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CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

On the Administration of Chloroform. By FRANCIS W. CAMPBELL, M.D., L.R.C.P., London; Member Royal Medical Society, Edinburgh, and of the Dublin Microscopic Society, Physician to the Montreal Dispensary and Infirmary for Diseases of Women and Children.

There can be no doubt that the administration of chloroform should be entirely confined to those who have had a regular medical education, and who are legally entitled to practise. The idea entertained by many that the management of the inhalation of chloroform vapor is one where no science is required, is as wrong as it is pernicious; not that death from this anæsthetic will not occur even in the most skilful hands, but that the danger may be reduced to its minimum. He that has entrusted into his hands an agent, which may, almost without a moment's warning, bring about dangerous symptoms, should be able to view the situation with calmness, and put into immediate requisition all the latest known means for resuscitation. How is this to be accomplished if the operator is unskilled, uneducated for the position he attempts to fill? I am led to make these remarks from the occurrence of a fatal case from the administration of chloroform, in the town of Port Hope, in the commencement of August last. From the evidence taken at the inquest it appears that a Mrs. Robinson was desirous of having seven teeth extracted, and for that purpose visited the office of Messrs. Waid and Watrass. She was placed in the chair, and a Mr. Chambers, who was present, proceeded to administer chloroform. As regards the mechanical means used for its administration no fault can be found; but we have no evidence to show that the condition of the patient was being closely watched while the anæsthetic was being inhaled. Who was noticing the pulse, the respiration, the eye—all essential safeguards to be attended to in its administration?

ABSTRACT OF METEOROLOGICAL OBSERVATIONS,

Taken at the Montreal Observatory, Latitude 45° 31′ N. Longitude, 4h. 54m. 11s. W. of Greenwich. Height above the level of the Sea 182 feet. For the month of June, 1864.

BY CHARLES SMALLWOOD, M.D., LL.D., D.C.L.

Day of Month.	Reading of the Barometer, corrected, and reduced to 32° F.			Reading of Thermometer.			Mean Tension of Vapor.	Mean Humidity of the Atmosphere.	General direction of Wind.	Horizontal movement in 24 hours in miles.	Mean extent of Clouds in 10ths.	Depth of Rain in inches.	Depth of Snow in inches.	Ozone in 10ths.	Weather, &c.	Remarks for the Month.
	Highest	Lowest.	Mean.	Max.	Min.	Mean										
	Inches.	Inches.	Inches.													
1	9.714	29.661	29.688	74.2	53.0	66.4	.539	.842	S W	189.20	7.6	Inapp	....	1.3	Rain.	
2	.724	.714	.719	83.0	49.0	64.5	.487	.792	N E	91.02	1.3	....	....	1.6		Barometer ... Highest, the 21st day, 30.045 inches.
3	.591	.574	.581	66.4	44.7	57.5	.388	.799	W	148.89	3.3	0.030	....	1.3	Rain.	Barometer ... Lowest, the 9th day, 29.106 "
4	.701	.669	.681	85.1	46.0	69.3	.618	.831	W	75.52	0.0	....	....	1.0		Barometer ... Monthly Mean, 29.703. "
5	.800	.601	.721	83.8	64.2	73.0	.614	.792	W	209.67	3.3	....	....	1.3		Barometer ... Monthly Range, 0.939. "
6	.674	.354	.467	83 4	55.0	74.7	.625	.735	W	200.04	4.6	....	....	1.0		Thermometer Highest, the 18th day, 96° 7.
7	.892	.850	.866	85.0	43.0	63 4	.463	.771	W	201.57	0.0	....	....	1.0		Thermometer Lowest, the 10th day, 35° 2.
8	.754	.420	.652	65.2	43.0	62.1	.424	.760	W	92.36	10.0	....	....	1.3		Thermometer Monthly Mean, 70.01.
9	.214	.106	.158	60.1	46.0	55.1	.384	.813	W	204.47	10.0	0.472	....	1.3	Rain.	Thermometer Monthly Range, 61°5.
10	.500	.350	.405	69.0	55.2	56.7	.321	.660	W	351.39	4.0	....	....	1.0		Greatest intensity of the Sun's rays, 118° 4.
11	.800	.651	.716	72.1	55.4	60.6	.331	.670	W	119.16	5.6	....	....	1.0		Lowest point of Terrestrial radiation, 33° 4.
12	.880	.814	.855	73.4	48.0	61.1	.394	.729	N E	234.30	2.6	....	....	1.0		Mean of Humidity, .703.
13	.892	.874	.886	89.4	44.2	73.1	.583	.706	W	103.05	0.0	Inapp	....	1.0	Rain.	Rain fell on 6 days amounting to 0.876 inches.
14	.702	.741	.759	91.0	52.7	73.1	.583	.706	W	138.50	0.0	....	....	0.6		Most prevalent wind, W.
15	.706	.692	.698	91.4	55.9	76.4	.682	.743	W	14.51	2.0	....	....	0.0		Least prevalent wind, S. W.
16	.614	.602	.606	92.0	59.0	79.3	.702	.697	N E	244.73	0.0	....	....	0.0		Most windy day, the 29th day, mean miles per hour, 17.82.
17	.800	.714	.758	94.7	60.0	78.8	.659	.660	N E	246.13	0.0	....	....	0.1		Least windy day, the 15th day, mean miles per hour, 0 60.
18	.830	.814	.819	96.7	60.5	83.5	.770	.678	S W	91.55	0.0	....	....	0.1		Amount of Evaporation, 247 inches.
19	.819	.816	.813	96.2	66.4	83.9	.772	.666	S W	192.20	0.0	....	....	0.0		Aurora Borealis visible on 2 nights.
20	.852	.850	.851	89.2	68.4	77.7	.687	.773	S W	285.09	0.0	....	....	0.6		
21	30.045	30.011	30.029	89.8	59 2	77.1	.706	.784	N E	207.09	0.0	....	....	0.6		
22	29.927	29.794	29.878	92.4	69.3	80.5	.769	.709	S W	173.41	0.0	....	...	0.3		
23	.784	.633	.716	76.9	66.0	73.7	.652	.797	N E	235.70	3.3	....	....	0.5		
24	.759	.654	.723	77.0	69.0	73.4	.636	.784	S W	217.83	0.0	....	.....	0.3		
25	.509	.500	.505	90.2	68.2	79.9	.757	.749	W S W	156.07	0.0	....	....	0.1		
26	.477	.344	.423	92.3	71.1	73.9	.739	.754	W S W	114.92	2.6	0.374	....	0.1	Rain.	
27	.821	.605	.680	80.0	59.0	67.0	.561	.822	N E	218.90	3.3	Inapp	....	1.0	Rain.	
28	.947	.937	.940	80.4	62.2	67.1	.535	.770	W N W	214.61	10.0	....	....	0.6		
29	.934	.926	.929	91.0	64.0	74.0	.673	.779	W	427.80	0.0	....	....	0.0		
30	.718	.617	.674	82.	54.2	73.8	.656	.794	W	234.20	1.3	....	....	0.6		

Nor do we learn that the patient was allowed the proper quantity of atmospheric air. At all events she was chloroformized, and Mr. Chambers, leaving his duty of administrator, turned dentist, and extracted seven teeth. Mr. Waid then extracted two, and as the last one was pulled out, she made a noise. She was told "to spit into the bowl," and leaned her head over, but was unable to raise it. In two minutes she was dead. Now comes the worst part of the case; what was done to resuscitate the patient? Mr. Waid evidently knew sufficient to pull the tongue forward: but the unfortunate woman was kept in a *sitting posture* for some time, *while ammonia and whiskey were administered to her;* she was then partially laid on the floor, *her head leaning against a chair.* These certainly were not the means that should have been made use of. No attempt whatever seems to have been made to apply artificial respiration, which, according to every authority on the subject, is the very first thing to be done. At the inquest no *post mortem* was allowed, and therefore we can gain no information as regards the internal condition; but several medical men, whose evidence was taken, stated that Mrs. Robinson had suffered from "disease of the heart" for some time. This term is very vague, and is very often too loosely applied by those who should know better. It would be interesting to know the particular lesion which existed in the heart. What are the qualifications possessed by this Mr. Chambers that he should be allowed to undertake the administration of chloroform? Simply these: I quote from his own evidence. "He had superintended the inhalation of chloroform a great many times without any ill effect, and did not recognize any difference in the subjects; he had studied medicine six months at Ann Arbor College, Michigan, and, a year previously, with a physician; and he held a diploma from that college. I know nothing of this Ann Arbor College; but any institution granting a diploma simply after six months' attendance on its lectures, I consider unworthy of being recognized as a school of medical education. Unfortunately our neighbors of the United States have too many institutions of this kind, which flood not only their own country but ours with hosts of utterly incompetent men, who attempt the practice of the healing art. If Mr. Chambers had had but the most elementary knowledge of the art which he pretends to follow, he certainly never would have kept the unfortunate woman in an erect position, and attempted the administration of liquids. This is a serious case, and I think that all concerned are deserving of exemplary punishment.

I cannot close this article without referring more at length to resuscitation of persons from chloroform accidents,—a subject which deserves the fullest investigation. Unfortunately, so far, the success which has

attended such efforts has not been encouraging, yet we would fain hope that the time is not far distant when they may be more so. Dr. Charles Kidd, of London, an able authority on this subject, has recently published a most important paper on chloroform accidents. He states that he has made a great many experiments on animals with chloroform, and that he has come to the conclusion that death is not the result of "cardiac syncope," or "paralysis of the heart," but rather to narcotism, or paralysis of the voluntary respiratory nerves and muscles, which, in a secondary manner, induced, as a *post mortem* result, this so-called state of cardiac syncope. Dr. Kidd calls this new state muscular apnœa. Reasoning from various facts, he leans to the belief, that under chloroform, the heart itself is never attacked with sudden paralysis. At *post mortem* examinations, in deaths from chloroform, the right heart is generally found gorged with blood. Dr. Kidd claims that this is a secondary condition, the primary one being the inability of the lungs—owing to paralysis of the voluntary muscles—to receive it, hence the accumulation in the heart, which has been vainly trying to send it forward. To prove his case, he states that patients under chloroform generally struggle violently as if suffocating, and that when the alarm of an accident occurs, the patient's limbs are rubbed in the course of the veins, all tending powerfully to engorge the right side of the heart.

"It is against the analogy of the action of chloroform, so peculiarly confined to muscles of the voluntary kind, that it should act on the heart. It is contrary to all clinical observation of the pulse and action of the heart in thousands of hospital cases deeply narcotized, the pulse being almost always increased in volume and strength. Again, before taking chloroform, the pulse is often almost imperceptible and slow, with an equally feeble heart, but both improve in force and number of beats, as the narcotism of the chloroform becomes more and more advanced."

Having, as he believes, demonstrated that it is the lungs and not the heart that are at fault, he recommends that electricity be applied to the diaphragm, respiratory muscles, phrenic nerves, &c., so as to assist or originate the only true form of artificial respiration so desirable. In animals this acts like magic, and is applied as follows: "An intermittent but gentle current, is passed through the phrenic nerve—where the omo-hyoid muscle lies *in the neck*, at the outer edge of the sterno-mastoid—by means of a wetted sponge, the other pole—sponge, also—applied somewhere about the floating rib nearest to the diaphragm, or, still better, one or two acupuncture needles stuck at once into the latter muscle, so as to excite alternate action of the current from the neck to the respiratory muscle, and imitate normal respiration."

This certainly seems a plan worthy of the most serious consideration, and I think it should be tried when, unfortunately, an opportunity presents itself. With present means our success is *nil;* perchance with this it may be encouraging. Dr. Kidd has himself tried it with wonderful results in one human subject; and I cannot conclude this article better than by copying his account of it.

" The patient was a poor married lady, otherwise in fair health, admitted to one of our private hospitals or ' homes,' who was operated on by one of the plastic operations on the female organs, so successful of late, thanks, too, in a great measure, to the calming influence of chloroform. Near the end of the operation, the author (Dr. Kidd), who watched the respiration and pulse all through its performance, was alarmed by both stopping, then going on again, but finally stopping with all the usual signs of death by chloroform: the woman, in fact, lay in a state that it might be said death had obviously set in; she was cold, pulseless, without motion or breathing, her face like stone. The utmost alarm was instantly felt. The so-called " ready method " of Marshall Hall, as also the Sylvester method of artificial respiration, were persistently had recourse to; still there was no pulse, no breathing, no animation. The lifeless or all but lifeless body, in a word, lay, as many of the animals poisoned by chloroform are seen to lie, till roused up by electricity. The author of the paper sent at once for the magneto-electric battery. Some confusion arose at first in its application, as the handles or poles were not insulated, and the author himself was receiving the shocks, till a German physician, standing by, happily caught the metallic handles with his coat-tails (non-conductors). This little incident is mentioned to show how totally unprepared for such accidents our London hospitals are. All the persons standing by, too, were solicitous that the electricity should be applied at once to the *heart* (error No. 2); but the directions of the author were not to the heart at all, but to the phrenic nerve and diaphragm. The poor patient had now been lying some quarter of an hour pulseless, cold and without breath, indeed pronounced " dead." Off and on alternately, the moist poles were now applied about twelve times each minute, so as to imitate in somewise the stimulus of ordinary contractions of the diaphragm; and soon, to the delight of the operator and all around, a deep sighing inspiration was noticed at each break of the circle (this was a great relief), increasing in fulness till it was evident good respiration was established. No pulse, however, was yet perceptible, and cardiac action was still watched for with much eagerness. Minutes on minutes passed away as hours; the patient moaned at the excitement of the phrenic, and a pin stuck into the diaphragm (the author's scarf-pin, as no

other was to be had); but still it was thought desirable to continue the application of the electricity; there was soon a flicker of the pulse, but not till the expiration of two hours was the pulse quite re-established. It is worth being added, that the woman quite recovered, and had no recollection whatever of the four hours her life was in the balance and under the surgical operation. The case is chiefly remarkable as fully bearing out the efficacy of this form of electricity, and applied only in this manner, as previously tried in hundreds of experiments on the lower animals."

I may mention that Dr. Kidd states this method of resuscitation is applicable to all forms of apnœa, whether from drowning, suffocation in coal pits, or still-born children.

Case of Carotid Aneurism perfectly cured by starvation, rest and Iodide of Potassium. By S. C. SEWELL, A.M., M.D., L.R.C.S.E., Ottawa, C.W., late lecturer on Materia Medica and Clinical Medicine, McGill University.

The great interest of this case lies in the return of the artery to its normal state, those reported by Dr. Robertson and others, having remained as far as I understand their statements, distended with coagulum. In order to save repetition, I now state the regions affected, with the abbreviations I shall use. The space bounded by the clavicle, trapezius and sterno-mastoid muscles, I call the lower triangle, designated as L. T. The space bounded by the sterno-mastoid, the trachea and inferior edge of the lower jaw, is my upper triangle, or U. T.

