troubled him no more ; he felt perfectly easy and comfortable, the cough being the only annoyance. The pus, which kept pouring out from the large sloughing sores, and which burrowed in every direction through his legs, was particularly foetid and sickening ; so much so that the attendants could not remain in the room without thoroughly disinfecting it several times a day. Active delirium appeared about twenty-four hours before his death. At 2 p.m., April 27th, a very urgent attack of dyspnoea came on, so severe that his friends were sent for. Stimulants were given freely, and mustard applied to the chest ; he recovered somewhat about 5 p.m., but at 7 p.m. he was seized with a second attack which lasted till he died at one o'clock the following morning April 28th, 1873. The only medicine administered during his illness, was the ordinary Nitro-muriatic acid mixture of the Hospital, given to stimulate his liver, keep his urine acid, and consequently less irritating, and serve as a general tonic.

AUTOPSY.—Thirty-five hours after death. Internal organs quite normal. The spinal cord was removed, and found to be much softened and crushed—almost obliterated at the fracture—quite hard and healthy above the injury, but soft and collapsed below. A preparation was made of the bone, which at once explains the nature of the accident.

The engraving at page 396 gives a faithful representation of the specimen which has been placed in the museum of McGill University.

Reviews and Notices of Books.

A Practical Treatise on the Diseases of Children. By J. FORSYTH MEIGS, M.D., one of the Physicians to the Pennsylvania Hospital: Consulting Physician to the Children's Hospital, &c., and WILLIAM PEPPER, M.D., Lecturer on Clinical Medicine, in the University of Pennsylvania, &c., &c. Fifth Edition,—revised and enlarged; 8vo. pp. 1008. Philadelphia, LINDSAY & BLAKISTON, 1874.

The work of J. Forsyth Meigs on diseases of children, has been a favorite with the profession for some years past. We remember it well in years gone by, and frequently profited by the perusal of its pages. The present edition, which is the fifth of the series, has received many additions, and a thorough revision. Modifications will be found in such parts of the work, which have been called for, by a change of views on the part of the authors, or by recent researches by other workers in this department of medicine. Several articles which appeared in the last edition have been rewritten, and there has been added to this edition articles on Pulmonary Emphysema, Pneumothorax affections of the Tonsils, Retro-pharyngeal Abscess, Malarial Fevers, and Scrofula.

Other changes in the body of the work will be found, these chiefly with a view of keeping the work within ordinary proportions. It is a thoroughly practical work, and will be found of use to the busy practitioner, as its teaching is plain, and the author lays before the reader the results of his experience, extending over a quarter of a century. We heartily recommend it to our readers.

The Puerperal Diseases—Clinical Lectures delivered at Bellevue Hospital. By FORDYCE BARKER, M. D., Clinical Professor of Midwifery and the Diseases of Women, in the Bellevue Hospital Medical College, &c., &c. 8vo. pp. 526. New York, D. APPLETON, & Co., 549 & 551 Broadway, 1874.

This work consists in a revision of Clinical Lectures on the Diseases of Women, which the author has been in the habit of delivering before his class at the Bellevue Hospital School. In his preface the author eulogises his branch of the profession, claiming that "at the present day, for the first time in the history of the world, the obstetric department seems to be assuming its proper position, as the highest branch of medicine." To this we must take exception, and simply observe that if the obstetric branch of medicine has hitherto occupied an inferior position, the profession has itself alone to blame. The custom of licensing ignorant women to practice that branch is, even in our day, heaping discredit and bringing disgrace on the obstetric art. So that it requires a large share of moral courage for any man to devote his time exclusively to that department of medicine with the possible chance of being regarded by the public as on an equal footing with the *sage-femme*.

In times gone by it was the custom for old and neglected bawds to take up the practice of a midwife, and even at the present time many a retired harlot, who from advancing age finds her trade less profitable, forsakes the path of misery and sin, to enter on one, at least, more respectable ;

how, then, can we wonder that the practice of midwifery has been hitherto regarded as beneath the position of a scientific gentleman. All lovers of the art of Medicine and Surgery see in some one particular branch, which they themselves have selected, a super-excellence ; so that in all charity they are to be excused if they consider that theirs is the highest branch—the most important branch to society. It is only another illustration of the truth of the doctrines inculcated by the old fable wherein the tanner declared that for the defence of the town in which he lived, and which was about to be besieged : “ There was nothing like leather.”

Our author goes on to say : “ A man may become eminent as a physician and yet know very little of obstetrics ; or he may be a successful and distinguished surgeon, and be quite ignorant of even the rudiments of obstetrics. But no one can be a really able obstetrician unless he be both Physician and Surgeon.” Now we cannot agree with our author on this point as it does not accord with our experience. There is certainly a growing appreciation of the importance of this department of the *Ars Medica*, not that it holds superior rank, but because that it had been neglected, and required a mind like that of Simpson and others to stimulate observers to meritorious research.

The work before us consists of twenty lectures, in which are discussed the following subjects : Puerperal Convalescence ; Diet of Puerperal Women ; Laceration of the Perinæum ; Thrombus of the Vulva and Vagina ; Albuminuria and Convulsions ; Lactation ; Mastitis ; Puerperal Mania ; Relaxation of the Pelvic Symphyses ; Phlegmasia Dolens ; Puerperal Thrombus and Embolism ; Puerperal Phlebitis ; and Metritis ; Puerperal Peritonitis ; Pelvic Cellulitis ; Puerperal Septicæmia and Pyæmia, and Puerperal Fever. It is very practical and contains many suggestions of value both to the Practitioner and Student of Medicine, and we cordially recommend it to our readers.

Medical Lexicon: a Dictionary of Medical Science, containing a concise explanation of the various Subjects, and Terms of Anatomy, Physiology, Pathology, Hygiene, Therapeutics, Medical Chemistry, Pharmacy, Surgery, Obstetrics, Medical Jurisprudence, &c., &c., with Accentuation and Etymology of the terms. By ROBLEY DUNGLISON, M.D., LL.D. Late Professor in the Jefferson Medical College, Philadelphia. A New Edition, enlarged and thoroughly revised. By RICHARD J. DUNGLISON, M.D. 8vo. pp. 1131.—Philadelphia, HENRY C. LEA, 1874.

Dunglison's Medical Dictionary has been for years past a necessary adjunct to the library of every Medical man, and to the student of Medicine it is indispensable, as it is almost the first book he procures at the outset of his studies. The late Dr. Dunglison conferred an everlasting obligation on the profession, when some forty years ago he first published this work. As time elapsed and changes occurred, fresh and enlarged editions had to be brought out.

We are happy to observe that Dr. Richard J. Dunglison, the son of the late venerable and erudite author, has, with his father's spirit and energy, given evidence in this new edition, that the usefulness of this work will not be lost; and that year after year, as occasion may require, the profession may look forward to the publication of more complete editions of this work which has become indispensable to the library of every practitioner.