On the ninth of March, 1864, Michel Dorval, hewer, æt. 24, having just returned from the shanties, applied to me for tumor on the neck that interfered with his breathing, and complained of the annoyance caused by the pulsation. Examination of the right side of the neck revealed a diffuse swelling occupying the whole of the L. T., and the U. T. as high as the hyoid bone. On applying the hand, strong pulsation with aneurismal thrill was manifest. The stethoscope revealed an impulse like that of an enlarged and hypertrophied heart; and the cordal sounds were louder than over the region of the heart itself. The swellings could be made to disappear by pressure. There was no hesitation in arriving at the diagnosis that this was sacculated aneurism of the whole of the common carotid, also that it was incapable of cure by operation. Before the discovery of the coagulating properties of iodide of potassium, or little more than two years ago, I could only have let my patient die. Having some thirty-three or thirty-four years ago seen at La Charité in Paris, the beneficial effects of starvation and rest in retarding the progress of a

case of aortic aneurism, I determined to conjoin these with iodide of potassium internally. I enjoined absolute rest in bed, allowed eight ounces of *white* bread and one pint of water per diem, and ordered five grains of iodide of potassium in an ounce of water three times a day. Now for the progress of the case, which I saw at intervals of three days, and I would draw especial attention to the rapidity of the improvement, and the total disappearance of the aneurism. In three days, on the 12th, the swellings had perceptibly subsided, and the dyspnœa was much relieved; the history of that in the U. T. may be disposed of in a few words: it subsided gradually and uniformly for fifteen days, at the end of which time no aneurism could be distinguished. The rest of my remarks apply to that in the L. T.; on the 18th, from being a diffuse shapeless swelling, it had contracted to the size of a large hen's egg, dipping under the sterno-mastoid muscle, much firmer, impulse and sounds diminished. 24th. Reduced to the size of a walnut. April 1st. Size of a pigeon's egg. 6th. Size of a large hazel nut. 21st. All trace of aneurism gone. It is worthy of notice, that the aneurism regularly diminished from above downwards, and without inwards, so that when it was reduced to the size of a hazel nut, the finger had to be pushed under the cloidal insertion of the sterno-mastoid and close to the clavicle in order to feel it. I have no doubt that there were two sacculi, one filling the U. T., the other and the larger the L. T.

On the 1st April, the diet was increased to 12 oz. bread, half pint milk, and a pint of water. 6th April, allowed to get up. 21st. Released from all restraint as to diet or exercise. He was directed to continue the iodide of potassium for two months longer as a precaution. I next saw him on the 15th May, when he had recruited his strength very much, and left for home. I heard of him up to 25th August; he wrote that there was no sign of the disease returning. I am firmly of the opinion, that had not scant diet and absolute rest been conjoined with the iodide of potassium, no such successful result as now detailed would have been obtained. It would be a great satisfaction to me to hear of the same plan being pursued in cases of aneurism in other parts, *e. g.*, popliteal aneurism, when the application of a starch bandage would ensure perfect rest to the limb, not omitting, however, the recumbent posture. Of course, there was considerable loss of weight, but the emaciation was confined almost entirely to the muscles. Before taking to bed, the patient's muscles were hard and salient; but at the end of three weeks, when the diet was first increased, the limbs were round and soft like a woman's, but not much diminished in size, and the skin had the waxy watery appearance of oligomia. The explanation seems to be this: the tempe-

rature of the room, according to French Canadian custom, being always 78° or 80°, there was little call on the lungs to keep up the animal temperature; absolute rest being enforced, a minimum of ærated blood was required by the muscles, so that the lungs required a very small quantity of fuel, which was almost all supplied by the starch of the bread, thus very little fat was required. We know that under starvation, or a deficient supply of food, the azotized and phosphorized materials of the blood disappear very rapidly, and the waste can be made up only from the muscles.

The selection of white bread instead of brown, was made expressly because it is so much less nutritious to the blood, containing only a fractional portion of phosphorus, which is found almost entirely in the bran.

A new Ophthalmoscope for photographing the posterior internal surface of the living eye. By A. M. ROSEBRUGH, M.D., Toronto.

CONSTRUCTION:—THE TUBES.

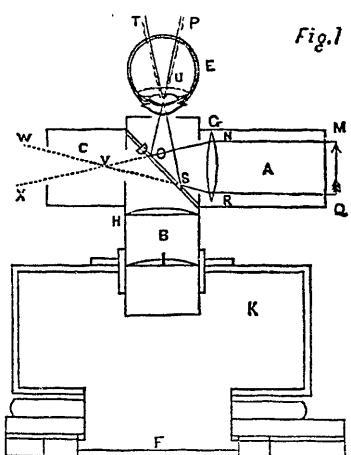


Fig. 1

FIG. 1.

This instrument consists of a small photographic camera, to which are adapted two brass tubes (A and B) which meet each other at right angles (fig. 1), 1½ inch in diameter, being respectively 4 and 2½ inches in length. The longer tube B moves freely in the aperture of the camera, and the shorter tube A is turned towards the source of light.

A tube of the same width C, 1½ inch in length, is joined to the side

of the outer extremity of the tube B, opposite to and in a line with the tube A. The outer extremity of the tube B extends one-fourth of an inch beyond its juncture with the tubes A and C, and is terminated by a thin brass diaphragm having a central circular aperture of three-eighths of an inch in diameter.

At the juncture of the tube A with B there is a circular aperture of one inch diameter, and between C and B an aperture of half an inch diameter—affording a communication between A and C through B.

THE PLATE GLASS.

At the juncture of the tubes there is placed an elliptical piece of highly polished thin plate glass with parallel surfaces, which is inclined at such an angle to the tubes, that a portion of a ray of light falling upon it through the centre of the tube A, from the direction M Q, is reflected at right angles to its original direction, and in the same plane with the centre of the tube B, which will be through the centre of the aperture in the diaphragm. A portion of the ray will be refracted by the plate glass, and pass through the tube C parallel to its original direction.

THE LENSES.

At the inner extremity of the tube A, and as close as possible to its juncture with the tube B, a double convex lens G is placed $1\frac{1}{4}$ inch in diameter, and having a focus of $2\frac{1}{2}$ inches. In the corresponding position of the tube B, or close to the plate glass reflector, the lens H is placed, convexo-plane, of 5 inches focal length: $1\frac{3}{4}$ inch from this is another lens also convexo-plane, and having a focal length of 5 inches, and having the same diameter, viz., $1\frac{1}{4}$ inch.

THE CAMERA.

The camera consists of a mahogany box 3 inches square and 7 inches high, having (to secure steadiness) a base 6 inches square.

At the aperture in the centre of the anterior side there is a brass collar fitted, through which slides the tube containing the lenses. At the opposite side of the camera is a central aperture $2\frac{1}{2}$ inches square, behind which is a slide with a piece of ground glass $2\frac{1}{2}$ inches square. This slide moves in grooves for the purpose, and can be removed to make way for a slide containing a sensitized plate also about $2\frac{1}{2}$ inches square.

PHOTOGRAPHING.

As yet I have not attempted a photograph of the retina of the human eye, but have confined my experiments to the lower animals, and I have used solar light only in order to shorten the time as much as possible, but I do not doubt that diffused light, particularly that reflected from

a bright cloud, would, with a longer "exposure," answer very well. In using the instrument for this purpose, a table of the ordinary height is placed near a window, where the light of the sun falls upon it. It is well to have the shutters closed, and a beam of solar light admitted of the size of the illuminating tube; but this is not absolutely necessary, if precautions are taken to prevent diffused light entering the camera, and the ground glass is shaded while examining the image on its surface.

The camera is turned at right angles to the source of light, and the tube A or illuminating tube turned so that the light falls full into the tube, and is incident upon the whole of the lens G.

When the camera and tube are in proper position, a cone of light issues from the end of the camera tube through the centre of the aperture in the diaphragm, which is the condensed light from the lens G, reflected from the plate glass D. This cone forms a focus about half an inch outside the diaphragm, which can be seen by holding a thin piece of white paper near the diaphragm. In photographing the eye of a cat, I found it necessary to put it under the influence of chloroform, but the image of the optic nerve, vessels, &c., upon the ground glass is so very bright and clear that I do not doubt, if the most sensitive process be adopted, the impression could be taken instantaneously, thus rendering anæsthesia unnecessary.

POSITION.

In either case the eye is brought to the proper position, and the eyelids held apart by an assistant. If it is the eye of a patient to be photographed the instrument is mounted upon its case, eight inches high, which, for most persons, gives it the right height. The patient being seated upon a chair, as close as possible to the table, leans forward towards the camera, and brings his eye as near as possible to the aperture in the diaphragm, the brow rests lightly against the end of the tube, and by bringing the elbows upon the table, he, with the palms of his hands, extemporizes a very good rest for his chin.

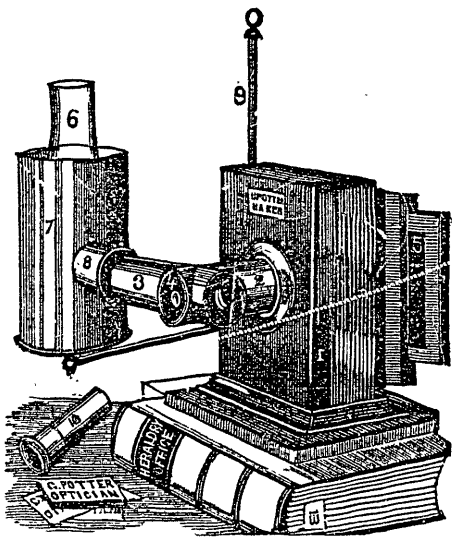
The pupil of the eye to be photographed must be previously dilated with atropine.

PROCESS.

When the instrument is in its proper position, and the light from the plate glass enters the dilated pupil, the fundus of the eye is brilliantly illuminated, and its reflection passes out of the eye and through the plate glass and lenses, and forms an inverted image upon the ground glass at the back of the camera, where the observer in the rear can see the optic nerve entrance, distribution of the arteries and veins, &c., beautifully depicted, but magnified about four diameters. If the details of the image are not

perfectly defined, the camera tube is moved backward and forward until the proper focus is obtained. This image can be seen by the observer again very much magnified by placing to his eye a lens of say six inches focal length, and bringing his eye with the lens to within six inches of the ground glass, but the image will be seen even better by moving the ground glass to one side—the observer will then see the *aërial* image of the reflection from the eye, which will occupy the same position as the ground glass previously occupied. In photographing, the slide containing the ground glass is removed, and a slide substituted containing a plate glass "prepared" by the ordinary collodion process. An "exposure" of about five seconds is sufficient. If the "developing" proves that a good "negative" has been obtained, it is "fixed," and used for printing the photographs; if not, other plates are used until a more satisfactory result is obtained.

AS AN OPHTHALMOSCOPE.



The position of the instrument when the light is supplied by a lamp:—1, the camera; 2, camera tube; 3, illuminating tube; 4, diaphragm with central aperture; 5, slide with ground glass, 6, glass chimney of lamp; 7, brass tube four inches in diameter, which acts as a shade, and from which projects 8, a brass collar opposite the flame of the lamp, and to which is adapted 3, the illuminating tube of the instrument; 9, upright of the lamp stand; 10, eye-piece containing a camera lens of three inch focus to be adapted to the free extremity of the camera tube: when the eye-piece is used the camera is dispensed with.

In using this instrument as an ophthalmoscope, that is, for examining the interior of the eye, artificial light is used. The light from a kerosene oil lamp answers very well, but the best light for ophthalmoscopic purposes is from the gas-argand-burner, and the most convenient is the movable table lamp, supplied with gas through a flexible tube. The evening is the best time for making these examinations: if in the day time, the room is darkened. The instrument is placed in the same position in regard to the light as when solar light is used, but the flame of the lamp is brought within two or three inches of the entrance of the illuminating tube, and the two are placed on the same horizontal line. A screen, to shade the ground glass and the observer's eyes, is placed between the light and the back of the camera; or what I have found to be much better, a metallic tube or shade is placed around the lamp, from an aperture in which projects a collar somewhat resembling that of a magic lantern, of the right size to allow the illuminating tube of the instrument to fit closely. Indeed with this apparatus the camera can be dispensed with, that is, in making examinations of the eye simply; but when the object is to demonstrate the fundus of the eye to a number of persons the camera is used both with and without the ground glass.

I have recently had constructed a modification of the above instrument, which I find to be very convenient.

It shows the fundus of the eye of the cat or dog beautifully, but it remains to be seen whether the illumination is sufficient for examining the fundus of the human eye.

The light is supplied by an ordinary coal oil lamp, which is placed in a box about six inches square and fifteen inches high. Opposite the flame of the lamp there is an aperture in one side of the box, from which projects a brass tube or collar, to which is adjusted the illuminating tube of the instrument.

In the outer, or camera tube, is a double convex lens of two-inch focus, instead of the two lenses of five-inch focus each. At the outer extremity of this tube a movable eye piece is attached three inches in length, and containing a convex lens of three-inch focus.

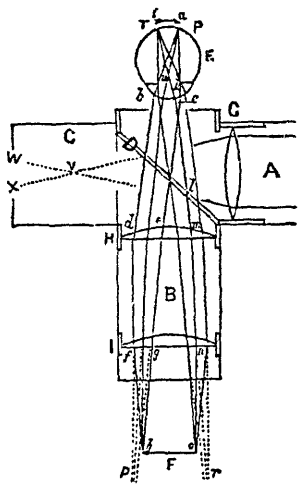
OPTICS.

1st. *Illumination:*—Let MQ (fig. 1) represent parallel rays of solar light incident upon the double convex lens G: at the points NR they are refracted, and emerge from the lens convergingly towards a focus V in the tube C, but at O and S they are intercepted by the plate glass D, a portion of the rays are reflected by its polished surface in the direction E, and rays not reflected or absorbed are transmitted and pass to

form a focus at V—the principal focal distance of the lens G, and again diverge in the direction WX. The rays reflected from the surface of the plate glass form a focus at U (which is also the focal centre of the eye E), at the same distance in front of the plate glass D as V is behind it; these rays again diverge and illuminate a portion of the fundus at TP.

2nd. *Reflection :*—Let E (fig. 2) represent the same eye illuminated as just described; D the plate glass; and HI the lenses in the camera tube. Rays from any portion of the illuminated fundus as *a*, are reflected from the fundus, and emerge from the cornea at *bc*, the width of the dilated pupil, and proceed to the plate glass D, parallel, where some of its rays are reflected from the plate glass through the lens G in the direction of the source of illumination, but other rays proceed to *de*,

Fig. 2.



where they are incident on the lens H, by which they are refracted, and they would proceed to a focus at the principal focal distance of the lens H (viz., at P at five inches); but they are again intercepted at *fg*, by the lens I, which refracts them to an earlier focus, at *h*. In the same way rays from *i*, on E's retina, proceed from the cornea parallel to the axis *ilm*, and are also refracted by the lenses H and I, and are brought to a focus at *o*. In like manner all points intermediate between *i* and *a*, on E's retina, are reflected from the fundus, and refracted by the lenses forming an inverted image of *ia* at *oh*, which is received upon the ground glass placed at F.

ADVANTAGES.

The advantages I claim for this instrument are:

1st. The simplicity of its construction, taking into consideration its two-fold purpose, namely, as an ophthalmoscope and as a photographing instrument. My friend, Dr. Noyes, of the New York Eye Infirmary, constructed an instrument for photographing the fundus oculi, and which was, I believe, to a considerable extent successful, but its construction was too complicated, and the instrument too expensive to be generally adopted. Dr. Noyes' instrument is constructed somewhat on the principle of the binocular microscope. Any good optician can construct this new instrument. The one I exhibited to the Institute was made by Charles Potter, No. 20, King-street East. They can be had complete for $10.

2nd. The limited experience necessary in order to use it successfully. The ordinary Ophthalmoscope requires months of practice before it can be used satisfactorily.

3rd. Being able to see the aërial image free from reflections from the object lens, which reflections are serious obstacles to beginners.

4th. Being able to receive the image either of a healthy or diseased fundus upon a screen of ground glass, which can be seen by a number of persons at the same time, and can be taken advantage of by gentlemen lecturing upon the physiology of the eye, or upon the pathology of its deep structures.