The Science of Medicine and Surgery has received such remarkable additions to its nomenclature during the last few years, that to take up an ordinary work on any subject connected therewith, the reader is at every second line puzzled and embarrassed at the number of terms used which are foreign to the English language. Without such a work as the present, or without a familiar acquaintance with the Greek and Latin languages he would be unable to comprehend what he read. It is not in our day, considered, that the beauty of composition consists in simplicity of style;

writers appear to supplement their lack of originality, by the introduction of terms, not commonly in use, and which have been vulgarly called jaw-breakers, which is a most expressive term. We have observed some persons in attempting to pronounce a difficult but possibly expressive term, stutter and stammer over a syllable or two until we became painfully impressed with the danger to their jaws ; nor would we have been surprised had an accident occurred, for the contortions and muscular spasm appeared to be such as would break any ordinary jaw bone, unless made of stuff similar to that used by Sampson in slaying the Philistines. We heartily recommend this book, although it is such a familiar old friend that we feel convinced that no amount of eulogy is required to induce those seeking for information to secure a copy. It is to be had of Dawson Bros., St. James Street.

Toxicology—Poisoning by Coffee.

H. Curschmann gives in the *Deutsche Klinik* for 1873 (p. 377-380) a careful report of the case of an anæmic woman, who, having a groundless idea that she was pregnant, took, for the purpose of procuring abortion an infusion of 250 *grammes* of slightly roasted coffee in 500 *grammes* of water. Two hours and a quarter afterwards, her mind was confused ; the countenance was pale and very anxious, and there was violent trembling of the limbs ; she had very severe dyspnœa ; the breathing was difficult and quick, while the state of the lungs was normal. The pulse was frequent and very tense, and the arteries were contacted ; the action of the heart was violent ; there were frequent diarrhœa with tenesmus, and frequent discharge of large quantities of urine of low specific gravity. In the evening, there was an improvement under the influence of morphia ; and on the third day the patient had quite recovered.—*Centralblatt für die Medicin. Wissenschaften*, December 13, 1873.

Periscope Department.

The Siamese Twins.—Official Report of the Autopsy.

A special meeting of the College of Physicians of Philadelphia was held at the hall, Wednesday evening, February 18th, for the purpose of hearing the report of the Commission on the Siamese Twins. Dr. W. S. W. Ruschenberger, United States Navy, in the chair.

The bodies of the Siamese Twins being upon the table, the meeting proceeded to hear the report of Drs. Pancoast and Allen. On behalf of the Commission, Dr. Pancoast stated that the dissection not having been entirely completed, their report would be a verbal one, to be followed at some later date by a memoir upon the subject. He further remarked that it had been agreed that he should consider chiefly the surgical aspect of the matter in hand, whilst to his colleague had been assigned the demonstration of the anatomical peculiarities.

Dr. William H. Pancoast said :

MR. CHAIRMAN, AND FELLOWS OF THE COLLEGE :—Having been requested, as a member of the Commission, to open the discussion this evening, I will say briefly, in reference to this monster of a symmetrical duplex development, joined as many of the Fellows now know, at the ensiform appendix, and also here at the omphalos or navel, that at the investigation which we made on the first occasion at Mount Airy, I made the opening incision of the body on the line for the ligation of the primitive iliac, on the right side : Dr. Allen made the incision on the left. The object was to reach the great vessels,—the aorta and the two primitive iliacs,—and to force the injecting material which we use for embalming (chloride of zinc) up the aorta and down the iliacs until it ran from the incisions made in the

fingers and toes. It flowed freely through the blood-vessels of Eng, owing to the ossified condition of his arteries; the injection in Chang, was, however, not so successful, owing to decomposition in the tissues and blood-vessels. It was necessary to repeat the injecting process several times in order to preserve the body. The arteries of Chang were found to be very much decomposed—quite rotten, in fact.

In Dunglison's *Medical Dictionary* we find the scientific name given for the Siamese Twins, in the classification of teratology, to be *Xiphopages*; and in referring to the admirable article on "Diploteratology," of Dr. G. J. Fisher. (published in the *Transactions of the Medical Society of the State of New York* for the year 1866,) it will be found that the twins belong to the class of *Anacatadidyma*. In his classification of double monsters he makes three orders: *Order first—Teratacatadidyma*; derived from *teras*, *teratos*, a "monster," *kata*, "down," and *didumos*, a "twin." *Definition*—Duplicity, with more or less separation, of the cerebro-spinal axis, from above downward. *Order second—Terata-anadidyma*, derived from *ana* "up" or "above," and *didumos* a "twin." *Definition*—duplicity, with more or less separation of the cerebro-spinal axis from below upwards, or from the caudal towards the cephalic extremity of the neural axis. *Order third.—Terata-anacatadidyma*, derived from *ana*, "above," *kata* "down," and *didumos* a "twin," *Definition*, duplicity, with more or less separation of both the cephalic and the caudal extremity of the cerebro-spinal axis, existing contemporaneously. In this order, we think, the monster now before us might be called an *Omphalo Xiphodidymus*.

Thus we have the scientific nomenclature of this monster. Of course, the consideration of greatest interest to the profession, and one of the main reasons why the Commission made such exertions to obtain this post mortem, was that the American profession might not be charged with having neglected an effort to obtain an autopsy, which would solve the mystery of their union. The feature of greatest interest

is connected with this band—about four inches long, and eight inches in circumference. In addition to this, there are other points of importance in teratology, in regard to the fulfilment of the law of homologous union, in relation to the juncture of the recti muscles, and the fasciæ of the obliquus and transversalis at their point of meeting in the centre of the band. In regard to the position of the hearts, we think their apices present toward each other: but we have not yet opened the thorax. The livers we have found to approximate to each other and to push through the respective peritoneal openings into the band. We extended our incisions to the margin of the band in front. By placing my hand in the peritoneal cavity of Eng and my colleague placing his hand in the peritoneal cavity of Chang, we pushed before us processes of peritoneum, which ran into the median line of the band; and we could feel our fingers in the lower portion of the band, behind the median line, with a distinct layer of peritoneum between them, demonstrating at once the prolongation of the peritoneum into the band, and the complete separation of one peritoneal cavity from the other at this median line. Above that we felt some traces of vascular connection, apparently running from one liver to the other; but this we will examine into when we have a better opportunity of carefully dissecting and examining what vascular structures may exist. We also noticed that in turning off the flaps consisting of the anterior walls of the abdomen, the hypogastric arteries, as illustrated by the diagram on the blackboard, ran upwards in each body into the band. We lost them in this way as we think, toward the common umbilicus in the anterior inferior surface of the middle of the band.

It is probable that the two hypogastric arteries on each side passed through this umbilicus. Whether or not there were two umbilical veins, we have not yet been able to decide, nor to answer the question whether the umbilical cord was double or single, and composed of the four hypogastric arteries and two umbilical veins, or whether the placenta was single, double, or twin.

We also recognized that the ensiform appendix, as shewn in the diagram of each side, was prolonged and united in middle line. On our later examination we find that ere is complete continuity of structure of the cartilages, no true joint at the middle line, although it is possible there may be some small synovial sacs farther up. The motion is mainly due, as I here demonstrate to you by moving these one upon the other, to the elasticity of the connected ensiform appendices and intervening fibro-cartilages.

In regard to the vascular connection of the band, we have not yet been able to make so thorough and careful an examination as we wished ; but still, in throwing coloured plaster into the portal circulation of Chang, it has been found to flow through the vessels of the upper part of the band into the portal vessels of Eng. So that the surgical anatomy of the band consists of the skin and fascia which cover it, the two separate peritoneal pouches which meet in the middle, the large peritoneal pouch, the vascular connection, to whatever extent that may exist between the two portal circulations, and the remains of the hypogastric arteries in the lower portion of the band. Thus the main difficulty in any operation [for section of the band would seem to be in regard to the peritoneal processes and the portal circulation. The anastomosis which may exist between the internal mammary arteries and the intercostals in the integument in the upper portion of the band, of course would present no difficulty.

I will not venture upon any further remarks as to the surgery of the case, while there are so many distinguished gentlemen present more competent than myself to give an opinion. At the same time, operations on the peritoneum may not be considered so hazardous in this day, when ovariotomy, gastrotomy, and even Cæsarean section are so often performed. The peritoneum-pouches themselves would not present so great a difficulty as might be anticipated, under pressure and acupuncture, by which the sensitiveness of the

structure might be so altered as to permit of a section. I was informed at Mount Airy, that in Paris, a surgeon had made the experiment of applying pressure upon the band, and it was reported the twins had fainted in consequence. I could not ascertain, however, whether this was from fright, design, or actual pain.

As Dr. Hollingsworth is present it may be proper for me to mention a fact which that gentleman can corroborate, that Eng was the stronger physically and Chang was the stronger mentally. The same difference was observable in their characters. Chang was more irritable than Eng, especially since an attack of paralysis with which he had been afflicted—this being in the side next to Eng. The latter had not only to bear with the irritability of his associate, but also to support one-half his weight. Among other peculiarities, Chang would sometimes break useful articles, or throw them in the fire.

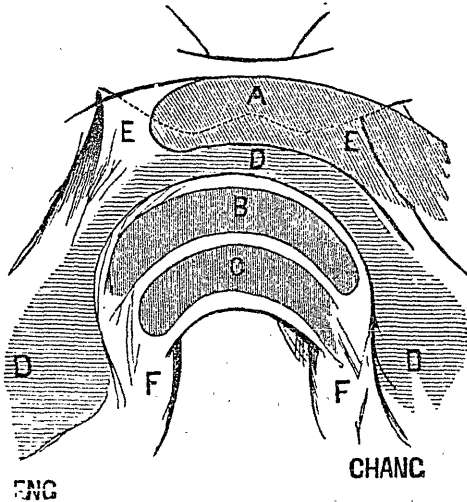
In conclusion, let me say that when I turned up the skin and superficial fascia of the H incision on the posterior part of the band, I was struck with the development and the strength of the abdominal aponeuroses. The fibres arched, interlaced, and developed into a strong fibrous band about a quarter of an inch wide, running round the median line, although there was no actual joint in the cartilage.

Professor Harrison Allen said :

MR. CHAIRMAN : I will probably best discharge the duty devolving upon me by at once proceeding to a somewhat more minute anatomical description than Dr. Pancoast has given, this being in accordance with the understanding between us in reference to the evening's exercises.

Perhaps it would be best to point to that simple diagram upon the blackboard before considering the subject more fully in detail. As Dr. Pancoast has informed the Fellows, there is a union of the twins at the two ensiform cartilages, which are very firmly joined in the centre, Eng's process being the more robust of the two. You will observe that there is a point of conjunction between the two processes

which is not quite in the median line of the band. In the centre of the band is seen an elliptical space, which suggests the presence of a synovial cavity, with fibro-cartilage. It is probable that the ensiform junction is of the character of a synchondrosis, with a median bursa-like sac; neither ensiform cartilage is ossified.



DIAGRAMMATIC REPRESENTATIONS OF THE BAND.

- A, upper or hepatic pouch of Chang.
 E, E, (dotted line.) union of the ensiform cartilages.
 D, connecting liver band, or the tract of portal continuity."
 B, the peritoneal pouch of Eng.
 C, the lower peritoneal pouch of Chang.
 F, F, lower border of the band.

Below this point in the diagram, you see a number of differently-lined tracks. The lower one (C,) immediately above the umbilicus, is only separated from the skin by a very delicate layer of tissue (so that with the finger introduced into the pouch and moved, there is a decided indication of motion in the skin) on the under surface (F,F) of the band.

This pouch passes across the abdomen of Chang, and is lost in the duplicature of the suspensory ligament of the liver of Eng. The finger passed upward to the band from

the abdomen of Eng crosses the band above the pouch just mentioned, and is lost between the layers of the suspensory ligament of the liver of Chang. When the significance of the round ligament at the free border of the suspensory ligament is remembered, the relations of these pouches directly suggest that they have had essential bearings to the umbilical vein of the funis, and might be provisionally termed the *umbilical pouches*.

Above Eng's pouch, (B,) and between it and the under surface of the ensiform conjunction, is a second pouch (A) prolonged from Chang's abdomen, which fairly reaches the peritoneal cavity of Eng, but is not continuous with it. Extending up into this pouch from Chang's abdomen is a process which suggested to the Commission the possibility of the transit of hepatic vessels. This view was rendered more probable from the fact that a similar process passed up into the band from the liver of Eng. Accordingly, the plaster injection, colored by ultra-marine, was thrown into a tributary of the portal vein of Chang, when it was observed that the fluid passed freely into the liver of Eng, as well as into the mesenteric veins proper. It is my own hypothesis that this bond of union (D) was the true hepatic tract; but in its present state, in the absence of evidence of any parenchymatous admixture about the vessels thus crossing the band, we prefer to demonstrate the transit as the *tract of portal continuity*.

In the foetal condition it is very likely that this large space, (A,) the upper pouch, now continuous with the abdomen of Chang only, was entirely occupied by true liver-tissue, which, as maturity was attained became smaller, and left an empty space. Hence I propose to call this upper pouch the *hepatic pouch*. The contraction chanced to be greater on Chang's side, in harmony, it may be, with other evidences of a weaker and less developed type, which is so apparent in many of the tissues of Chang. Now, with reference to the demonstration. As Dr. Pancoast has already informed you, the incisions in the abdomen were

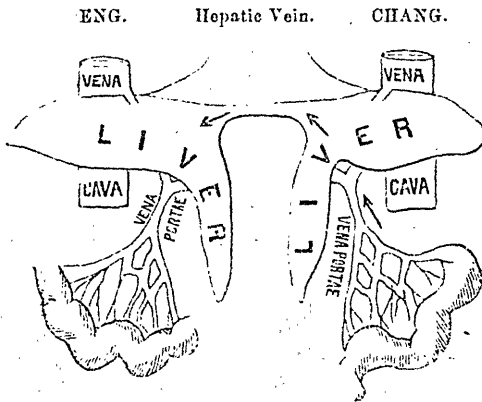
made in rather an exceptional manner. By reference to the parts it will be seen that the incision in either individual was located in such a way as to avoid the median line, since it was supposed from the peculiar position of the umbilicus that the remains of the hypogastric arteries would be found extending from the fundus of the bladder upward and onward along the entire length of the anterior wall of the abdomen. Besides, this incision would enable us, by continuing from below upward, to fairly open the abdomen and examine the cord, without violating the conditions by which the Commission was bound. The flap comprises the greater part of the abdominal wall, and can be best observed, from the position of the bodies on the table, in that of Eng.