5th. With it, artists will be enabled to make colored diagrams of the internal eye, which, with the instruments now in use, has never yet been effected; thus Mr. Hulke, in his Treatise on the Ophthalmoscope, and Jabez Hogg, in the preface to his Manual of Ophthalmoscopic Surgery, June, 1863, apologising for the imperfections of the diagrams illustrating their works, state that it is impossible to procure the services of artists having the requisite knowledge of the use of the Ophthalmoscope.

6th. With this instrument I have demonstrated that photographs can be taken showing the details of the fundus of the eye.

In conclusion I would express the hope that the invention of this instrument will contribute something towards popularising Ophthalmoscopy, as, in investigating diseases of the eye, the Ophthalmoscope is undoubtedly even more essential than the Stethoscope in diagnosing diseases of the heart or lungs; and I trust its use will aid in banishing from ophthalmic nomenclature the indefinite term of amaurosis, where, as Walther observed, "the patient and physician are both blind."

REVIEWS AND NOTICES OF BOOKS.

A Treatise on Human Physiology. Designed for the use of Students and Practitioners of Medicine. By JOHN C. DALTON, Jun., M.D., Professor of Physiology and Microscopic Anatomy, in the College of Physicians and Surgeons, New York, &c., &c., &c. Third edition, revised and enlarged. With two hundred and seventy-three illustrations. Philadelphia: Blanchard & Lea, 1864, 8vo. pp. 706. Dawson Bros., Montreal.

That a third edition of this work should be called for in so short a period since its first publication, is the most satisfactory proof the author can have, that the profession appreciate the result of his labors, and of the high esteem in which his book is held. Indeed after so convincing a proof of its excellence, little is necessary in its praise.

The arrangement of the work is excellent. The facts and theories put forward in it are brought up to the present time. Indeed, it may be looked upon as presenting the latest views of physiologists in a condensed form, written in a clear, distinct manner, and in a style which makes it not only a book of study to the student, or of reference to the medical practitioner, but a book which may be taken up and read with both pleasure and profit at any time.

In chapter XIV, on the circulation, that portion devoted to the consideration of the sounds of the heart, and their causes, we find, page 274: "The cause of the second sound is universally acknowledged to be the sudden closure and tension of the aortic and pulmonary valves." Further down on the same page we find:

"The production of the first sound has been attributed by some writers to a combination of various causes, such as the rush of blood through the cardiac orifices, the muscular contraction of the parietes of the heart, the tension of the auriculo-ventricular valves, &c. We believe, however, with Andrey and some others, that the first sound of the heart has a similar origin with the second, and that it is dependent altogether on the closure of the auriculo-ventricular valves."

We think that it is universally admitted that the cause of both sounds is the tension of the auriculo-ventricular valves for the first, and of the aortic and pulmonary valves for the second; and that the difference in the two sounds is produced by the difference in the sizes of the valves. We do not think that the mere closure of these valves assists in producing

the sounds, but that the sound is due entirely to their sudden tension. With regard to the second sound, the cause has been recognized for some time to be the tension of the semilunar valves.

With regard to the first sound, we think that the question of its cause was set at rest most completely by the experiments of Dr. Brachan of Dublin, with a bullock's heart, in which, by an ingenious arrangement of bladders attached to the apex of the left ventricle and to the aorta, and partially inflated, he, by alternated pressure on the two bladders, simulated circulation, and produced the two sounds just as if heard in the live animal. And the experiments of Dr. Halford of London on the living animal—the dog—in which he gave chloroform to the animal, introduced bellows into the trachea for the purpose of artificial respiration, then removed the sternum and the cartilages of the ribs, laid bare the heart, and then compressed the venæ cavæ and the pulmonary veins by means of small clips, the heart continued to beat but without sound, because from the absence of blood the valves were prevented from becoming tense on allowing the blood to flow into the heart, the sounds were immediately re-produced. Accounts of these experiments were published in the London Lancet in the years 1849 and '51.

We do not agree with our author when he says at page 272 and 3, "Together with the first sound of the heart, there is also to be heard a slight friction sound, produced by the collision of the point of the heart against the parietes of the chest." We object to the word collision as a word implying a separation of the heart from the parietes of the thorax, and a distinct blow given to the interior of that cavity. We look upon this friction sound as the result of the friction of the surface of the heart against the parietes of the thorax at the time of contraction of the muscular fibres of that viscus. There is an impulse against the parietes of the thorax at the moment of contraction, but no collision, inasmuch as there is no separation between the surfaces.

Just as if a man when firing off a gun, do but hold the butt thereof tight in against his shoulder, he receives only an impulse; but if he separate the butt end only for the slightest space from his shoulder, he receives a severe blow and a consequent bruise. So if there were a separation of the apex of the heart from the parietes of the thorax, and a constant series of collisions between them, inflammation would soon be the result. We commend, however, this work strongly to the notice of the medical profession as useful to the student, as a reliable work to study, to the practitioner as a book of reference, and as a delightful recreation from the labors of practice.

The Principles and Practice of Obstetrics. Illustrated with one hundred and fifty-nine Lithographic figures from original Photographs, and with numerous wood-cuts. By HUGH L. HODGE, M.D.; Emeritus Professor of Obstetrics and Diseases of Women and Children in the University of Pennsylvania, &c., &c. Philadelphia: Blanchard & Lea. 1864. 4to. pp. 550.

Science, in all her branches, appears to be making rapid advances, and the science of obstetrics is not behindhand. Obstetrics was a few years ago regarded as an art to be alone practised by old women, but prejudice is fast giving way to necessity, and we find the accoucheur taking rank among his fellows. It was to the exertions of Ramsbotham and others, about the year 1826, that the Council of the Royal College of Physicians was forced to recognize the chair of obstetrics as essential to their curriculum. Our American neighbors were in advance of the prejudices of scientific men as regards obstetrics, for on reference we find that, under date of October, 1813, the Board of Trustees of the University of Pennsylvania—the oldest medical school in America—passed a law whereby it was "Resolved that hereafter the professor of midwifery shall be a member of the medical faculty, and shall have all the powers, authority, and privileges belonging to a professorship in the said faculty; and that no person shall be admitted hereafter as a candidate for the degree of doctor of medicine in this university unless he shall have regularly attended two full courses of lectures on this subject."

The laborers in the field of obstetrics were few and far between; nevertheless, in spite of all prejudice, it ranks now as the first for usefulness and benefit to the human family. Many able and voluminous volumes on this subject have been given to the world, still there is room, and ever will be, for a work hailing from the pen of a veteran of the profession, one who like the author has already given his own most valuable and original observations. We refer to Dr. Hodge's work on "Diseases Peculiar to Women."

The book before us is divided into twenty-seven chapters, the first seven of which are devoted to the consideration of the obstetric pelvis; the fœtus, anatomically and relatively considered; the tissues and organs of the pelvis; gestation; symptoms of pregnancy; management of pregnant women, and labor. This part of the work contains all the known physiological questions which have any bearing on the subject, and also the more recent opinions of authors both at home and abroad. The chapter on gestation is most thorough in all particulars, giving a clear insight into the wonderful changes which occur consequent on impregnation. We are told that "Fecundation consists in the respective germs from the male and the

female meeting each other, when, in consequence of a mutual action or reaction or positive union with each other, a new or compound vesicle is produced. This new vesicle is endowed with those mysterious vital powers which give it a separate existence from its parents, and by which it is gradually evolved and developed from the rudimentary imperfect formation, through all the stages of fœtal existence to that of the perfect child." This chapter concludes with some excellent remarks on superfœtation.

Chapters eight to eleven are devoted to the consideration of Eutocia or natural labor. This is a most important department of the science of obstetrics, and one too frequently neglected. In fact it was asserted by Dr. Denman, over half a century ago, that "natural labor was the last thing studied in England." Great differences of opinion exist among accoucheurs on this subject, even in the present day; there are no two works in which the student will not find considerable variety on the subject of natural labor. The author draws a marked distinction between the terms presentation, and position, the former having reference to that part of the fœtal ellipse which is found forcing its way to the outer world; the latter or position, having reference to the relative posture the body and head of the child assumes, in regard to the parts of the mother. Thus, for instance, we have presentation of the vertex, but the presenting part may assume, relatively to the parts of the mother, several marked and very different positions.

Baudelocque and his followers recognise and describe no fewer than twenty-seven presentations. Nægelè, on the other hand, has reduced the presentations to five. His views have been generally adopted by modern accoucheurs. "The author, having formed his opinions at the bed-side, where he has carefully noted the causes of delay, difficulty, and danger arising from the various presentations of the fœtus, has arrived at conclusions, perhaps intermediate between the extreme views above presented. He would reject therefore the multiplication of presentations of the trunk and pelvis, but would retain those of the cephalic extremity of the ellipse, being fully persuaded of the great practical importance of a minute acquaintance with the mechanism of labor, in the various presentations of the head, in addition to those of the vertex and face."

The author describes eleven separate presentations; under the head of natural labor he gives two, namely the vertex, and "coccygeal extremities of the fœtal ellipse."

Under the heading of Dystocia, or complicated labor, the result of mal-position, are described nine separate presentations, viz., the top of the head, the base of the skull, the forehead, the face, the chin, the right

or left ear, and right or left shoulder, or side of the trunk. We have always been of opinion that the more simple science can be rendered the better; we cannot see the necessity of multiplying presentations of the superior or vertical extremity of the fœtus. To our mind the three presentations described by Nægelè, as the head, breech, and trunk, are sufficient, after all; the others described by our author are mere varieties, and we think would come better under the heading of position.

In considering presentations of the vertex, the author describes six positions, which are beautifully illustrated by plates, showing in all the different stages of labor, the situation of the child's head relatively to the parts of the mother.

In considering breech presentations under the heading of natural labor, the author gives the following reasons:

"We fully endorse, therefore, the opinion of Baudelocque in opposition to the general teachings of the profession, that pelvic presentations and all their varieties belong to the Eutocia or unaided labors. We deem this arrangement of great practical importance, for it should be impressed upon the mind of the student and young practitioner, that ordinarily the mother is adequate to her own delivery; and that although many attentions may be demanded to *facilitate* the natural modes of delivery, yet that usually any decided *interference* is pernicious. If, however, the labor be termed 'preternatural,' and be ranked under the head of 'Dystocia,' the young practitioner becomes impressed with the idea that the safety of the child, if not of the mother, depends upon his active agency, and is thus induced, too frequently, to interfere with nature's operations."

We cannot agree with the author in the propriety of this arrangement, and we are fully convinced that in all breech presentations, or in whatever way the lower extremities of the child present, that interference, if not necessary at some stage, the accoucheur must be constantly on the alert, ever watchful, ever anxious to afford assistance when necessary.

They are certainly cases as a class calling for energy, promptitude, coolness, and the exercise of much judgment. There is no department of the *arte medica* in which such serious responsibility rests on the practitioner as the conduct of cases of accouchement. We are of opinion that in cases of the above class, as a general rule, if left to nature, that in ninety-nine out of every hundred, it would result fatally to the child; under the most favorable circumstances the vessels of the cord must be stretched and pressed upon, a circumstance which would be rapidly fatal. Again, Valpeau, Tiedemann, and others have stated that the arms will descend before the shoulders engage, provided no traction is

made. This we believe to be an exception and not the rule; certainly it is contrary to our own experience, one of nearly twenty years. Thus, in cases where the arms are retained in utero, it becomes the duty of the accoucheur to aid in their delivery, as they will greatly lessen the cavity through which the head has to pass.

Furthermore, after the passage of the head through the os uteri, the uterus exerts very little, if any, expulsive influence in aid of its delivery. We are far from advocating meddlesome unnecessary interference, nevertheless, would be unwilling to leave the generality of footling or breech presentations to nature unaided.

We should like to analyze the remainder of this excellent work, but already has this review extended beyond our limited space. Chapters twelve to twenty-six inclusive are devoted to the consideration of obstetric operations. In the remainder of the book the subject of Dystocia or complicated labors, is discussed. The author divides the subject into four departments. First; Dystocia from various states of the fœtus, such as large heads, malpresentations, plurality of children, deformities. Secondly; from conditions of the pelvis or uterus, as in deformed pelvis, and displacements of the uterus. Thirdly; in physiological states, as in rigidities, and irregular contractions, puerperal convulsions, rupture of uterus, abortion, and premature labor, uterine hemorrhage, inertia and inversion of the uterus, labor complicated with exhaustion. The fourth division includes all pathological states, such as effusions, thrombus, displacements of the bladder, prolapsus of the vagina, hernia, hemorrhoids, inflammation, tumors, and various diseases acute and chronic. The final chapter is on extra uterine pregnancy. We cannot conclude this notice without referring to the excellent finish of the work. In typography it is not to be excelled; the paper is superior to what is usually afforded by our American cousins, quite equal to the best of English books. The engravings and lithographs are most beautifully executed, but we regret the size of the volume, which to our mind is unwieldy, one to be gloried in by an old Scotch acquaintance, an auctioneer, who used to tell his audience to "feel the wecht of that buck.' The work recommends itself for its originality, and is in every way a most valuable addition to those on the subject of obstetrics.

We are forced, from the press of matter, to exclude the Notices of several books received. They shall have an early attention.

PERISCOPIC DEPARTMENT.

Surgery.

ON THE TREATMENT OF ACUTE ORCHITIS BY PUNCTURING THE TESTICLE.

By Henry Smith, Esq., F.R.C.S., Assistant-Surgeon to King's College Hospital.

In July, 1863, a young man presented himself amongst the out-patients at King's College Hospital with gonorrhœal orchitis in a very acute form. The pain was unusually severe; and, on examining the organ, it appeared to me that suppuration had taken place, the sense of fluctuation being, as I thought, distinct. With a view of evacuating the pus, I took a bistoury, and made a free and deep incision into the supposed abscess; but, to my astonishment and dismay, not a drop of matter escaped—only a little serum and blood. The tubes, however, of the testicle shot out, as it were, from the wound, forming a protrusion the size of a nut. Some pressure was applied by means of strips of plaster, and the patient was sent away.

Two days afterwards the patient presented himself; but in a very different condition. He was quite free from pain, all the redness and most of the swelling had disappeared, and, on taking off the strapping, it was found that the protrusion of the tubes of the testis no longer existed.

This case, which was somewhat annoying to me at the time, suggested some serious reflections in reference to the speedy relief which had resulted from a practice which in reality was the effect of an error of diagnosis on my part. Was the sudden relief here a mere accident?—or, if not, to what could it be due? The quantity of serum and blood abstracted was so small that the cessation of pain and diminution of swelling could hardly be due to this cause; but it struck me forcibly that the free division of the fibrous tissue enveloping the body of the testis, and the consequent removal of tension from the organ, was the secret of the success, provided it was not a mere accident.

Influenced by this reasoning, and by the result of this case, I determined to try the effect of puncturing the testis in similar cases; and in the next case of acute orchitis which presented, I made a deep and free incision with a sharp narrow bistoury, emitting about half a teaspoonful of serum and several drachms of blood; and no other treatment beyond a little of the common aperient mixture was supplied. The result here was as successful as in the former; and as cases presented themselves, I

adopted the same plan of treatment, reserving it, however, especially to those instances where the swelling and pain were very great. After the trial in a few cases, it was found that the success attending this practice was such as to lead me to adopt it as the usual treatment of acute orchitis; and during the last twelve months I have probably treated in this way upwards of twenty cases, with results such as have astonished both myself and those numerous pupils who have witnessed the practice.

In nearly every case so treated—and I have purposely selected the most acute—the patient has experienced the most striking relief before he has left the out-patients' room; and on the next visit, forty-eight hours afterwards, the contrast presented is so remarkable that the superiority of this plan over the old-fashioned modes of treatment is at once impressed forcibly upon the minds of those even who would naturally be prejudiced against so apparently heroic a treatment. The speedy subsidence of all the acute symptoms is due entirely to the puncture of the swollen and inflamed organ, for I have taken especial care not to prescribe anything else except a little of the common white mixture, or perhaps the use of the ordinary lead lotion, and this chiefly to please the patient.

We all know what a terrible ordeal of violent remedies a patient with acute inflammation of the testicle has to undergo. In the first place, he is obliged to lie in bed for several days; a large number of leeches or the constant application of ice are necessary to relieve the pain; and at the same time the unfortunate wretch is compelled to undergo the process of severe purging and continued nausea, by repeated doses of salts and tartar emetic, before any decided mitigation of his symptoms ensues; and two or three days mostly elapse before he recovers from the depressing influences of these several remedies. Lastly, the unfortunate organ has to be submitted to the tender mercies of a dresser, who, however skilful he may be, cannot help putting the owner of it to severe and prolonged torture whilst he is obeying the injunctions of his superior to "strap testicle."

Now for all this I venture to submit the plan now proposed, and one which I should call a "new" one; but it is venturing on dangerous ground to call anything new now-a-days. Moreover, my old assistant and our present house-surgeon, Mr. Richmond, informs me that when he was in Paris two years ago he saw the same method of treatment adopted there; but I never heard of it before I resorted to it, and the practice in my hands was entirely due to the accident I have related above.

Of course several of my friends and pupils have urged objections against this plan of treatment, and suggested serious results, in the form of suppuration of the organs, impairment of its function, hernia testis,

and fistulous sinuses; but none of these have I witnessed. It is very natural and proper to make these objections, for we have always carefully avoided the possibility of a puncture of the testicle when using a trocar for paracentesis of the tunica vaginalis, and, indeed, I have witnessed violent suppuration of the testis speedily ensue from this accident; but it must be borne in mind that wounding of a healthy testicle with a large and blunt instrument like a trocar is a totally different thing from a careful incision made into the highly inflamed organ by a thin sharp blade.

The only inconvenient result I have witnessed from this treatment was the following:—An incision was made into the testicle of a middle-aged man, with the usual relief, but in a few days the scrotum began to swell, great pain was experienced, and the man was taken into the hospital. The objectors to the mode of treatment suggested all sorts of disasters, in the shape of suppuration of the testicle, &c., but on careful examination it was ascertained that the swelling consisted of a large and rapid effusion of fluid into the tunica vaginalis, which was at once evacuated, with speedy relief to the patient. In another instance I made the incision much deeper than was necessary, carrying the point of the knife nearly to the back of the organ. As much as ten ounces of blood were lost, but the testis was violently inflamed and swollen, and the only effect of the accident was to make the patient somewhat faint, but at the same time to give more speedy and effectual relief than usual.

This circumstance may lead one to the belief that the relief is due solely to the escape of blood from the puncture; but this view is inconsistent with the fact that great relief is given when only a few drachms of blood, mixed with serum, are discharged. Doubtless the direct withdrawal of blood from the highly inflamed testicle is of service, but my own view of the matter is, that the relief is in a great measure due to the withdrawal of the tension from the body of the testis by free division of the tunica albuginea.

Whatever may be the precise manner in which the good results are produced, there is no doubt of the fact, and I would earnestly suggest to surgeons, especially to my colleagues, the assistant-surgeons of the hospitals, who treat the majority of cases of orchitis, to adopt the plan proposed, rather than be submitting their patients in a routine way to all the horrors of the middle passage, from tartar emetic to strapping of the testis.

Caroline-street, Bedford-square, 1864.

P. S.—Since the above was written I have seen one of my old pupils who has been spending the last six months in the Paris hospitals, and he

informs me that the ordinary practice at the Hôpital de Midi in cases of acute orchitis is to make a puncture in several places with a lancet; the instrument is not carried into the body of the testicle, but simply through the tunica albuginea. He describes the plan of treatment as most successful.—*Lancet.*

LIGATURE OF THE COMMON ILIAC ARTERY.

Professor Brainard reports the following case in which he performed this operation:—April 9, 1863, called to visit Col. Scott, 19th Illinois Volunteers, who was wounded at the battle of Stone River. A musket-ball had passed from before backwards through the thigh, entering below the pelvis at the outside of the femoral artery, grazing the inside of the femur, and coming out of the buttock. At the time of the accident, there was hemorrhage, which was controlled, as was supposed, by pressure on the femoral artery. The compression was continued about three weeks, during which time no hemorrhage occurred. The wound suppurated, and some small scales of bone came out at each orifice of the wound. He was removed to his home in Chicago, and did well, although the wound remained open behind, until about the fifth of April, three weeks after the accident, when a small tumor formed in front, which was opened. A day or two after, a hemorrhage took place from both openings. It was on account of this that my advice was asked. On the night of the 9th, at eleven o'clock, a copious hemorrhage renewed, which was controlled in a measure, but continued at intervals during the night. 10th: Saw him at ten, and applied the compressor over the femoral artery. This seemed to arrest the bleeding, but in about two hours it returned.

The bleeding had been so great as to threaten death, and I determined to tie the external iliac artery, not doubting from the history of the case that the hemorrhage was from branches of the profunda femoris close to its origin. With the aid of Professor Freer and Dr. Hurlburt, the ligature was placed upon the external iliac artery in the usual manner, as that described by Lisfranc; but on changing the position of the patient to remove the soiled bedclothing, the bleeding renewed as freely as ever. On a re-examination, the ligature was found to control the external iliac, and it was evident that the ischiatic artery was the one giving blood. The danger was urgent, and I enlarged the wound upward and outward, and placed a ligature on the common iliac artery. The anterior wound in the thigh was then enlarged, and a great quantity of coagula removed from it by the finger. No bleeding; patient under chloroform

during the operation. Warm applications to the member; brandy and broth ordered. 11th, a.m.: Limb cool, but not cold; has been troubled with nausea and attempts to vomit, which gave pain in the wound; pulse 100, condition good. Ordered an enema and a solution of soda bicarb., with gum Arabic for the vomiting. Broth continued. 12th: Has considerable pain and tenderness in the region of the left kidney. Pulse 120; slept well during the night, with two doses of acetum opii; wounds commencing to suppurate. 13th: Pulse 100; tenderness in left side diminished; takes broth with wine; slept well. 20th: Cut of operation suppurates freely. Allowed beef broth and wine, with opiate at night. 24th: Ligature on the external iliac artery came away.

May 1st: Ligature on common iliac came away. Patient doing well. 12th: Wound from operation healed. From this time he remained in good health until the early part of July, although the wound continued to suppurate, and some small pieces of bone were discharged at the posterior orifice. At this time he was attacked by a copious watery diarrhœa, followed by typhoid fever, of which he died July 8th, three months after the operation.—*Chicago Med. Journal.*

TRAUMATIC TETANUS.—RECOVERY.

By P. Gordon Stewart, M.D.

On the 30th of October, a negro, aged thirty, of temperate habits, whilst engaged in feeding a crushing machine in a tannery, sustained a compound comminuted fracture of the second and third phalanges of the right index finger. The hope of saving the member was slight, but believing that, under favorable circumstances, a finger of some utility—better than none—might be retained, it was put up in the usual manner with water-dressing. Everything progressed satisfactorily, and on the 17th of November the wounds had nearly cicatrized. On the 18th I was requested to see him on account of "some stiffness about the jaws," and his swallowing with difficulty. He was evidently suffering from tetanus. The muscles of the neck and back, and of the anterior of the chest and abdomen, were hard and rigid, and had been so, it was reported, for the last twelve hours. He referred his sufferings chiefly to pain over the precordia and his inability to swallow. The symptoms increased in severity; but it is unnecessary to follow the case in all its details; and on the 21st the haggard expression of face, faltering pulse, and profuse cold, clammy sweat, seemed to show that "there was but one way." In the evening, however, the skin and pulse showed reaction, although the spasms were still persistent, and matters were nearly *in*

statû quo on the 22nd. He was seen, at my request, on the 23rd, by Drs. Ebden and Borchards, and notwithstanding there being in many respects a marked improvement, relying upon our former experience, they agreed with me in thinking the man must die; and Dr. Ebden, be it observed, from his long residence, in connection with the public service in India, where tetanus is of such common occurrence amongst the colored population, was familiar with the disease in all its phases. From this date up till the 30th the patient's sufferings gradually diminished, the power of deglutition returned, and he ultimately completely recovered, and is now engaged in his former occupation.

The treatment consisted in the free use of chloroform, occasional doses of croton oil, calomel, and compound jalap powder. The course of the spine throughout was vesicated by plaster, and dressed with the strong mercury ointment. Calomel and opium and tincture of cannabis were given in full and repeated doses.

Much was at one time expected from Indian hemp, but, so far as this case is concerned, mercury, and above all, opium (the time-honored sheet anchor of medical practice), appeared to be the medicines on which reliance could be put; but whether the cure was dependent on these may well admit of doubt, for it is quite possible, as similar treatment has so often failed, that the poor fellow may have triumphed over the malady and additional obstacles that science threw in his way.

Ferguson says of this dire disease, "almost every expedient, every medicinal resource, that ingenuity or skill could devise, has been tried in vain." While Skey, in his work on Surgery, shows how little he expected from medical treatment by relating a case where he kept the patient for many hours under the influence of chloroform, and determined on keeping him so *until he died*, had not the anæsthetic ceased even to afford temporary relief; "for better," he adds (but I quote from memory), "to die from chloroform than from tetanus."

A case of recovery, then, from traumatic tetanus cannot be without interest, and the publicity which THE LANCET will afford it, may not be without its use.

Cape of Good Hope, Rondebosch, March, 1864.

LIGATURE OF THE ARTERIA INNOMINATA.

It is now very close upon half a century since Dr. Mott of New York first performed the operation of applying a ligature to the arteria innominata. His patient recovered sufficiently to be able to move about; but owing to successive hemorrhages, died on the twenty-sixth day. The Amer-

ican Medical Times states that it has been performed thirteen times with an invariably fatal issue; but that, notwithstanding this constant succession of failures, Dr. Mott did not despair of ultimate success for the operation; that he has not been mistaken, is fully shewn by a correspondence published in our cotemporary's issue for August 20th. In the case mentioned, it will be observed that hemorrhage recurred several times between the 29th May and 9th July, on which latter day the vertebral artery was secured. We would draw attention to the following letter of Dr. Rogers, giving the details of the case.—EDS.

NEW ORLEANS, July 31, 1864.

SIR,—To you, the originator of the operation for ligating the arteria innominata, is due the first notice of its success.

Permit me to offer you my sincere congratulations, that after so many failures, you have been spared to enjoy a triumph in verifying the noblest conception in operative surgery.

I beg to offer a brief history of the case, as presented on the 9th of May last, in the Charity Hospital of this city. I received an invitation from Dr. A. W. Smith, the able surgeon of that institution, to witness the ligation of the subclavian artery upon the distal side of an aneurismal sac. The subject was a mulatto man of 33 years of age. The tumor was large, with a strong pulsation. Being satisfied, for reasons which it is not necessary to mention, that the operation proposed would certainly fail, I urged upon Dr. Smith, and those present, that the prospect of success would be much greater by applying the ligature to the arteria innominata and the carotid artery at the same time, as proposed by me in 1849. (See Surgical Essays, page 45.) After some discussion, it was concluded to postpone the operation for some days.

On the 15th, Dr. Smith informed me, that he had concluded to perform the operation as proposed by me. In the presence of several civil and military surgeons he performed the operation agreeably to your direction, and applied a ligature to the arteria innominata and to the right carotid about one inch above its origin. The wound was dressed in the usual manner, and the man removed to bed.

May 28th. The ligature came from the carotid artery.

May 29th. Hemorrhage from the wound, but arrested by slight pressure.

30th and 31st. The hemorrhage returned.

June 1st. The hemorrhage returning. Dr. Smith removed the lint, and filled the wound with small shot.

June 2nd. Ligature separated from the arteria innominata.

June 17th. A part of the shot removed from the wound, followed in a few days by hemorrhage. The shot returned.

July 5th and 8th. Hemorrhage returned.

Believing the hemorrhage must be supplied by the vertebral artery, through the subclavian, it was determined to ligate the artery; and accordingly, Dr. Smith secured the vertebral artery on the 9th of July.

July 19th. No return of hemorrhage. The ligature separated from the vertebral artery this day. A doubtful pulsation may be felt in the right radial artery. The aneurismal tumor has disappeared.

July 30th. General health much improved since the last report. The wound is nearly closed. He walks about the ward, and is desirous of returning to his home. We have every reason to believe that the operation is in every respect a success.

With great respect, your humble servant,

D. L. ROGERS.

THE INSTANTANEOUS TREATMENT OF ITCH BY OIL OF BERGAMOT.

[Translated from the Journal de Médecine de Bordeaux for June, 1884.]

DR. MANFRÉ, the venerable clinical professor in the University of Naples, has published, in a Roman political newspaper, many articles on the rapid cure of itch. The best remedy, which he says he has thus far tried with complete success in his clinical service, is, according to M. Manfré, the oil of bergamot, which cures *instantly*, or at most in *two minutes*, even where the eruption is general.

According to him, this remedy, more economical, less irritating, more prompt in its insecticide effects than Helmerich's ointment or sulphur, makes the wards appropriated for patients with this disease in hospitals superfluous; for a single friction over the whole affected surface is sufficient to effect a perfect cure. The patient may return home immediately after this application, the precaution being taken of making him change his clothing, or of thoroughly purifying that which he has worn. An ounce or two of oil of bergamot is enough to complete the cure.

According to M. Manfré, the same remedy may be advantageously substituted for all those employed for the destruction of the *pediculus pubis*.

For a long time physicians have known the insecticide power of the essential oils, and there may be found in some formularies many receipts of M. Aubé for the cure of itch in two minutes. The essential oil of turpentine, mixed with essence of lemon, is the basis of the treatment recommended by this author. Before him, M. Gras had recommended the

essential oil of lavender, which is quite analogous to that of bergamot, and has the additional advantage of not costing more than a quarter or half as much.—*Boston Medical and Surgical Journal.*

ON THE TREATMENT OF ITCH.

To the Editor of the Dublin Medical Press.

DEAR SIR,—Having seen something in your paper lately on the subject of itch, I beg to send you a copy of a prescription for psora furnished some few years ago by the Director-General of the Army Medical Department to regimental surgeons: and I may add that I have used the application for a length of time past with the very best results. Certainly it is more efficient and more cleanly than the mode of treatment previously in use in regimental hospitals. Another great advantage is the rapidity with which the disease is removed; half an hour, in almost every case, is sufficient to complete the cure.—Yours truly,

A REGIMENTAL SURGEON.

(EXTRACT.)

" The remedy is prepared by boiling one part of quick lime, with two parts of sublimed sulphur, in ten parts of water, until the two former are perfectly united. During the boiling it must be constantly stirred with a piece of wood, and when the sulphur and lime have combined, the fluid is to be decanted and kept in a well-stopped bottle. A pint of the liquid is sufficient for the cure of several cases. It is sufficient to wash the body well with warm water, and then to rub the liquid into the skin for half an hour; as the fluid evaporates, a layer of sulphur is left upon the skin. During the half hour the acarus is killed, and the patient is cured. It is only needful then to wash the body well, and to use clean clothes. In Belgium the treatment is introduced by first rubbing the body for half an hour with black soap; but this does not appear to be necessary—the only essential act is that of the careful application of the fluid sulphur."