You notice that the tissues are well supplied with fat : and this condition is very plainly in contrast with that of Chang. Eng's side of the band is well nourished ; Chang's end of the band presents an entirely different aspect. Chang was an invalid, and the weaker half of this organism, with less strength in the abdominal walls, and in every way less tissue, than was possessed by Eng. You can mark that distinction very plainly in the two halves of the band, proving, if we had no other means of proof, that there could not be any very intimate communication of the vessels between the two.

The first point worthy of notice is that of an isolated mass of adipose tissue, evidently sub-peritoneal, which is in the position of the usual umbilicus, namely in the median line of the abdomen, about half-way up the anterior wall. This is strictly symmetrical, a similar point of about the same size being found in Chang.

Another fact equally well pronounced is that in Chang the bladder was found very much contracted and contained no urine ; it was deep down in the cavity of the true pelvis. That of Eng, however, was distended with urine ; hence there was a contrast in the appearance of the fold underneath the skin in the two individuals, in consequence of great difference in the actual size of the bladder.

My finger is now in the *umbilical pouch* of Chang. (C.) The motion is noticeable in the under portion of the band. On the side of Eng no such motion will be observed. I can very clearly see my finger passing between the two folds of the suspensory ligament. At this point it would perhaps be well to exhibit the drawings which have been made of the views which we have been enabled to obtain from this very limited incision. On looking up towards the band with the greatest possible stretch of tissue, we see the arrangement of the remains of the hypogastric arteries converging toward the bond of union. In this lower diagram we show you the livers joined by what is supposed to be the *tract of portal continuity*. You will observe the limits are somewhat symmetrical. Here is the liver of Chang, with a fore-shortened right lobe :



DIAGRAMMATIC REPRESENTATION OF THE LIVERS ; PORTRAYING THE RELATIONS OF THE VESSELS, &C.

The arrows show the directions in which the injection passed from Chang to Eng.

The remainder of the right lobe is deep within the abdomen, and of course it has not been seen. Here is the fundus of the gall-bladder, and there the suspensory ligament, carrying the remains of the umbilical vein. When the finger is passed from Chang to Eng, it is received between the

folds of the suspensory ligament of Eng. In Eng the parts are essentially the same, although you see more evidence of adipose tissue. Here is a little ligament aiding in the support of the liver, to whose convexity it is attached; it is not seen in Chang at all. You might term it an accessory suspensory ligament. When the finger is introduced there, it is observed to terminate blindly; showing we think, that this is no more than an adventitious pouch, due to the presence of that suspensory ligament.

We find some vessels of the portal system, even as far down as the mesentery, well filled with the blue colouring matter. We of course desired, as far as possible, to examine all the tissues here by these incisions; hence it was when the bodies were in this position, the skin was taken off from the wall in order to get a view of the linea alba.

[The bodies were here inspected by the audience, and afterwards turned so as to expose the posterior part of the band. Further remarks apply to this posterior aspect.]

DR. PANCOAST—while the bodies are being turned, I will take the opportunity of replying to one or two questions which have been asked me. First, in regard to the common sensibility of these individuals. According to the statements we received at Mount Airy there was a line of common sensibility corresponding to the median line of the band. Dr. Hollingsworth says that if a pin was stuck into the band at the median line, both of the twins would feel it distinctly; but that, even at a slight distance to either side, the point of the pin produced an effect only on the twin of that side.

Another question has been asked me as to whether either of them was ever put under the influence of an anæsthetic, I answer it by saying that so far as we know it never was attempted, but that when, on the final occasion, Chang was anæsthetized by death, Eng was for a time unaffected. The story as told at Mount Airy was that Eng waked up and asked his son, "How is your Uncle Chang?" The boy said, "Uncle Chang is cold. Uncle Chang is dead." Then

great excitement took place. Eng commenced crying out immediately, saying to his wife whom they called in, "My last hour is come," and finally sank away. He was in perfect health when they went to bed.

They had been sitting up in a large double chair made for their accommodation. Eng was smoking his pipe until he became sleepy, and finally said to Chang, "We must retire." Chang said that he could not lie down comfortably. I understand that when they went from Chang's house to Eng's house, where they died, it was against the direction Dr. Hollingsworth ; but with their usual stubbornness, they persisted in riding the distance in an open buggy. To return to the narrative of the night of their death, after Chang had refused to lie down, they walked about the house for some time, and even went out to the porch and washed their hands and drank some water. It was about 1 o'clock when they went to bed. Then Chang died some time between that and morning ; his death not producing any immediate impression on Eng. It was only when the latter woke up and inquired about the condition of his brother, that he was at all affected.

As to the question, "what caused Eng's death?" I am not able to tell. The post-mortem which has been made does not show the condition of his lungs. Probably the valves of his heart were in a disorganized condition, and probably also the shock upon that weakened organ caused death.

DR. ALLEN—In my opinion, Chang died of a cerebral clot. From inquiry at his home, I was led to believe that the lung symptoms were not due to pneumonia ; indeed were not severe enough to have been so caused. The suddenness of the death, the general atheroma of the arteries, and the fact that there had been previously an attack of paralysis, all indicated that the death was of cerebral origin. Eng probably died of fright, as the distended bladder seemed to point to a profound emotional disturbance of the nervous system, the mind remaining clear until stupor came on—a

stupor which was probably syncopal. One thing to be settled in the making of our examination was to get the bodies in the best possible position, so that we could judge of the true nature of the band.

You will observe the great contrast between the anterior appearance of the band and its posterior aspect. When we suspended them face to face we conceived we had them in the proper position for study. On the posterior side there was a fold underneath, the skin extending from a central point in the abdomen of Chang, passing over, crossing the median line, and inserted into the ensiform cartilage of the opposite twin, Eng. It was one of the objects of the examination to determine what was the nature of the fold. I judge it to be the linea alba; but I leave the Fellows to decide that for themselves. I will also add that, because we had not the privilege of cutting the anterior portion of the band, we were obliged to cut down from the point of which I have spoken to get to the structure, and demonstrate these *cuts-de-sac* from behind.

Here (referring to the casts), from this point the incision is horizontal about midway, and joined laterally by two oblique lines which were directed one upward and the other downward and outward, making a modified letter H incision. Thus we got all the space we needed. When I raise the skin we see the scar of umbilicus in the superficial fasciæ; and on lifting the other flap we get a better general demonstration.

And now we come upon the point of interest, namely, the position of the band and its true nature. We have a diagram here. You notice on Chang's side that there is an arrangement of interlacing aponeurotic fibres, marked here; and these fibres starting in Chang, pass across the median line and are inserted into the ensiform cartilage of Eng. Turning the lower flap downward, the upper flap upward, and the two lateral tongues outward; the superficial fascia is exposed. This is abundantly supplied with adipose tissue on either side, but is free from fat

where it covered the band. Both the lower flap and the fascia are lost in the scar marking the position of the umbilicus. The same dissection exhibits the position of the lower pouch of Chang. Turning down the external oblique, the two recti, and the internal oblique muscles, the transversalis was exposed, the latter forming a very well-defined layer in Eng, with an interval between the ensiform cartilage and the inferior margin of the thorax. These were much less marked in Chang.