Medicine.

ON ALBUMENURIC APHONIA.

BY GEORGE D. GIBB, M.D., Assistant Physician to the Westminster Hospital.

Albumenuria is a manifestation of the renal disease now known as Bright's, and gives rise occasionally, though rarely, to laryngeal symp-

toms which result in aphonia, to which Dr. Charles Fauvel, of Paris, has recently given the name of "aphonia albuminurique." This loss of voice occurs also in the renal dropsy following scarlatina. It must be in the experience of most hospital physicians to have witnessed cases of extensive anasarca resulting from Bright's disease, and as a sequel to scarlet fever, involving the submucous areolar tissue of the larynx, and producing hoarseness, stridor, and aphonia. Although this cannot be an extremely rare complication, for several examples have come under my own notice in the larger wards of the hospitals of London, yet scarcely a writer that I am acquainted with ever mentions such an occurrence.

It was but the other day that a male child, two years and a half old, was brought to me amongst the out-patients at Westminster Hospital with Bright's disease of recent date, associated with general dropsy. The child had been much exposed to cold, was blanched, puffy about the eyelids, had bled at the mouth, and the voice was completely gone. The urine was scanty and albuminous, which was from the disease mentioned. With assistance I was enabled to see in the laryngeal mirror supra-glottic œdema of the larynx, of a very pale, indeed almost white color. Here was an instance of albuminuric aphonia in a young child. The laryngeal dropsy was purely passive, yet the dyspnœa was urgent.

It is well known that one of the causes of death in dropsy is effusion beneath the mucuous membrane of the air passages, and the larynx is liable to become involved, and add much to the patient's suffering. I am indebted to Dr. Charles Fauvel for a copy of his original essay on albumenuria, and the following is a summary of his observations:

The laryngeal mirror only can discover the affection, which is a white œdema, either chronic or intermittent, of the vestibule of the larynx and vocal cords, preceding or following albumenuria, and more often without any external manifestation to afford even the suspicion of the existence of Bright's disease. This œdema at one time abruptly manifests its presence, and at another slowly, by complete aphonia, or slight dysphonia. The first symptom which appears is hoarseness; the patient neither coughs nor expectorates; has no feeling of a foreign body; he complains only of slight uneasiness of breathing, and a little oppression at the chest. Very soon he is compelled to make great efforts at inspiration, and after some days the voice is weak and obscure, sometimes altogether lost, and a whisper occurs only with the lips.

No cause can be made out in the patient's history to explain the condition of the larynx. If, however, it is recognized either by a direct examination of the larynx, or by the appearance of an œdematous swelling of the face, or swelling of the eyelids, or general anasarca, the proper

treatment for albumenuria will arrest the progress of the laryngeal affection. If the disease be not diagnosed, it will nevertheless disappear in a few days, because it will have been the consequence of an intermittent albumenuria. On the other hand, when the intermission disappears, and the disease returns in an aggravated form, the obstruction becomes so great that tracheotomy must be performed. Dr. Fauvel cites the particulars of two or three well marked examples, and has seen many patients attacked with aphonia or dysphonia in the best of health, without any other explanation to account for the swelling in the larynx than albumenuria, very sensible traces of albumen being discovered in the urine by the application of nitric acid.

If supra-glottic œdema of the larynx suddenly arise as a forerunner or primary symptom of Bright's disease, its early diagnosis is of great importance, and the profession cannot be too soon made aware of it.—*Lancet.*

ON THE USE OF TEA AS A REMEDY IN COMA.

By James A. Sewell, M.D., L.R.C.S.E., Senior Physician to the Hôtel Dieu Hospital, and Professor of the Practice of Physic at Laval University, Quebec.

Mrs. A. B——, aged 30, has been subject for some years to what she calls "spasms of the heart," for which she, some short time ago, visited Europe, and was treated at different times by Drs. Simpson of Edinburgh, Stokes of Dublin, Trousseau of Paris, and other eminent men in London, Vienna, and Glasgow, but without any effect. Latterly she had been using Battley's sedative solution with more benefit, but as she had no attack for some months, she had discontinued the use of this remedy for about three months. A short time since she was threatened with one of her usual paroxysms, and dreading it very much, she had recourse at once to Battley's sedative solution in two-drachm doses; these doses she continued at intervals till she had taken two ounces and a half in about eight hours. Shortly after the last dose she was seized with a slight convulsion, and almost immediately became comatose. I saw her at two o'clock a.m., two hours after the convulsion, and found her in a state of profound coma; pupils contracted; respirations two in the minute, and performed with a great effort; pulse very rapid, small, and extremely irregular; face deathly pale, ghastly, cold, and covered with a clammy sweat; extremities also cold. It was evident that she was under the narcotic influence of the enormous dose of opium which she had swallowed, and that death was imminent. As three hours had elapsed since

she had taken the last dose, I conceived it useless to use the stomach pump; moreover, in the then state of her respiration, I believe the use of that instrument would have been at the risk of her life. As she could not swallow, an emetic was equally out of the question. I therefore applied extensive sinapisms to the legs and chest, used the cold douche, and applied ice to the head. Having by this time been joined by my friend, Dr. Jackson, I suggested the propriety (while waiting for a galvanic battery) of administering an injection of a pint of the strongest possible infusion of green tea per anum, which was done at a quarter past three a.m. In half an hour there was a visible improvement in the breathing, which was now six in the minute, accompanied by a slight return of color to the face, and a corresponding improvement in the temperature of the cheeks. The coma continued much the same, but encouraged by the improvement in the other symptoms, the injection of tea, to which some brandy was added, was repeated at four o'clock. During the next hour we had the satisfaction of observing a gradual return of the respiration to its normal condition, with an improved state of the pupils, and a corresponding change in the general temperature of the body. She continued to progress favorably, and between five and six o'clock (or about two hours and a half after the first injection), though she could see nothing, she recognized those about her by their voices, and soon after we were enabled to pronounce her out of danger.

This case I consider of great interest taken in connexion with the use of "green tea" as an expergefacient or nervous stimulant. The improvement in the general symptoms followed so rapidly upon the treatment, notwithstanding the enormous narcotic dose taken, that I think I am justified in attributing this lady's recovery to the adoption of the tea. I am aware that neither this remedy nor its application is new, as I believe a case very similar to the above was published in the *Lancet* some two years since, which was successfully treated with "theine;" but while every practitioner has not the active principle by him, the tea itself is accessible to all. I may state that this is the fourth time I have used green tea in cases of coma, and with the best results. My first case occurred about six years ago.

An infant, aged eighteen months, had been forced by its drunken father to swallow three parts of a wineglassful of the vilest whiskey usually sold in the low taverns which infest this city. She shortly afterwards became comatose, in which state I found her in an hour and a half after taking the poison. Her face was pinched and drawn; her extremities very cold; her pupils dilated, and death apparently at hand. With very great difficulty I succeeded in getting into the stomach one teaspoonful of a

strong infusion of tea. This I ordered to be repeated every twenty minutes. On my return I was informed by the mother that after the sixth dose the child had perfectly recovered, and was, as she expressed herself, "as brisk as a bee." My second case was a peculiar and instructive one, as it shows what a powerful agent the remedy under consideration really is.

Mr. S——, aged 40, was suddenly seized with violent convulsions which left him profoundly comatose. In my absence he was seen by one of my medical friends, who considered him dying. On my return home, some three hours afterwards, I visited my patient, and finding him still perfectly insensible, notwithstanding the adoption of the ordinary remedies, I ordered a strong infusion of the tea to be prepared, and directed that he should get one tablespoonful every twenty minutes till my return. This was effected with the greatest difficulty. I saw him again in two hours, when he had taken six doses, and I found him sufficiently recovered to be able to recognize me on my entrance. Finding him so far improved, and not yet fully acquainted with the power of the remedy, I committed a great mistake by making a rule of three case of the matter, reasoning, that if six tablespoonfuls had done so much in two hours, what would twelve doses do in four! I therefore ordered the above-mentioned dose to be continued as before. I returned in about one hour and a half, after my patient had taken four additional doses. On entering the room I found my man (who a few hours before had been pronounced to be dying from coma) a raving maniac. He had destroyed all the delf in the chamber, maltreated the nurse, and struck his wife, of whom he was very fond, and whom hitherto he had always treated kindly. These symptoms of nervous excitement, brought on by an over-dose of the expergefacient, soon passed off, and next day he was himself again.

My third case was that of a young lady, aged 26. One morning, not coming down to breakfast, she was sought for, and found in her bed in a state of profound coma. She was treated for two days by the late Dr. Morin and myself by cupping, croton-oil, sinapisms, &c., but with no change in the symptoms. At this time, although the case was not a promising one, I suggested the tea remedy, which was followed in about three hours by a complete recovery of consciousness.

We are, I believe, indebted chiefly to the late Dr. Graves for the introduction of tea as a nervous stimulant, who recommends its use in the coma of fever, and it is from him I have borrowed its application in the above cases. My experience in the remedy is, as may be seen, not very great; but, so far as it goes, it has been highly satisfactory to myself, and will, I believe, prove equally so to all who will give it a fair trial.—*Lancet.*

Midwifery.

CASE OF PARTIAL RUPTURE OE THE UTERUS.

By J. H. Park, M.D.

On the 4th of July, 1863, I was called in to Mrs. B., in labor with her first child, the midwife being in attendance, but the friends getting impatient. On examination, I found the head presenting—first position; the os about the size of a florin; pains moderate and continuous. The woman was young and strong, but most impatient; and the midwife directed my attention to the peculiar shape of the abdomen, which was greatly protuberant superiorly—in fact, reversing the shape of the abdomen usually found in labor. With the assistance of moderate dilation with the finger, the os fully opened and the head descended, and then remained impacted for an hour at the floor of the pelvis, notwithstanding continuance of the pains. I then applied the forceps, and, having got the head born, succeeded, with great difficulty, in extracting the rest of the body, the uterus apparently giving little or no aid. The abdomen still preserved its original strange appearance, and, on introducing the hand, the whole of the placenta was found firmly adherent to the fundus, the condition being probably caused by several kicks on the abdomen, which (I then learned) the poor woman had received during her pregnancy.

For upwards of an hour my efforts to separate the placental mass were unavaling, not a single portion of it being detached. As my hand was getting quite cramped, I called in the assistance of another practitioner, before whose arrival, however, I succeeded in getting it away.

There was not much flooding, but the woman was considerably exhausted. On again introducing my hand to get the womb to contract properly (there being hour-glass contraction), I was mortified to find what I considered still a piece of placenta hanging from the lower and back part of the uterus. I passed my fingers round it, but used no force, as at its upper part it was continuous with uterine substance. We both were at a loss to account for it, and thought it prudent to call in the assistance of a practitioner of much greater experience than either of us. The placenta was carefully examined, and, though torn, was found to resemble the entire mass. We then each examined the uterus, and succeeded in satisfying ourselves that what we felt hanging down was in reality a portion of the mucous and the muscular walls itself. The tear was from below upwards, and of a semi-circular shape, and must have involved one-half of the thickness of the posterior wall. It felt very like the placenta,

without the lobulated feel of the latter. There can be little doubt that, in the weakened state of the uterus, arising from the inflammation required to produce such extensive placental adhesion, the tear was the result of the violent contraction of the organ itself. Had the direction of the rent been reversed, it would have been a question whether I had not produced it by my efforts at abstraction. The woman was so much exhausted and depressed that a fatal issue was looked for; but, by a liberal use of stimulants and opium, she made an excellent recovery.

The result was not only gratifying to her medical attendants, but must have afforded considerable satisfaction to the husband.

Broughty Ferry. —*London Medical Circular.*

CASE OF OVARIAN DISEASE IN WHICH OVARIOTOMY WAS NOT PERFORMED.

By B. J. Boulton, M.D., L.R.C.S.Ed., Surgeon to the Horncastle Dispensary.

Forty years ago, when a student in Edinburgh, dissecting and learning anatomy under that admirable teacher and excellent surgeon, John Lizars, I was present at his five famous operations of ovariotomy, which, with his characteristic truthfulness, he published, with plates. In those operations the room was heated to 98°. Hot water and flannels were provided to envelope the protruding intestines, for the abdomen was laid open from ensiform cartilage to pubes, or as Lizars, in nautical phrase (he had been assistant-surgeon in the navy), expressed it, "from stem to stern." I was one, amongst other pupils, who took my turn in night and day attendance upon the patients, of each of whom I have a vivid recollection,—of the woman deeply marked with small-pox, in whom the tumor had adhesions so extensive and vascular that no attempt was made to remove it, but who recovered; and also of the fat, pale, flabby young woman, with large omental lobules of fat, who died; and never have I forgotten the dismay depicted in the countenances of those who had diagnosed the case when the operator, with a coolness, which was never disturbed during an operation, looked up, and quietly said, "There is no tumor, gentlemen." This woman died soon after from shock and exhaustion. It was the rule then, as with Professor Simpson now, to support the patients after operation with large repeated doses of opium. Unfortunately in this case it was not known until afterwards that the woman was an opium eater.

There can be no doubt that the results of those cases, in the hands of one of the most bold, skilful, and enterprising operators of the day, and published so faithfully, settled the question of ovariotomy in the minds

of British surgeons of that time, and induced Liston, who had unbounded confidence in Lizars as a surgeon and anatomist, to hurl the epithet, so rich in his own expletives (an epithet quoted so *aplomb* by Dr. R. Lee at the Medical and Chirugical Society), at the heads of those who had the hardihood and the courage to revive the operation.

But with chloroform and all the appliances of modern Surgery, with a method of diagnosis rendered all but perfect, and with the modifications introduced into the operation itself, the question of ovariotomy assumes a very different aspect. In recent discussions upon ovariotomy at our medical societies and in the journals, it appears to me that the condition of patients upon whom the operation is not performed has been almost lost sight of. Those who object to ovariotomy speak as if the disease, which is scarcely ever curable except by removal, is not so dangerous to life or so full of suffering as to justify a hazardous operation. Is this not a most incorrect assumption? In reply, I say that in the course of a long practice I have witnessed the miserable end of about twenty ovarian patients, and venture to bring the following case before the profession, believing it to be by no means an uncommon example of the course of ovarian disease when treated by palliative measures alone. Who that has watched such a case has not noted the steadily progressing decay of his patient: physical suffering and exhaustion dragging her slowly, but certainly, down into death's dark valley, without a ray of that hope which in some other diseases cheers life's last months with promises, delusive perhaps, but none the less welcome?

Miss W. had been a delicate child, with highly gifted mental powers. When young she had been confined to her bed for twelve months for some spinal weakness. These symptoms gradually disappeared, and for about seventeen years she enjoyed health, which if not robust was at least tolerably satisfactory. During this period she menstruated regularly, but painfully. Several years ago she received a severe shock from the breaking off of a marriage engagement which had existed for several years. At first the symptoms pointed to general derangement of health rather than to any particular disease. Soon the catamenia became unequal and somewhat scanty, and very shortly afterwards a hard lump the size of an orange was discovered in the iliac region. This lump, which was tender on pressure, gradually increased in size, and began to press injuriously on surrounding organs. The bladder became irritable, bowels obstinately constipated, while pain and sleeplessness were so distressing that opiates were freely given, any good derived from them being more than counterbalanced by the dyspeptic and nervous symp-

toms induced. Œdema made its appearance, and the patient, unable to walk, was confined to her room.

This was the state of things when the case fell into my hands in January, 1862. In July I tapped one of the cysts, and drew off six pints of thick, dark colored fluid, giving very partial and transient relief. The operation was repeated in November and December of that year, a more thorough emptying being obtained by thrusting a long curved trocar through the septum into a second large cyst. From the first I feared the case was not one suited for an attempt at radical cure; but to make sure on this point, Mr. Spencer Wells came down in consultation.

The girth now at the umbilical level was forty-five inches; distance from ensiform cartilage to pubic syphisis, eighteen inches; from either anterior inferior spine of ilium to umbilicus, thirteen and a-half inches. The general outline of the tumor showed that it was made up of three principal cysts. The liver was pressed backwards and to the right, and a coil of small intestines had been pushed up in front of it. Fluctuation was distinct in each of the large cysts. No crepitus, but considerable pain was felt on pressure over the right side, and also under the left false rib. The uterus was high up, out of reach. Vagina elongated into a funnel-shaped cylinder, and in the recto-vaginal fossa, projecting into both rectal and vaginal spaces, was a large tense tumor, evidently containing fluid, but perfectly immovable. The abdominal integuments were thin; not œdematous, but traversed by large superficial dilated veins.

The abdominal skin was quite immovable from the surface of the tumor. Mr. Wells was of opinion that the case was one in which, owing to the extent of adhesions within the pelvis and to the abdominal walls, ovariotomy could not be performed with any reasonable probability of the patient surviving the operation. He advised the next tapping to be made per rectum. I made the puncture on May 19, and drew off ten pints of viscid, dark-brown fluid. The three cysts evidently now communicated with each other. The tumor, however, remained as high in the abdomen after the operation as before, and the position of the pelvic portion remained unaltered. The operation was repeated through the abdominal wall on June 16.

I may add that Mr. Wells saw the patient at a subsequent period. He still held, against the anxious importunities of relatives, to his former opinion, that any attempt at radical cure was out of the question, and the condition of the parts displayed at the post-mortem proved the correctness and wisdom of that decision.

It is needless to follow the case minutely from week to week. It is sufficient to say that tapping was had recourse to whenever the distension of the sac, causing terrible distress, rendered it necessary. This, during great part of 1863, was once a fortnight, and the fluid accumulated at the rate of a pint per day. As this went on, the general health became more and more impaired. There was constant vesical irritation. Œdema extended from the left leg to its fellow; then to the abdomen and back. Anything approaching to rest was only obtained by chlorodyne. Bed became intolerable. For weeks this poor sufferer passed night and day on the sofa. Emaciation proceeded to the last degree; the respiration was much disturbed with frequent fits of dyspnœa and frantic struggles against suffocation. There was horrible pain sometimes referred to the stomach, heart, or limbs during the last few weeks. She complained constantly of blindness; it seemed to be more of perversion than loss of vision. Persons or large objects near her were always supposed to be on the opposite side, whilst smaller objects (a crumb or a pin) she would pick carefully from the bedclothes. A mind rich in natural gifts and stored with acquired knowledge gave way; a memory of wondrous power became confused; bodily distress, pain, extorted from a weakened brain only the expression of wailing agony and a cry for release, which was answered (quickly at last) on June 16, 1864, the age being 46.

The post-mortem examination at once showed the tumor to be a multilocular cyst of the left ovary, extending upwards to the ensiform cartilage. Its principal cavity, which showed traces of earlier division into several compartments, contained fourteen pints of the usual thick brown fluid. Over the surface of the tumor were, here and there, attached thin walled lobular cysts, the size of a kidney, and filled with clear limpid fluid. The proper covering of the large cyst was for the most part thin from distension; but the whole of its anterior surface was firmly adherent to the peritoneum. In some places, especially in the right iliac region, these adhesions were an inch thick, and so firm that it was with difficulty they could be separated even with the scalpel. The pelvic adhesions were also so strong that force, almost amounting to violence, was required to dislodge the tumor from the cavity. The uterus was almost entirely absorbed; the right ovary appeared healthy; the bladder and rectum congested; liver and other organs tolerably normal.

For the curious in such matters, here are the dates of tapping:—

1862.—July 16, November 6, December 8.

1863.—January 30, March 30, May 6, 19, June 16, July 14, August 3, 17, 30, September 14, 30, October 14, 30, November 13, 27, December 14, 30.

1864.—January 11, February 11, March 30, April 25, May 23.

Twenty-one times on the right of the mesian line; three times on the left; once by the rectum; the quantity of fluid varying from ten to sixteen pints.

This sad picture is not overdrawn. Women have always been ready to undergo the risk of ovariotomy—a proof of their conviction of the gravity of the disease. They know now pretty generally that there is a rescue for them, and they are clamorous to be relieved. That alone will not sway or mislead the judgment of a conscientious surgeon. Yet the question does press, What is to be done with ovarian disease? Is every case to be left to its certain fate?

Let any man of long experience in female diseases recall his ten, fifteen, or twenty cases of ovarian dropsy, each with its ten, twenty, or thirty tappings. Can he be satisfied with this wretched temporising process? with death most surely in the distance. In one case I tapped thirty-two times. It is my firm belief that the cyst was uniocular, without adhesions or complications, and that at the present day it would have been considered easy of removal. The patient died of marasmus and exhaustion. I cannot at this moment recollect a single ovarian patient dying of any other ailment. What are the risks of ovariotomy? Incorrect or uncertain diagnosis? Peritoneal inflammation? Is the diagnosis of a tumor in the belly so much more difficult than of a large tumor of the neck, with its deep attachments and belongings? What surgeon of any eminence would be deterred from the most tremendous operation for the removal of a tumor of the jaw, neck, or axilla, in the vicinity of large nerves and vessels, for fear of after consequences? Even large cancerous masses are often removed with the hope of prolonging life, although the disease is certain of return. But the ovarian operation of my early days is shorn of its horrors. Last May twelvemonth I saw an ovarian tumor skilfully removed by Mr. Spencer Wells at the Samaritan, from a girl of 19, who perfectly recovered; and Mr. Wells showed me at the same time a still younger girl, perfectly well, from whom he had removed one ovary. A woman of 60, in whose case there had been extensive adhesions to deal with, joyously recovering; and a poor emaciated creature with diseased lungs, nearly heart-broken, when told she must go out with what relief tapping could afford her. Surely no reasonable man will be content henceforward to leave every case of ovarian disease to its fate. The disease itself will attract more attention; will come earlier under medical inspection; we shall have more correctness of diagnosis; greater care and discrimination in the selection of cases; we have chloroform to prevent shock and pain; a more limited incision; no exposure

of intestines or other organs; little or no risk of fluid escaping into the abdomen; and the wound healing like a cut finger, hundreds of lives ought to be preserved.

If the resection of a deformed or diseased joint with shortening of the limb be held to redound to the honor of modern surgery, much higher distinction awaits those zealous attempts, now being so successfully made, to render safe the removal of a horrid incubus peculiar to the best part of creation—an incubus occurring at any age from 16 to 60, not in itself malignant, but which by its four or fourteen years of protracted suffering, saps the foundations of the vital powers, unfits a woman for all the active and social duties of life, deprives her of every solace and enjoyment, and which in the end most certainly kills.—*Medical Times and Gazette.*

Materia Medica and Chemistry.

ON THE THERAPEUTICAL APPLICATIONS OF THE SOLUTION OF PERMANGANATE OF POTASH AND OF OZONE.

Dr. Jackson, of the University of Pennsylvania, having ascertained that the disinfecting and deodorizing properties of the solution of permanganate of potash had been established, determined to test its therapeutical action and practical application. He found, by experiments on himself, that the solution had no proper taste, but gave a sensation of coolness in the mouth, leaving behind a slight styptic feeling and dryness which continued for an hour or more. When taken in the dose of a teaspoonful, slightly diluted, two or three times a day, it caused no inconvenience, but it was somewhat diuretic, and increased the appetite. He prescribed the solution in a case of dyspepsia, attended with loss of appetite, disordered digestion, and extreme lassitude. The patient was directed to take a teaspoonful in half a wineglassful of water four times a day, and in a few days he was quite well. Four cases of a similar character were treated in the same manner, with a rapid and successful result. Dr. Jackson relates other cases in which the solution of the permanganate was equally beneficial, one being a case of abnormally large secretion of urine. But the most remarkable and almost marvellous effects of this salt are observed in the treatment of gangrenous wounds, and for this purpose it has been employed in several of the hospitals of the United States. Having thus proved the decided therapeutic action possessed by this substance, Dr. Jackson endeavored to ascertain its active principles, and with this view he tested it for ozone, which he

found in great abundance. He regards the solution of permanganate of potash as containing, besides the salt itself, ozone (which is an allotropic form of oxygen) and the peroxide of hydrogen, which may be regarded as water in combination with *antozone*, another allotropic form of oxygen. These bodies possess the power of arresting the process of disorganization in living tissues, and arousing the vital action in decaying structures.—*The American Journal of the Medical Sciences.*

ON THE ACTION OF BROMIDE OF POTASSIUM IN INDUCING SLEEP.

By Samuel R. Percy, M.D.

An article on this subject appeared in the *London Lancet* for May 28, by Dr. R. Behrend, in which cases are given showing the sedative effects of this remedy when given in large doses. Dr. Behrend was induced to use this remedy by the recommendation of Dr. Brown-Séquard. Garrod, in his Lectures on the New British Pharmacopœia, also mentions that bromide of potassium, in large doses, induces drowsiness.

I have had several opportunities to try this medicine for the purpose of inducing sleep, and will give a few cases in point:

Case 1.—Mrs. H., æt. 40. This lady has been troubled for about ten days with a teasing, irritative pharyngeal cough, much aggravated at night time, rendering it impossible for her to lie down. The fauces, the palate, and the whole pharynx were highly congested. Topical and general remedies were used for several days, with but partial and temporary relief. Upon the same evening that I first read this paper of Dr. Behrend's, I gave this lady one drachm of the bromide of potassium in one ounce of water at bedtime, inducing her to hold it for some time in the mouth and gargle the throat with it before swallowing it. The remedy had a most happy effect; she slept comfortably till about four o'clock in the morning; she then repeated the same dose, and slept till after ten o'clock. At four p.m. she took one drachm of the bromide in a tumblerful of water, and slept an hour on the sofa. At ten o'clock p.m. another drachm of the bromide was taken, washing the mouth and gargling the throat well before swallowing the solution. She had a comfortable night, free from the irritative cough. In the next fifty-six hours four drachms more of the bromide were taken, making eight drachms in seventy-two hours. She had no headache or other unpleasant symptoms; the bowels were free; the urine secreted in large quantities; the irritation of the pharynx had entirely subsided.

Case II.—A young lady, æt. 18, was attacked during the night with

rigors, followed by tumultuous action of the heart, and palpitations. When I first saw her in the morning she had general febrile symptoms, but her greatest complaint was of an intense, burning, pungent heat and pain, almost circumscribed between the seventh and ninth ribs, and extending up over the pectoralis major, and over the whole of the left breast. The clothes were all loose upon her, as she said she could not bear them to press against her on the left side, nor could she lie for a minute upon that side; the left mamma was swollen, the nipple erectile, reddened, and tender. Late in the afternoon vivid red patches had made their appearance between the seventh and eighth ribs, being first noticed near the spine, and each one becoming developed by precursory lancinating pains. The breast was also entirely circumscribed by three distinct vivid patches, the first one appearing about two inches below the nipple, and the others appearing consecutively, circumscribing the breast and meeting the line of the same distinct patches that was at the same time forming between the ribs. I had an opportunity to witness the invasion of this acute attack of *herpes zoster*, for such it proved to be, induced no doubt by sleeping during a warm night with the windows open, and with but one garment upon her. She passed a restless and sleepless night, and was unusually nervous and irritable during the next day. At bedtime I gave her a drachm of bromide of potassium in a tumblerful of water; it relieved the nervous irritability, the itching, burning heat of the herpetic eruption, but she did not sleep. At one o'clock a. m. I repeated the dose of one drachm of the bromide. In half an hour she was asleep, and slept comfortably until nearly eleven o'clock the next morning, awaking very much refreshed and relieved. Half-drachm doses of the bromide were given every four hours, if awake during the next three days, when it was discontinued, as no medicinal treatment was needed. The disease progressed favorably; desquamation took place on the sixth day.

Case III.—A low, vulgar servant woman had left her place of service and gone on a spree, which she had continued until she was brought up by an attack of delirium tremens. She had been treated for four days before I saw her with opium in large doses, without inducing sleep. The pupils of the eyes were intensely contracted from the effects of the opium. I gave a drachm of bromide of potassium; it did not induce sleep, but relieved the intense itching of the face caused by the opium. In three hours I repeated the drachm of bromide; it had the effect of quieting her, and she lay passively upon the bed, but she did not sleep. They told me she had not passed any water for three days. I did not like to repeat the bromide if this was the case, fearing that I might produce congestion of the kidneys. She endeavored to urinate, but could pass none. I used

the catheter, and removed, I should think, nearly two quarts of urine. I immediately gave another drachm of the bromide, and within an hour she was fast asleep, from which, after eight hours, she was aroused with great difficulty. The pupils of the eyes were still much contracted, and a great part of the opium was undoubtedly yet in the system.

I have presented these three cases, showing the action of bromide of potassium in acute diseases; I could present other cases showing its action in sub-acute or chronic disorders, but such cases would much resemble those already described by Dr. Behrend.

One important question arises in the administration of these large doses—Is there no fear of producing congestion of the kidneys? We know that there is danger of this result with nearly all soluble saline substances when administered in large doses, especially large doses frequently repeated. Tully's numerous cases of the administration of chlorate of potash in large doses are instances in point. The death of Dr. Fountain by a large dose of the same medicine, is still more *apropos*. I have seen many instances of death (while experimenting upon animals) from congestion of the kidneys, where, without post-mortem examination, death might be attributed to other causes; and I have thus learned to watch most carefully the secretion of urine while administering medicines that are readily absorbed and are chiefly carried off by renal secretion. Dr. Behrend says:—" Dr. Brown-Séquard has informed me that he has given it with perfect safety for several successive weeks in drachm doses." I have not administered it so frequently or so persistently as this; but I have seen two instances in which I had to discontinue the medicine, owing to its irritative action on the kidneys. In both of these instances it had but little sedative action.

What is its *modus operandi?* I confess to a certain extent to have used this remedy experimentally, but having most excellent authority for doing so; for whatever Dr. Brown-Séquard "has used with perfect safety and success for several weeks," and has recommended to his friends, cannot, I know, be attended with much danger if administered by skilful hands. From the small experience that I have had with bromide of potassium in large doses, it seems to me to be eliminative in its general action, but to act specially as a nervous sedative. Further researches and experiments upon animals are necessary to determine its exact *modus operandi.* —*American Medical Times, New York.*

Canada Medical Journal.

MONTREAL, OCTOBER, 1864.

The last number of this journal contained an article headed "The Lungs of Cities," a subject of all importance in a sanitary point, and one which having a public bearing is in all earnestness recommended to the consideration of our City Council. The question of the desirableness of a park has been mooted, and we trust the scheme will be carried through with public spirit, having in view the general good of the entire city, without reference to those sectional differences, which appear to divide the councils of our corporation.

What is good for the eastern section of the city is equally necessary for the west. It is in every way, therefore, desirable that no contracted views shall guide those chosen for the work in selecting a proper site, and that the saving of a few hundred pounds will not have any weight in obtaining suitable and sufficiently extensive grounds for this purpose.