Turning forward this layer of fibres in Eng from without inward, the diaphragm is brought into view. Muscular fibres are conspicuous in this position. The peritoneum on either side is now fairly exposed. Incisions may now be made with a view of demonstrating the pouches of the band. The upper pouch of Chang is, you will observe, freely opened on its posterior aspect, and the vessels in the tract of portal continuity are seen to be well distended with the injecting fluid. A small artery is seen crossing beneath this tract of veins, and is probably a branch of the hepatic; but, whatever may be its origin, it evidently could have little effect in influencing the nutrition of parts beyond the band, and is probably retained within the band itself. The lower pouch of Chang reveals nothing which was not demonstrable from in front, and the same may be said of the single pouch of Eng; thus confirming the opinions of the construction of the band before the pouches had been opened from behind.

Dr. Abraham Jacobi of New York, being called upon, said: I am very much obliged to the gentleman who has mentioned my name. I do not believe, Mr. Chairman, that I have anything to add to the stock of knowledge in regard to the subject before us. If I were to answer the question as to how this monstrosity originated, especially whether they became connected after having been separate organisms, I should say that that idea has been given up by those whose opinions are entitled to weight. It is true that years ago such specimens were spoken of by Dalton

in Holland ; and a number of others have alluded to the idea that two such individuals might in embryonic life become united simply by adhesion, the result of their being located together in the embryo. In truth, it appears to me that at that period such a thing might be possible ; but, of course the union would be a superficial one, not involving the deep organs.

We know that the first epidermis is formed about the end of the fifth week of embryonic life, and that after a time it is thrown off, so that the embryo of about seven or eight weeks is more loosely covered with the real epidermis than in the early period. The epidermis is thrown off a number of times until about the fourth month of utero-gestation, when it is finally perfected and remains intact. Now it is suggested that at those times when the epidermis is thrown off the connection takes place between the two individuals, just as the connection takes place between the prepuce and glans, which we so often find adherent in the fœtus and in a number of new-born children.

There are evidences which we cannot forget, that such connections have taken place before the final epidermis is formed, and about the time one of the earlier coverings is being thrown off, at a period when the internal organs, frequently implicated in such monstrosities, are already formed. There are few double monstrosities so well developed as this one. I think the records of about four hundred monsters have now been collected in the books and journals ; but very few are of such a complete nature as this. Every one has heard of the Hungarian twins, who lived to the age of twenty-one years, in the last century. Another pair of female twins, that travelled in Germany about two years ago, were described at the time in the *Berliner Wochenschrift*. They were of a similar nature. There are two cases on record in which a division has been successfully attempted, but in those cases the connections were not so well developed as in the Siamese Twins. The connection was in the same neighborhood, but was only

superficial—of skin and subcutaneous tissue. One of the cases is recorded by Dr. Braun (*Virchow's Archiv.*) Fortunately, or unfortunately, I do not know which, they were his own children. They were of the female sex. He separated them immediately after birth. One lived three and a half days; and when the case was described in 1866, the other was five years old. In that instance the connection—three and a half inches long—extended from the ensiform process to the umbilicus. The other case is described as early as 1689, by the old German author Kernoch.

As far as the origin of twin monsters is concerned, I am certainly of those who are not of the opinion that two individuals could get into such an intimate connection by growing together. Certainly the connection is an original one. I believe that the general opinion is now that one Graafian vesicle may have two ova, or one ovum have two nuclei; and these finally may, like the two vitelli of an egg, be closed together, surrounded by the same material, forming a single complete ovum; and thus it may be that the two are included in the same ovum. I think this will explain why the sex is always the same—why they are always both male or female. They are male in twenty or twenty-five per cent. of the cases.—*Philadelphia Medical Times.*

Addendum to a Lecture on the Treatment of Tapeworm. By T. SPENCER COBBOLD, M.D., F.R.S., Lecturer on Parasitic Diseases at the Middlesex Hospital Medical College.

In reply to numerous letters, the substance of which has been communicated to me, I beg to state that one main object of my lecture was to insist very strongly on the necessity of persistent and careful personal search by the medical attendant of the stools of his patient, until he is satisfied that the neck and entire head were found. To some practitioners, this seems an apparently trivial and easy thing to do. On this score, however, I have reason to know

that it is not easy, and that the duty is frequently, in many cases habitually, omitted ; and hence we have one important cause of failure to cure tapeworm. No portion of the fæces should be left uninvestigated. On many occasions I have remonstrated with patients and attendants, who from motives of delicacy, have, prior to my visit for the express purpose of ascertaining results, carefully removed all floating matters of a non-fæcal character. I have obtained proof that the head of the worm is liable to adhere to such light materials.

Of course, in conducting these researches, one is apt to encounter rather unpleasant experiences. Some of these I recounted to my class with the view of impressing my hearers with the necessity of performing this duty in a thorough manner. The examination should extend to every stool while the patient is kept under treatment. As I invariably employ disinfectants, the disagreeableness of the task is not so marked as many might suppose ; nevertheless I have some times been attacked with nausea, consequent upon several hours' search in a stooping posture.

By way of illustrating the proceedings necessary in some cases coming within my experience, I narrated in the lecture which appeared in these columns in an abbreviated form, the following case. A practitioner of repute having repeatedly attempted and failed to cure his daughter, solicited my advice, by letter. In the first instance, I prescribed male fern extract in the ordinary way, and recommended a search for the head after the exhibition of the tæniacide. As, however, at varying intervals, the worm continued to reappear, I at length advised him to send the patient up to town, which he did. I again prescribed the oil of male-fern. The body of the worm came away, as usual. After removing from the stools some ten or eleven feet of the body, including many loose proglottides, I continued the search for about two hours, during which I obtained some fragments of the neck, which were so fine from the part near the head that the transverse lines of segmentation were

barely discernible. Ordering a small dose of castor-oil, with plenty of weak tea and warm milk, I promised to renew the search next day. I felt confident the head must have been dislodged from the upper bowel. When I called next day, the fresh evacuations had been retained in accordance with my instructions, and the investigation renewed. Greatly advantaged by the strong light coming through the large hotel window, it was not many minutes before I noticed in the fæces four minute dots of uniform size. As these mere specs were placed side by side in a symmetrical manner, I concluded that they were the suckers of the head of the tape worm. The conjecture proved to be correct. Much, if not fully half, of the head was gone, whilst the loose and partially disconnected suckers only remained attached to one another by finely connecting shreds of parenchyma. On carefully transferring them without injury to a small glass tube containing water, the help derived from a powerful pocket lens at once set every trace of doubt at rest. My previous day's examination having afforded proof that only one tapeworm existed, I had now no hesitation in giving the necessary assurances as to the completion of the cure.

I must not omit to state that I transferred the corked tube to my waistcoat pocket, and when, after walking a short distance, I again looked at the specimen, the four suckers had separated. The gentle agitation produced by walking had sufficed to break up the delicate connecting filaments.

This case explains one of my reasons for insisting upon the carefull and assiduous examinations of the stools. In making such investigations, the practitioner should employ a disinfectant (the solution of permanganate of potash is, I think, the best), diluting the stool copiously with water. He should obtain a powerful light, a strong magnifying lens, one or two glass tubes filled with water, three or four empty basins or other utensils, and a pair of delicate long forceps (ten inches). Armed with these few essentials, he will treat his case after a "proper method," and thus probably

reduce the relative number of failures in practice. Of course, it is assumed that he must have previously familiarized himself with the naked eye appearances presented by the heads of different tapeworms, sufficiently to enable him to recognize any portions of the head that have separated by disintegration.

I come now to the question of preliminary treatment, as to which more details appear to be desired.

I said appropriate preliminary treatment, because I consider that the commonly received rules as to "fasting," etc., should vary according to circumstances. It is true, that I did not state what preliminary advice had been given in the particular case referred to; consequently, the more unsparing of my critics immediately jumped to the conclusion that I desired to conceal something! If my memory serve me correctly, I not only called attention at the time of delivery of the lecture, to certain points in this matter, but I wrote off on the black board a prescription similar to the one I had employed in that case.

In the instance named, I particularly requested the patient not to starve himself, but to take plenty of readily digestible food the day before the emulsion was given. I especially advised this in his case, because the chief symptoms were marked lassitude and nausea, sometimes amounting to actual sickness. I judged that, if I allowed him to let down his strength, by the starvation method, he would, (in spite of retaining the horizontal posture, which I also enforced) throw up a great part of the male-fern emulsion. In short, it was a case in which I was anxious to deal as gently as possible with my patient, without losing the full benefit of the worm poison. In this view, further, I ordered a mild aloetic pill; not, be it observed, with the intention of producing catharsis, or even so much as simple aperient action, but merely with the purpose of softening the fæces, and thus clearing the colon and upper bowel. The result was satisfactory. On referring to a note I made of the case at the time, I find it stated that the entire worm came away,"

“without any violent action of the bowels.” There had been no motion as resulting from the aloetic pills, and no sickness from the male-fern mixture.

This, then, was a patient who, as before remarked, had repeatedly taken one-drachm-and-a-half doses of the ethereal extract without success, but by the observance of the preliminary rules, modified to suit what were deemed to be the particular exigencies of the case, his cure was effected, in the proper acceptance of that much abused term, by the employment of two half-drachm doses of the same drug. Further than this, the patient was put to much less inconvenience than he had suffered on former occasions, without successful results.

Finally, I may say that I have been not a little surprised and hurt at the tone assumed in some of the communications above referred to. I shall only add on this head, that the object of the lecture, and I believe its matter also, were purely scientific and unimpeachable. As to the form I do not pretend to be so good a judge.

For twenty-six years, I have been engaged in the study of the entozoa; and, for the first fourteen years after taking my degree, I rejected all but purely scientific labor. During the last eight years in which I have been in practice, a very large amount of my time has been occupied in solving difficulties for, and giving gratuitous aid to, my medical brethren. The suggestion, that on this occasion I desired to withhold any useful information, is one which, I venture to think, my labours and my career contradict. I shall take no further notice of it.—*British Medical Journal*.

Extirpation of the Larynx with the Epiglottis.

On the last day of the year lately ended, Professor Billroth performed the operation of removing the larynx and epiglottis—a proceeding which had never before been attempted in the human subject, though Czerny had shown

in 1870, by careful experiments, that it was anatomically and physiologically practicable. The patient was a strong man about 40 years of age, the subject of cancerous growths in the larynx, which had repeatedly, after putting him in danger of death from suffocation, been removed by Dr. Stork with the aid of the laryngoscope. In the beginning of November the new growths extended so far into the interior of the larynx, that their removal from above was no longer possible. As, however, a part of the right vocal cord was present, Drs. Stork and Billroth hoped to preserve this, however imperfect; they therefore opened the larynx from the front, and, after removing the growths, applied solution of perchloride of iron to the inner surface. The result of this operation, which was well borne by the patient, appeared at first to be very promising; but in the middle of December new growths were detected by the laryngoscope, and at the end of the month symptoms of asphyxia appeared. On December 30 Dr. Billroth and Dr. Stork decided that the whole larynx was so full of malignant growths, that it would be useless to repeat the operation of dividing them and clearing them out; and there was no longer a possibility of preserving any part of the vocal cord. Extirpation of the part would produce no additional physiological defect, and might lead to a radical cure, if the disease were confined to the part, and had not reached the glands. Professor Billroth therefore removed the entire larynx. The patient bore the operation very well; he breathed freely through the trachea, in which a tube was inserted; the fever was slight and of short duration; and on the 9th instant the wound was healing favorably. On the 24th the man was reported to be able to eat and drink, and to sit up for several hours daily.—*British Medical Journal*.

CANADA

Medical and Surgical Journal.

MONTREAL, MARCH 1874.

SMALL-POX AND MEASLES.

Are we to have a Small-pox Hospital? again we ask for information on this subject. The Corporation of our city appear to be disinclined to take up and discuss the propriety of having a special hospital for the accommodation of patients suffering from this disease. As it has become more than ever a necessity, we do hope that the citizens of Montreal will take up this matter and establish an hospital independent of the Corporation.

We have heard recently of several cases of actual measles which had been taken for small-pox, sent into the small-pox wards attached to the Montreal General Hospital. Some of these cases have gone through the disease measles, and subsequently the patient has taken small-pox, and we believe in one or two instances the second attack of disease has been followed by death.

"Quos Deus vult perdere dementat prius" is an old maxim, which does appear to apply in this matter. Our City Fathers, puffed up with obstinacy and pride, refuse the counsel and advice of those supposed to be familiarly acquainted with disease and epidemics, and what is the best method of arresting their spread. A new feature of disease arises, the doctors are puzzled; they declare a disease small-pox which is not small-pox—the unfortunate patient, if residing in a hotel or boarding-house, or an inmate of a jail, is ordered off by his physician to the only small-pox hospital in this city, which consists in the half of a small building in the back-yard of our English Hospital. If it were a Mayor, or an Alderman, or even a Councillor, it would not matter so much—in fact, we believe it might possibly lead to the

selection of a site and the erection of a suitable building thereon. We would almost regard a visitation of this nature as a blessing—a blessing on the community, though possibly a special punishment on the City Councillor for having neglected the interests of the people.

But to return to the subject of measles being mistaken in the early stages for small-pox. We have heard of some gentlemen declaiming against the stupidity of such a mistake ; but we are forced to admit that it is a mistake of no infrequent occurrence. We have seen it made by some of the ablest men in the profession. A mistake of this nature is more liable to occur at a time like the present, when small-pox is epidemic, when men's minds are full of the probability of the disease small-pox breaking out in any quarter or any house in the city, than it would be at a period of comparative healthfulness, when the occurrence of small-pox would be looked upon as exceedingly problematical.

It is greatly to be deplored that these mistakes have been made, because they have resulted in the exposure of the patients to the contagion of a fearful disease, and in some instances that disease was contracted, and proved fatal, an event which the victim might possibly have escaped, under different circumstances.

There are few events which occur in life out of which a lesson cannot be learnt. These unfortunate errors teach us, as physicians, to be cool, reticent, silent ; and avoid, as much as may be, jumping at a hasty conclusion. Small-pox, in the early stage of the disease, is not highly contagious ; therefore, if the physician has any doubt, let him wait for at least twenty-four hours after the appearance of an eruption before he commits himself by declaring what the disease is. And yet another, and probably more important, lesson we learn as a community. We should instantly secure a building, to act as a small-pox hospital, wherein the means of having intermediate wards should exist, so that doubtful cases might be saved the possible chance of exposure to a disease which, if the patients do contract, will, in all likelihood, end fatally.