It should be borne in mind that this is a matter which will affect the comfort and healthfulness of our city; it is to be hoped, therefore, that no narrow-minded policy will be adopted in a matter which will be judged of by coming generations. In connection with the subject of pure air, we propose to say a few words on the pernicious system of overcrowding buildings. It is the custom here as elsewhere to cover every patch of ground with houses. Persons with small means acquire a piece of ground and as a matter of speculation cover every inch with dwellings, dwellings of such a class that no person who can do otherwise would occupy them. These wretched tenements are forced upon the poor man at a rental considerably greater in proportion than what is paid by his more fortunate neighbor, who, from having larger means, can afford greater luxuries in the way of house accommodation. The system of over-crowding dwellings is exceedingly pernicious; it acts upon the air and healthfulness of entire districts, so that the necessities of the poor affect the comfort and safety of the rich. This is no idle theory, but one capable of demonstration, to any person of ordinary intelligence. In passing through

the crowded districts of our city, the air is foul, pestiferous, redolent with unhealthy odors; can it be wondered that such a state of things is followed by disease and death? Pass into the houses, and possibly you may hear the moaning cry of a sickly or dying infant; enquire the cause, you will be told it is the teeth or worms, or some such disease; it may be this is their only child, the mother having borne a large family, and all have died from the same cause. It has frequently been our lot to visit such localities, and hear these doleful tales from the inmates; we have met with cases where the parents gave every indication of robust health and to whom a family of ten children had been borne, but not one of them survived; all were dead, had died before they were two years old, some before they were two months. These facts contain a moral which should be carefully studied and acted upon. If, in spite of advice given in a kindly spirit, persons are found so doltish, so positively wicked as to persist in a course acknowledged to be erroneous, then we say it becomes the duty of those in authority to limit their operations. These parties are preying on the lives of their fellow beings, actually grinding money out of the misery and necessity of the poor man. The citizens of Montreal pay in cheerfully large amounts each year to the city chest: in return they look for a proper and judicious expenditure of these means, that they may be supplied with the necessaries of existence. Drainage, water, passable roads, and light are indispensables; are not health, comfort, cleanliness, and pure air equally so? If, by permitting the building tier on tier and back to back houses in back yards, courts, &c., the air and healthfulness of the entire city is affected, is it not our duty to cry out against such things, pointing out the fearful consequences, and is it not equally the duty of those who have the power, to legislate upon and stop this evil. After the fire of 1852 the corporation passed a bye-law whereby in future all buildings shall consist of stone or brick, and be covered with tin, sheet-iron, or some fire-proof material. We have just passed through an epidemic of scarlet fever and small pox. Few indeed were the homes uninvaded by one or other of these fearful maladies. We do not pretend to tax the occurrence of these epidemics on these crowded courts; still, it is a matter of observation that wherever either disease occurred to the inhabitants of these houses, or in the neighborhood, it generally assumed a more virulent type. It becomes, therefore, a fitting opportunity for the corporation to consider the subject of crowding buildings, and limit their number according to the size of the ground.

There are certain laws laid down by the Creator which govern these things; any deviation therefrom is visited by plague and pestilence, not as a judgment but simply on account of the laws being ignored. The Almighty

does not step aside to visit a community with his wrath, unless, by the neglect of certain known laws, they earn for themselves such visitation.

There is little doubt that the London of 1664 needed the visitation of plague, pestilence, and fire to make it the London of 1864. We write with a view of calling public attention to this subject and of endeavoring, if possible, to force on our city the adoption of a code of sanitary regulations.

PHYSICIANS' FEES.

The rapid advance in everything, which our neighbors of the United States have had to submit to, owing to the depreciation of their currency, has at last told upon the medical profession, and the result has been a corresponding advance in the scale of charges for professional visits and consultations. In Boston the Medical Association has fixed the following tariff. For a visit in any case, $3 to $5. Visits in regular attendance (medical, surgical, or obstetrical) $3; extraordinary service, detention, or unusual responsibility, the fee to be proportionately increased; consultation visit, $5 to $10; visit between 9 a. m. and 8 p. m., $5 to $10; for attendance out of the city, mileage to be charged for short distances, $1 to $2, and on railroads from 50 cents to $1 per mile. Office advice, $3 to $20; for opinions involving questions at law, in which the physician may be subpœnaed $50; for detention in court on matters involving a professional opinion, $50 a day; obstetrical attendance, $24 to $60, with extra charges for detention, consultations, or obstetrical operations.

Other portions of the United States have made the same move, and there is no doubt but that it must become universal. In our own city for the last twenty years, living has slowly though steadily increased, till at this moment the necessaries of life are fully double what they were then; and we presume, at all events to some extent, that this is applicable to every city in the Province, and, in a lesser degree, in the country. Physicians' charges in Montreal are about as varied as they well can be, and we think the profession is unmindful of its own interests, when they allow it so to continue. Some seventeen years ago the Medico-Chirurgical Society of Montreal adopted and published a tariff of charges, which is now almost totally disregarded. What we consider essential is a thorough understanding among medical men, as to the charges to be made for professional services, and a strict adherence to them. We have frequently heard it mentioned by junior practitioners, that it is a constant source of worry and annoyance to them after presenting a bill for attendance, which, according to the supposed charges

was just and reasonable, to be informed "that Dr. So-and-So attended Mr. ——— 's family, where he had a much longer attendance, and his bill was not much more than half of yours." This is unjust to those who are struggling to gain a foothold in the profession, and we think it would not be unbecoming in the senior practitioners to thoroughly revise the medical tariff, and adhere strictly to it when adopted.

A coroner's inquest was held recently at Ely, County of Bedford, on the body of a young woman who died suddenly, supposed to have been from poison.

It appears that a Mr. Violatti, a Frenchman, settled as a farmer in Ely in 1850; since that period, from being a man considerably above the mass in point of education, he has occasionally performed the duties in his immediate *voisinage*, of doctor, notary, magistrate, secretary to the municipality, sheriff, &c., &c. Mr. Violatti, who formerly studied and practised medicine in France, has had such success with his patients as to have acquired the confidence of the public, and appears to have had a large number of patients.

We are told by the Défricheur that having been called to the young woman who was very ill he gave a dose of medicine which was poisonous, and, half an hour after taking it, she died. The particular drug used in this case is not indicated. A verdict was rendered to the effect that the deceased came to her death through poison administered by Mr. Violatti, and the coroner's warrant was issued for his arrest. In the absence of all evidence, as to the description of poison used, its quantity, and proofs of its existence in the stomach, the case must break down.

The *London Observer* notices a new preparation of paper, the uses of which are at once novel and unique. Tubes made of this paper answered the purpose for rocket firing, standing the test, and being much lighter, are deemed more suitable than those made of metal. Slabs of this paper one inch thick when tried by bullet and ball were found to offer a resistance equal to ten inches in thickness of solid oak. The difference being in favor of the paper in other respects, a projectile passing through the paper makes a clean round hole, whereas, in the case of the oak, the wood is fractured and torn in all directions. The slabs or boards are easily fixed to the framework of ships, and are well adapted for the purposes of shipbuilding. The advantages over timber or iron are, that they are non-absorbent, they do not require copper sheathing to prevent fouling,

as neither animal nor vegetable life flourishes on their surface; furthermore they are incombustible, and if struck forcibly they will bend or be bulged in without fracture. Above all, this paper has the advantage over timber and iron in the matter of cost. M. Szerlemy, the inventor, is now engaged in the construction of light field-pieces for mountain warfare, which are expected to answer every purpose.

THE SANITARY COMMISSION OF THE UNITED STATES ARMY—ITS WORKS AND PURPOSES.

This work, embracing about 300 pages, has been in our possession some weeks, and its perusal has given us not a little pleasure. The idea of a Sanitary Commission is not an original one with our neighbors, but is borrowed from ourselves. Who can forget that terrible winter of the Crimean campaign, when our brave troops were melting away; when the mortality had reached the fearful aggregate of 97 per cent. and which, owing to a Commission somewhat similar to this, was reduced to 1 per cent? The United States Commission is indeed a vast one—giving advice—and supplementing relief. Whatever may be our political feelings with regard to this fearful strife, we can but sympathise with this Commission in its labors to alleviate the horrors of a war which we hope may soon be brought to a close.

MEDICAL NEWS.

General Cameron, commanding the forces in New Zealand, in a dispatch thus speaks of the courage displayed by three medical officers during the recent engagement with the Maories: "I must particularly mention the valuable services of Deputy Inspector General Mowat, Surgeon McKinnon, 57th Regt., and Assistant-Surgeon Maulay, R. A., who fearlessly exposed themselves to fire in attending the wounded, the greater part of whom fell close to the enemy's works." — A monument is being erected at Netley, near the Royal Victoria Hospital, to the memory of the medical officers, seventy in number, who lost their lives on service during the Crimean campaign. It will be fifty feet high. The foundation stone was laid by the Prince of Wales on the 8th of August.

Dr. Livingstone has arrived from Africa. — Professor Pope of St. Louis recently removed a fœtal skeleton of extra uterine formation through the rectum, and the patient recovered. — The London College of Physicians has decided to grant its Diplomas only to persons

who pass its examinations. — A private of Her Majesty's 19th Regt. in India, has been sentenced to penal servitude for life, for striking an Assistant Surgeon. — The officers last quarter condemned a little over twenty-seven tons of meat, in London, as being unfit for human food. — Dr. Hicks, of Kentucky, mentions that he saw a man who was shot, the ball passing through the left ventricle of the heart, *who was moved four miles, and lived forty-eight hours,* and was perfectly rational. The nature of the wound was revealed by a post mortem examination. — During the epidemic of Small Pox last winter in London, the number of patients admitted into the Small Pox Hospital was 1537. The deaths among the un-vaccinated was 47 per cent.; among the vaccinated 9.9 per cent. The mean death rate, extending over a series of years, amongst the un-vaccinated has been 35 per cent., among the vaccinated 6¾ per cent.

Dr. Mapother, Professor of Hygiene at the College of Surgeons, Ireland, has been appointed health officer for the city of Dublin. The salary is 100 guineas. His duties will be to direct the labor of the inspector of nuisances and his two assistants, when any nuisance to the public health may arise; to advise the city in taking means to prevent disease, and furnish a weekly list of the causes of death.

The Contagiousness of Consumption is the subject of a paper read before the Boston Society for Medical Improvement, April 18, 1864, by Henry L. Bowditch, M.D. His investigations lead him to believe that consumption is not *contagious* in the usual acceptation of that word, but that it may be *infectious* to a certain extent; so that, by long and constant attendance upon those sick with this disease, and living in an atmosphere loaded with the emanations from the lungs of such patients, the health may be undermined, and phthisis set in. For this reason he would warn a wife, or a sister, or a near female friend, from too close a devotion to a consumptive husband, sister, or friend. Sleeping in the same bed, or even in the same room with the sick one, should be avoided. The attendant should pay strict attention to hygienic rules, especially as regards diet and frequent exercise in the open air.

Anæsthesia from Chloroform prolonged by the Hypodermic Injection of Morphia.—Professor Nutbaum, of Munich, reports a number of cases of anæsthesia being prolonged from eight to twelve hours by injecting beneath the skin, while the patient is under the influence of chloroform, one grain of the acetate of morphia. The patient sleeps, breathing regularly and calmly, during the most severe and prolonged operation, and finally awakes as if he had just passed through a chloroform narcotism.

MORTALITY OF THE CITY OF MONTREAL IN JULY, 1864.

Compiled from the Cemetery Returns, by G. E. Fenwick, M.D.

Mount Royal Cemetery.

Disease.	Male.	Female.	Total.	Still-born.	Under 2 years.	From 2 to 10.	From 10 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	Over 100 years.	Centre Ward.	West Ward.	East Ward.	St. Antoine.	St. Ann.	St. Lawrence.	St. Louis.	St. James.	St. Mary.	Not of Montreal	Native Born.	Foreign.
Still-born	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..
Infantile Debility	6	3	9	..	9	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	2	1	2	1	2	9	..
Senile Debility	3	2	5	..	..	..	..	..	..	..	..	1	2	1	1	..	..	..	..	2	1	..	1	1	..	..	4	1
Small Pox	2	1	3	..	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	2	1
Measles	1	2	3	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	3	..
Scarlet Fever	2	9	11	..	3	8	..	..	..	..	..	..	..	..	..	..	..	..	..	1	7	..	2	1	..	..	7	4
Fever	..	1	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
Inflammation of Brain	6	1	7	..	4	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	2	..	..	1	..	5	2
Apoplexy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Paralysis	..	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..
Croup	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Hooping Cough	1	5	6	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	1	..	..	1	..	6	..
Diphtheria	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Inflammation of Lungs	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	1	1	3
Consumption	..	4	4	..	..	..	1	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Disease of Heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	1	..	..	..	4	..
Inflam. of Bowels	1	4	5	..	1	..	1	1	1	1	..	..	..	..	..	..	..	..	..	1	4	4	4	3	..	2	17	4
Diarrhœa	11	7	18	..	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	2	..
Cholera	2	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Aphthœ	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Disease of Liver	..	1	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1	1	..	1	..	..	1	3
Dropsy	3	1	4	..	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	3
Gangrene	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Cancer	..	2	2	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	2
Accidental	3	..	3	..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	1	2
Total	45	46	91	1	49	15	3	2	2	5	5	2	5	1	1	..	1	1	1	13	24	20	13	10	2	6	61	30

Roman Catholic Cemetery.

Disease.	Male.	Female.	Total.	Still-born.	Under 2 years.	2 to 10 years.	From 10 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	Over 100 years.	Centre Ward.	West Ward.	East Ward.	St. Antoine.	St. Ann.	St. Lawrence.	St. Louis.	St. James.	St. Mary.	Sœurs Grises.	Not of Montreal	Native Born.	Foreign.
Still-born	6	2	8	8	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	2	2	2	8	..
Infant. Debility	112	96	208	..	208	..	..	..	..	..	..	..	..	..	..	..	..	1	1	16	16	6	11	23	28	73	33	190	18
Senile Debility	10	6	16	..	..	..	..	..	..	..	..	..	6	..	3	..	..	..	..	3	2	..	1	2	1	1	6	11	5
Small Pox	23	24	47	..	23	20	2	1	..	..	1	..	..	..	..	..	..	..	..	3	3	4	2	21	7	7	7	36	11
Scarlet Fever	12	17	29	..	7	21	1	..	..	..	..	..	..	..	..	..	..	..	..	1	8	3	6	2	2	2	7	18	11
Fever	2	3	5	..	..	3	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	3	..	..	5	..
Inflam. Brain	5	2	7	..	3	3	..	1	..	..	..	..	..	..	..	..	..	..	..	2	1	2	..	..	2	..	..	2	5
Paralysis	4	2	6	..	..	..	1	..	1	1	1	2	..	..	..	..	..	..	..	1	..	..	..	4	1	..	..	4	2
Croup	2	2	4	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	1	2	2	2
Hoop'g Cough	..	2	2	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	1	1
Consumption	6	18	24	..	..	1	4	8	5	4	1	1	..	..	..	..	..	..	..	1	2	6	1	6	2	1	5	8	16
Disease Heart	1	1	2	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	1	1
Dentition	11	22	33	..	33	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	6	4	4	2	2	..	8	27	6
Inflam. Bowels	2	1	3	..	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	3	..
Worms	..	2	2	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	1
Diarrhœa	16	12	28	..	25	..	..	1	1	..	..	..	1	..	..	..	..	..	..	5	..	3	3	8	6	..	8	24	4
Disease Kidney	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..
Dropsy	1	3	4	..	..	..	..	1	..	..	1	2	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	4	..
Gravel	1	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Erysipelas	..	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..
Rheumatism	..	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	2	..
Abscess	..	2	2	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Cancer	1	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	1	1
Childbirth	..	2	2	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Accidental	10	2	12	..	..	3	2	3	3	1	..	..	..	..	..	..	..	..	2	3	3	3	..	..	..	1	6	6
Total	226	223	449	8	299	61	10	17	13	7	6	8	10	7	3	..	1	..	1	42	46	35	35	70	63	76	60	358	91

MORTALITY OF THE CITY OF MONTREAL IN AUGUST, 1864.