FÆCAL ACCUMULATION.

A case is reported in a recent number of the *British Medical Journal* of a gentleman, aged 60 years, who had suffered from gradually increasing distention of the abdomen, of two years standing, accompanied by emaciation, loss of appetite, flatus and constipation. On examination, his physician, Dr. Cole, of Bath, detected an immense tumour filling the whole of the abdomen, except a small portion of the left lumbar region, which was quite tympanitic. The tumour passed upwards under the ribs, and downwards into the pelvic cavity; it was smooth, hard and immovable; to the right of the umbilicus there was distinct resonance, and a little lower down was felt a coil of intestines between the tumour and abdominal wall, which was evidently filled with fæcal matter; firm pressure over the tumour left well-marked indentations, and the superficial veins of the abdomen were much distended. The rectum was filled with scybala.

The diagnosis was fæcal accumulation to an unusual extent. Large injections of warm water were administered daily for three weeks, aided by small doses of Belladonna and nux vomica, which resulted in the total disappearance of the tumour, and the expulsion of an almost incredible quantity of fæcal matter. The patient was restored to his usual health. The doctor reports that homœopathy had had a lengthened trial in this case.

This reminds us of a somewhat similar case which came under our observation a few years since. We were called to see a lady suffering from hysterical mania. She was a tall, thin woman, unmarried; exceedingly violent, so much so that she had to be restrained from hurting herself by two strong men who were relatives. We were informed by her mother that her bowels had not been open for over ten days, her appetite was ravenous, and she was in the usual condition of nervous excitement which is so often seen in similar cases. She had been under homœopathic treatment, but her physician obstinately refused to

permit the administration of purgatives, or even an injection. The abdomen was tense, and somewhat swollen, although there did not exist any distinct tumour. A large injection was administered, which resulted in the expulsion from the rectum of the largest mass of hardened fæces we had ever seen; it was nearly the size of a child's head.

This patient had taken up the delusion that she had become pregnant to a gentleman of her acquaintance, but who was not in the country at the time, nor had he been for over two years. The following day, at my visit, she accused me of having occasioned an abortion and of having taken away her child, and she threatened me with exposure, and of handing me up to the authorities on a charge of murder as she believed I had made away with her offspring. She was subsequently sent to an asylum, and after a residence of six months, or so, was quite restored; still, however, she is deluded with the belief that she had been pregnant, and that I had been the means of bringing away her child prematurely. I have been informed by her relatives that this fancy is disappearing very gradually, although they never allude to the circumstance unless the subject is broached by herself.

TESTIMONIAL TO DR. FENWICK.

The public say that "Doctors differ," and it is habitual with many to use this hackneyed expression as a term of opprobrium towards the Profession generally. With such persons the idea is, that members of the Medical profession not only differ from each other upon matters of opinion, but that they are of necessity jealous and ill-willed, and slow to do justice, one to another; that merit acknowledged by friends or clients to any physician is but grudgingly accorded to him by his confreres, and that on the contrary, medical detractation is the rule, which, if not openly avowed, at any rate is practically acted upon. We repeat this is an unfortunately too common popular notion, concerning the supposed absence of *esprit de corps* amongst practitioners

of medicine. We venture to believe that this is a totally mistaken conception as regards the profession generally, and more especially as regards the medical men of the city of Montreal; and we take pleasure in drawing attention to any circumstance which may tend to show the existence of cordiality and true fraternal feeling amongst the members of our common calling. It will be known to many of our readers that for many weeks past, the senior Editor of this Journal, Dr. Geo. E. Fenwick, has been suffering from such severe illness as has entirely incapacitated him for the performance of his customary duties and for practice. When it was understood that Dr. Fenwick had been advised to remove to a warmer climate, for a short time, for the purpose of renovating his health, it was at once suggested to his medical friends that he should not be allowed to go without their having in some way signified to him their sympathy with him in his illness, together with their appreciation of his many good qualities, both of heart and head, which render his temporary loss to them so much felt. To the testimonial then proposed, all were more than ready, they were eager to subscribe. On the fifth of February a gift of \$1,000 was presented to Dr. Fenwick, accompanied by the following address, engrossed on parchment:

We, his assistants, congratulate the doctor most heartily, upon being the recipient of such a testimonial, coming as it has done, from the spontaneous good-will of the whole Medical Profession—the signatures including the representative men of all the colleges, and of all the practising physicians at large. Those who know Dr. Fenwick, will not be the least surprised at the enthusiasm with which his testimonial list was everywhere received. His reputation as a surgeon is recognized throughout the Dominion, not only so, but some of his leading operations have received most flattering attention from the American and British medical press. His success as a teacher can be testified to by his quondam students now successfully practising their art throughout the country. His popularity with his class

has always been unbounded. His practical and persevering efforts in furthering the efficiency of our charitable institutions, especially the Montreal General Hospital, have always been fully recognized by the governing bodies of these establishments, and it is well known that it has long become habitual to him to neglect his own private and personal interests whilst bestowing the most unremitting attention upon the the indigent sufferers in his surgical wards of the Hospital. As a man of very large experience and the soundest judgment, he has always been much sought in consultation, especially by the junior members of the profession. By them, especially, owing to the unvarying kindness, courtesy and consideration with which it is his custom to treat them, is he looked upon as their staunchest friend.

We have said enough to show why his absence, even though temporary, is thus felt and regretted by all.

We again congratulate Dr. Fenwick upon this outward demonstration of the good-will of the profession towards himself, and we likewise congratulate on the other hand the Profession of Montreal for having publicly shown that we *do* recognize and are ready to acknowledge true merit wherever found, no matter how we may "differ."

We are sure that Dr. Fenwick's numerous friends will join with us in looking forward with pleasure to the time when with renewed health and strength we hope to see him once more engaged amongst us.

We subjoin the address as presented, with Dr. Fenwick's reply:—

TO GEORGE E. FENWICK, M.D.

DEAR DR. FENWICK,—We, the undersigned Medical practitioners of Montreal, appreciating your valuable services, as Editor of the CANADA MEDICAL AND SURGICAL JOURNAL, as well as your efforts in the advancement of the science and art of surgery, and sympathising with you in your present illness, desire to present you with this address, and the accompanying testimonial, as a token of our regard.

Trusting that you may soon be restored to the active duties of a profession you have so long and faithfully served.

We remain, dear doctor,

Your sincere friends,

G. W. Campbell, A.M., M.D.	W. H. Hingston, M.D.	R. T. Godfrey, M.D.
J. L. Leprohon, M.D.	John Réddy, M.D.	R. P. Howard, M.D.
R. L. MacDonnell, M.D.	W. E. Scott, M.D.	Robert Craik, M.D.
J. M. Drake, M.D.	F. W. Campbell, M.D.	W. P. Smith, M.D.
Samuel B. Schmidt, M.D.	D. C. McCallum, M.D.	Geo. Ross, A.M., M.D.
Hector Peltier, M.D.	E. H. Trenholme, M.D.	W. E. Bessey, M.D.
Richard A. Kennedy, M.D.	John T. Finnie, M.D.	Edwd. K. Patton, M.D.
John R. Smallwood, M.D.	W. B. Wheeler, M.D.	John Bell, M.D.
W. Macdonald, M.D.	George A. Baynes, M.D.	Thos. Simpson, M.D.
David A. B. Macbean, M.D.	W. Gardner, M.D.	J. J. Dugdale, M.D.
George W. Major, M.D.	Frederic Barnes, M.D.	William Fuller, M.D.
P. O'Leary, M.D.	Ang. C. Macdonell, M.D.	J. A. Rodger, M.D.
E. H. Trudel, M.D.	L. G. Turgeon, M.D.	T. G. Roddick, M.D.
Clar. J. H. Chipman, M.D.	W. A. Mondelet, M.D.	William Wright, M.D.
R. A. Alloway, M.D.	N. L. Verin, M.D.	T. J. Alloway, M.D.
E. Robillard, M.D.	A. Proudfoot, M.D.	J. Perigo, M.D.
N. Mercer, M.D.	P. N. Leclair, M.D.	G. P. Girdwood, M.D.
Dr. E. A. Duclos.	A. B. Larocque, M.D.	Arthur A. Browne, M.D.
W. E. D. Nelson, M.D.		

Montreal, Feb. 5, 1874.

REPLY.

TO R. T. GODFREY, M.D., GEORGE W. CAMPBELL, A.M.,
M.D., WM. H. HINGSTON, M.D., HECTOR PELTIER,
M.D., AND OTHERS :

GENTLEMEN,—I must beg of you to accept many and sincere thanks for this flattering expression of good will, towards me, and to assure you that this testimonial will be the more highly valued, as emanating from the profession as a body.

I feel that you are over-estimating any service I may have rendered to the cause of scientific truth, by editing the CANADA MEDICAL AND SURGICAL JOURNAL, nor can I admit that as a practical surgeon I have done anything to warrant this expression of regard from my confreres. It has been my aim through life to cultivate a feeling of friendliness with my professional brethren, and to avoid whatever might lead to misunderstanding or disunion.

I can only add, Gentlemen, that should a return to health and strength be granted to me, the balance of my life will be devoted to furthering the best interests of our profession.

I remain, Gentlemen,

Yours, very faithfully,

G. E. FENWICK.

ABSTRACT FOR THE MONTH OF FEBRUARY, 1874.

Barometer reduced to 32° Fahr., and to sea level; estimated height about 100 feet.

DAY.	THERM. METER.						BAROMETER.						Rath. and Sleet	Snow. Melted	Constant + 0.170 used in all Barometer Readings.
	9 a. m.	3 p. m.	9 p. m.	Mean	Max	Min	Range	9 a. m.	8 p. m.	9 p. m.	Mean				
Sunday	1 -4.6	0 0	-9.5	-1.7	1.0	-7.5	8.5	30.724	.750	.814	30.706	.....	.....	.....	Highest Barometer.
	2 -15.4	-1.3	-2.4	-6.4	-1.3	-18.0	16.7	30.801	.645	.610	.682	.....	.....	.....	Minimum of the month - 18.0.
	3 6.3	15.2	15.0	12.2	15.2	-2.4	17.6	30.938	.081	.047	.047	.....	.....	0.32	Partly 2nd and 3rd.
	4 18.4	21.5	11.0	17.1	21.8	18.7	8.1	30.089	.081	.209	.703	.....	.....	.....
	5 -3.0	6.5	2.5	1.5	6.5	-4.0	10.5	30.441	.384	.416	.412	.....	.....	.....
	6 -2.8	7.5	4.8	3.2	7.5	-4.5	12.0	30.461	.380	.280	.377	.....	.....	.....
Sunday	7 8.8	21.3	16.0	15.0	20.6	-1.5	22.0	30.122	.109	.159	.187	.....	.....	.....
	8 11.6	20.4	16.5	16.2	21.8	6.0	19.8	30.378	.333	.255	.367	.....	.....	.....
	9 11.9	27.2	18.0	21.5	28.5	18.1	5.4	29.996	.945	.029	.029	.....	.....	.....
	10 19.4	18.2	15.0	16.1	19.1	9.0	10.1	29.833	7.50	.769	.783	.....	.....	.....
	1 4.8	14.0	10.2	9.7	14.0	8.6	10.5	30.149	.763	.727	.845	.....	.....	.....
	13 37.2	42.0	39.2	39.5	43.0	7.5	38.5	30.814	.577	.048	.118	.....	.....	.....	Great range of Th. r.; rap thaw.
	14 33.0	77.5	24.0	28.8	83.0	37.0	1.0	29.747	.175	.015	.040	.....	.....	.....	Lowest range of Th. on 14th.
Sunday	15 26.5	36.5	34.0	22.3	37.0	28.0	5.0	30.094	.015	.195	.034	.....	.....	.....	Lowest Barometer on 16 h.
	16 23.0	31.0	29.7	29.9	31.0	28.0	5.0	30.817	.425	.461	.465	.....	.....	.....
	17 13.1	19.4	9.8	14.1	21.5	12.0	9.5	29.510	.917	.917	.976	.....	.....	.....
	18 7.5	17.1	10.0	11.5	18.5	4.0	14.5	30.355	.405	.405	.405	.....	.....	.....
	19 4.5	28.2	31.0	21.2	31.0	-0.5	31.5	30.169	.945	.29	.915	.....	.....	.....
	20 31.8	40.8	28.2	34.6	41.2	30.0	11.2	29.752	8.77	.30	.095	.....	.....	.....
	21 15.2	21.0	24.0	20.1	24.0	14.0	10.0	30.165	30.180	30.145	30.147	.....	.....	.....
Sunday	22 18.0	29.5	31.2	32.0	36.8	14.5	12.3	30.359	.815	.310	.365	.....	.....	.....
	23 23.5	31.0	33.0	31.2	38.0	19.0	19.0	29.676	.480	.620	.29	.....	.....	.....
	24 6.2	14.8	10.5	10.5	15.2	6.5	9.7	30.443	.465	.614	.30	.....	.....	.....
	25 15.5	23.5	19.0	19.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	26 19.0	21.0	20.0	20.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	27 23.0	24.0	21.5	22.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	28 15.0	26.0	23.0	21.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
SUN'S MEANS	13.40	11.1	16.23	17.47	26.0	8.74	.....	.....	.....	.....	30.012	1.01	1.27	.....

Mean temperature of the month, 17.47; mean of the maxima and minima temperatures, 17.37; greatest heat on the 20th, 41.2; greatest cold on the 2nd, 18 below zero—giving a range of temperature of fifty-nine degrees. Greatest range of the thermometer on the 13th, 36.5; lowest range on the 14th, 1.0. Eight nights below zero—(note minus sign -)

Mean height of the barometer corrected for temperature 32°, and reduced to sea level (constant applied + 0.100) 30.012; highest reading of barometer on the 14th, 30.814; lowest reading on the 16th, 29.425—giving a range of 1.389 inches.

Rain and snow fell on nine days; amount of precipitation when the snow was reduced to its equivalent of water, 2.28 inches. Practically 6 inches of snow to be equivalent to 1 inch of water.

Amount of snow on the 14th, 11 inches.