Compiled from the Cemetery Returns, by G. E. Fenwick, M.D.

Mount Royal Cemetery.

Disease.	Male.	Female.	Total.	Still-born.	Under 2 years.	From 2 to 10.	From 10 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	Over 100 years.	Centre Ward.	West Ward.	East Ward.	St. Antoine.	St. Ann.	St. Lawrence.	St. Louis.	St. James.	St. Mary.	Not of Montreal	Native Born.	Foreign.
Still-born	5	3	8	8													1			2	3		1			2	8	
Infantile Debility	4	5	9		9															1	1	2		2		2	9	
Senile Debility	1	1	2											1	1						1		1					2
Small Pox	1		1			1															1						1	
Measles																												
Scarlet Fever	3	2	5		3	2														1	1	1	1			5		
Fever	4	1	5		2	1		2												2	2				1	3	2	
Inflammation of Brain	5	3	8		1														1	2		1	1	1	2	3		
Apoplexy	1		1					1													1					2		
Croup	2		2		1	1															1		1			2		
Hooping Cough		2	2		1	1											1				1						1	
Diphtheria	1		1				1																1				1	
Consumption	4	4	8			3		2	2	1							1			1		1	2	1	2	5	3
Disease of Heart	1		1						1														1				1	
Inflam. of Bowels	4	2	6		3	1		1				1								1	2				1	4	2	
Diarrhœa	2	5	7		7															2	1	1	2		1	7		
Cholera	1		1		1																	1				1		
Disease Liver	1		1							1															1		1	
Dropsy	1		1										1										1				1	
Cancer																												
Erysipelas																												
Tetanus		1	1						1														1				1	
Child birth																												
Accidental	4	1	5		1	1	1					1								2	1		2			2	3	
Total	45	30	75	8	36	9	5	5	2	4	1	3	1	1			3		1	12	15	9	12	9	2	12	58	17

Roman Catholic Cemetery.

Disease.	Male.	Female.	Total.	Still-born.	Under 2 years.	From 2 to 10.	From 10 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	Over 100 years.	Centre Ward.	West Ward.	East Ward.	St. Antoine.	St. Ann.	St. Lawrence.	St. Louis.	St. James.	Sœurs Grises.	Not of Montreal	Native Born.	Foreign.
Still-born	6	2	8	8																1	2	2	1			2	8	
Infant. Debility	97	75	172		172												1		1	11	14	4	13	29	23	53	23	157	15
Senile Debility	3	3	6										2	2	1	1					1							5	1
Small Pox	16	11	27		8	18	1														6	1	1	14	1		4	23	
Measles	2	2	4		2	2														1					2		1	4	
Scarlet Fever	8	15	23		9	14														3	7	1	4	3	3		2	18	5
Fever	1	4	5			2	2	1														1	1	1	1		1	4	1
Inflam. Brain	2		2		1	1															2							1	1
Apoplexy	2	2	4						2		1	1								1	1	1	1				3	1	
Paralysis	3	1	4								3	1								1		1				1	4		
Epilepsy	2		2						1	1											1	1					1	1	
Croup		1	1			1														1							1		
Hooping Cough	2		2		2														1						1		1	1	
Diphtheria	1	1	2			2															1					1	1		
Inflam. Lungs	2		2			1	1														1				1		2		
Consumption	7	11	18			1	2	8	5	1		1					1	1	1	1	3	5	2	4			11	7	
Disease Heart		2	2					1			1										2						2		
Dentition	27	23	50		50															1	6	14	1	2	10	9	7	43	7
Inflam. Bowels	3	5	8			1	1		1	1	3	1									1	2		1	1	2	1	6	2
Diarrhœa	27	28	55		48	4		2	1											11	7		7	6	15		9	45	10
Disease Liver		1	1						1													1						1	
Dropsy	2	6	8			1			1	3	2	1									1	4	1			1	1	7	1
Cancer		1	1								1																	1	
Childbirth		2	2					1	1												1		1					2	
Accidental	8		8			1	2	1			3	1								1		1			2		4	4	
Total	221	196	417	8	292	49	8	15	11	8	10	8	4	2	1	1	2	1	4	38	64	26	36	73	61	55	57	341	70

ABSTRACT OF METEOROLOGICAL OBSERVATIONS,

Taken at the Montreal Observatory, Latitude 45° 31′ N. Longitude, 4h. 54m. 11s. W. of Greenwich. Height above level of the Sea 182 feet. For the month of July, 1864.

BY CHARLES SMALLWOOD, M.D., LL.D., D.C.L.

Day of Month.	Reading of the Barometer, corrected, and reduced to 32° F.			Reading of Thermometer.			Mean Tension of Vapor.	Mean Humidity of the Atmosphere.	General direction of Wind.	Horizontal movement in 24 hours in miles.	Mean extent of Clouds in 10ths.	Depth of Rain in inches.	Depth of Snow in inches.	Ozone in 10ths.	Weather, &c.
	Highest	Lowest.	Mean.	Max.	Min.	Mean									
	Inches.	Inches.	Inches.												
1	29.774	29.761	29.766	82.1	63.1	72.1	.632	.804	W	46.70	6.9	....	....	0.6	
2	.624	.502	.562	68.2	64.2	66.0	.591	.897	N E	120.98	6.0	0.047	....	0.1	Rain.
3	.579	.571	.574	77.4	61 4	71.7	.648	.849	S W	46.60	6.0	....	....	1.0	
4	.724	.578	.674	76.7	56 2	68.6	.868	.809	W by S	102.09	2.6	....	....	0.6	
5	.802	.677	.757	80.1	57.2	71.2	.614	.791	W	81.37	1.3	....	....	0.1	
6	.760	.698	.724	87.9	59.1	70.2	.580	.789	W	176.39	3.3	....	....	1.0	
7	.747	.679	.715	84.2	59.2	76.3	.668	.758	W	21.91	0.6	0.052	....	0.5	Rain.
8	.821	.741	.778	89.4	58.0	71.3	.664	.763	N E	180.30	0.6	....	....	0.0	
9	.887	.800	.843	90.4	59.0	78.9	.763	.749	W	126.33	1·3	....	....	0.1	
10	.750	.572	.674	92.1	64.2	79.7	.764	.756	S W	100.76	6.6	Inapp	....	0.6	Rain.
11	.564	.541	.535	89.7	66.0	77.4	.733	.802	W S W	93.06	6.6	0.864	....	1.3	Rain.
12	.722	.655	.682	75.2	65.2	70.7	.610	.819	W S W	363.97	8.0	0.211	....	0.6	Rain.
13	.898	.840	.865	93.4	61.2	78.7	.705	.696	W	48.64	0.0	....	....	0.1	
14	.993	.950	.973	94.1	64.2	83.5	.782	.679	W S W	30.06	2.6	....	....	0.5	
15	.958	.942	.949	96 4	68.2	84 7	.786	.649	S W	53.82	1.3	....	....	0.0	
16	.874	.800	.847	86.8	64.0	78.8	.715	.748	S E by E	89.08	0 0	....	....	0.0	
17	.994	.872	.925	95.9	63.4	82.0	.761	.698	N E	120.20	0.0	....	....	0.0	
18	30.062	.954	30.004	91.0	63.6	81.6	.750	.684	W	217.74	0.0	....	....	0.0	
19	29.976	.879	29.917	90.3	64.1	85.1	.784	.647	S E	45.89	0.0	....	....	0.0	
20	.680	.533	.597	88.2	70.1	80.5	.728	.713	S W	173.81	0.0	....	....	0.0	
21	.818	.796	.808	75.2	55 4	67.3	.503	.752	N by W	180.05	6.6	0.037	....	0.8	Rain.
22	.799	.766	.785	64.3	49.7	60.8	.441	.767	W by N	196.67	7.6	....	....	0.6	
23	.751	.711	.730	80.0	49.7	71.1	.881	.749	S W	215.87	0.0	....	....	0.1	
24	.782	.764	.772	84.6	64.1	76.5	.681	.762	W S W	111.00	0.0	....	....	0.0	
25	.852	.739	.812	79.3	58.2	70.0	.506	.770	N E	241.28	0.0	....	....	0.1	
26	.674	.547	.613	79.8	58.0	71.2	.581	.768	N by W	74.30	10.0	0.084	....	1.0	
27	.802	.676	.754	87.7	59.9	76.7	.666	.736	S W	172.54	3.3	....	....	0.3	
28	.808	.600	.719	82.1	58.2	77.8	.636	.727	S W	73.30	10.0	....	....	0.3	
29	.617	.572	.594	78.4	58.0	69.8	.535	.749	N W	120.18	3.3	....	....	1.6	
30	.555	.547	.551	91.4	58.4	79.6	.767	.770	S W	65.98	0.5	....	....	0.3	
31	.690	.577	.646	94.3	62.1	82.5	.790	.708	S W	14.71	0.0	....	....	0.0	

Barometer.. Highest, the 18th day, 30.062 inches.
Lowest, the 2nd day, 29.502 "
Monthly Mean, 29.782 "
Monthly Range, 0.560 "

Thermometer Highest, the 19th day 96°3.
Lowest, the 22nd day, 49°4.
Monthly Mean, 75.19.
Monthly Range, 46°9.

Greatest intensity of the Sun's rays, 112°9.
Lowest point of Terrestrial radiation, 47°4.
Mean of Humidity, .766.
Rain fell on 6 days, amounting to 1.295 inches, it was accompanied by Thunder on 2 days.
Most prevalent wind, S. W.
Least prevalent wind, S. E.
Most windy day the 12th day. mean miles per hour, 15.17.
Least windy day, the 31st day, mean miles per hour, 0.61.
Amount of Evaporation 3.46 inches.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS,

Taken at the Montreal Observatory, Latitude 45° 31′ N. Longitude, 4h. 54m. 11s. W. of Greenwich. Height above the level of the Sea 182 feet. For the month of August, 1864.

BY CHARLES SMALLWOOD, M.D., LL.D., D.C.L.

Day of Month.	Reading of the Barometer, corrected, and reduced to 32° F.			Reading of Thermometer.			Mean Tension of Vapor.	Mean Humidity of the Atmosphere.	General direction of Wind.	Horizontal movement in 24 hours in miles.	Mean extent of Clouds in 10ths.	Depth of Rain in inches.	Depth of Snow in inches.	Ozone in 10ths.	Weather, &c.
	Highest	Lowest.	Mean.	Max.	Min.	Mean									
	Inches.	Inches.	Inches.												
1	29.583	29.539	29.534	96.2	74.4	85.0	.803	.667	S by E	120.71	4.6	Inapp	....	0.3	Rain.
2	.582	.568	.573	86.0	68.2	76.4	.728	.807	N by W	73.59	4.6	....	....	1.0	
3	.660	.591	.625	72.8	58.2	67.9	.489	.729	N E	211.41	8.0	Inapp	....	1.1	Rain.
4	.589	.564	.574	68.2	59.0	64.8	.502	.823	N E	173.70	6.6	0.043	....	1.0	Rain.
5	.765	.653	.697	86.7	58.4	76.6	.747	.822	S W	50.28	6.0	....	....	1.0	
6	.846	.702	.799	89.8	62.2	76.2	.695	.765	S W	86.91	8.0	....	....	0.3	
7	.712	.700	.705	90.2	61.1	77.1	.734	.785	S W	56.20	4.6	....	....	1.0	
8	.834	.714	.786	79.1	62.0	71 2	.558	.800	W	95.20	5.3	....	....	1.0	
9	.546	.506	.537	89.2	62.4	81.5	.844	.801	N N W	65.54	3.3	....	....	2.0	
10	.501	.474	.483	84.6	60 0	79.1	.776	.800	S E	269.89	0.0	....	....	1.0	
11	.611	.599	.640	95.1	67.0	80.8	.775	.802	N by W	111.52	0.0	....	....	0.3	
12	.704	.672	.692	85.1	58.9	72.9	.640	.742	N by W	48.74	5.3	....	....	1.0	
13	.588	.529	.534	94.2	64.7	78.2	.705	.716	S W	167.93	6.0	....	....	1.3	
14	.741	.600	.650	87.2	63.2	77.4	.761	.807	W	124.40	1.3	....	....	1.3	
15	.812	.761	.749	94.2	61.0	77.6	.694	.716	W	187.21	0.3	....	....	0.3	
16	.891	.871	.878	87.2	66.4	78.7	.726	.730	W	10.13	6.0	....	....	1.0	
17	.719	.715	.717	74.1	68.1	70.9	.596	.802	N E	77.16	10.0	Inapp	....	0.3	Rain.
18	.874	.798	.825	81.6	56.0	69.1	.516	.781	N E	162.96	0.0	....	....	0.3	
19	30.014	.928	.979	82.3	55.4	70.9	.525	.702	N W	130.08	8.0	....	....	0.3	
20	29.990	.984	.973	78.9	58.4	69.7	.568	.785	W	58.38	10.0	....	....	1.0	
21	.987	.770	.899	76.0	65.0	73.0	.624	.792	N E	27.00	8.0	....	....	0.3	
22	.734	.542	.636	82.4	60.0	74.8	.646	.760	S W	96.07	3.3	Inapp	...	0.5	Rain.
23	.647	.548	.609	74.1	66.0	70.3	.603	.816	W	120.47	8.0	0.952	....	1.3	Rain.
24	.737	.714	.750	84.4	63.0	74.7	.671	.791	W	170.61	6.3	....	.....	1.3	
25	.519	.423	.488	88.2	65.2	79.0	.753	.816	W	94.02	7.6	....	....	1.0	
26	.571	.424	.814	83.2	62.6	72.1	.675	.889	W	36.56	6.6	0.815	....	1.3	Rain.
27	.311	.254	.281	75.9	61.1	68.7	.628	.799	S E	18.40	5.6	0.216	....	1.3	Rain.
28	.624	.424	.486	75.0	60.0	66.9	.546	.826	W	122.00	1.6	....	....	1.0	
29	.847	.424	.494	74.0	58.1	65.7	.539	.871	W by N	223.42	6.6	Inapp	...	1.3	Showers.
30	.796	.616	.677	69.4	55.0	59.1	.429	.874	W by W	128.91	6.0	Inapp	....	1.0	Rain.
31	.829	.811	.819	74.9	58.2	65.0	.510	.811	N W	78.80	0.0	....	....	0.0	

Barometer ... { Highest, the 19th day, 30.014 inches.
Lowest, the 27th day, 29.281 "
Monthly Mean, 29.664. "
Monthly Range, 0.833. "

Thermometer { Highest, the 1st day, 96° 2.
Lowest, the 30th day, 55° 0.
Monthly Mean, 71.17.
Monthly Range, 41° 2.

Greatest intensity of the Sun's rays, 114° 0.
Lowest point of Terrestrial radiation, 51° 4.
Mean of Humidity, .748.
Rain fell on 10 days, amounting to 2.126 inches, and was accompanied by Thunder on 4 days.
Most prevalent wind, W.
Least prevalent wind, N. by W.
Most windy day, the 10th day, mean miles per hour, 11.24.
Least windy day, the 16th day, mean miles per hour, 0.42.
Amount of Evaporation, in inches, 2.24.
Aurora Borealis visible on 1 night.