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# MEDICAL & PHYSICAL JOURNAL.

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ART. XLII.—*Case of Inguinal Hernia of 20 years' standing, closed by inflammation of the Spermatic Cord, with the conversion of Hydrocele of the Cord into Hæmatocele, by* W. H. HINGSTON, M. D., *Edinburgh.*

The following somewhat curious and instructive case, may, I venture to hope, prove interesting to some of the readers of the *British American Journal.*

Thomas Kinnaird, æt. 39, a native of Edinburgh, was on the 6th Nov., 1851, admitted into Clinical Ward, No. 6, of the Edinburgh Royal Infirmary.

It appears from his statement, that in the fall of 1831, about 25 years ago, his attention was drawn to the right inguinal region, where he observed a small tumor about the size of a walnut. This proved to be a hernia, which at first caused very little inconvenience, but on its increasing in size, he was advised by a surgeon to wear a truss. This he did, and from that time to about five months ago he was unable to do without its support, for on removal of the truss, the intestine would fall down, but always easily returned into the cavity, when pressure was made with the fingers, or when the horizontal position was assumed.

About fifteen years ago he observed a small hard body on the lower part of the right testicle, which continued gradually to increase, and at the date of admission involved the whole testicle, which was nearly three times its original size.

In the month of July last, about five months prior to his admission into the Infirmary, he noticed a swelling along the course of the Spermatic Cord, which was very hot, and acutely painful, compelling him to lay aside the truss, and take to his bed. In about a week or ten days, the pain gradually subsided, but the swelling still increased. He then presented himself to Mr. Lizars, who introduced a trochar, and drew off about half a pint of a clear, transparent, colorless liquid. The aperture soon closed, and he was afforded temporary relief. In about three weeks, however, this operation required a repetition, when about the same quantity of fluid was withdrawn, in every respect resembling the former. The sac again refilled, and the patient was on Thursday, Nov. 13th, brought into the operating Theatre of the Royal Infirmary. A trochar was introduced by Professor Syme, and a fluid *very different* from the former was poured out. It was on this occasion turbid —and of *a dark reddish brown color.* The quantity withdrawn was about 6 oz. After evacuation of the fluid, there was no descent of the intestine, no impulse on coughing. The part was carefully examined by Mr. Syme, and after the visit by myself and others, but no trace of an opening could be found.

On Wednesday, Nov. 19th, the patient was again brought into the operating Theatre for removal of the testicle; but previous to the commencement of that operation, an incision was made down to, and along the course of the Spermatic Cord. When the knife entered the part which had on previous occasions been tapped, a quantity of fluid escaped, similar to that of the operation of Thursday. On examining the interior of the cyst, *three large clots* of blood, each about the size of

a shilling, were found. These were hard and brittle. The testicle was then removed, an incision was made along the raphé of the scrotum, the knife entering at the under surface of the root of the penis: the knife with a circular sweep was brought round from the under surface of scrotum to meet the first incision, removing thereby, with the tumour, the integument which covered it. The operation was concluded without any difficulty. Hemorrhage but trifling—patient under influence of Chloroform.

Nov. 20th, the operation seems to have given a considerable shock to the system, has slept but little. The face is pale and anxious, lips and tongue brown and dry, the teeth are covered with sordes, pulse 86, soft and compressible, wound very red and hot, causing considerable pain.

Nov. 25.—Feels somewhat better; sleeps more comfortably at night; tongue still dry and brown; there are two ulcers on the left side, also in many parts of the mucous membrane of the mouth. The wound in the inguinal region is very deep and gaping, an egg might with facility be buried in it. There is a considerable discharge of pus, which is of a rather disagreeable color.

It perhaps would be advisable to place the foregoing in such a shape, that the principal features of the case might be seized as it were, at a single *coup d'œil*, and for this purpose I shall mention, 1st. the Inguinal Hernia, which continued from the fall of 1851 to June of the present year, rendering the support of a truss necessary. 2nd, That on the occurrence of inflammation along the course of the spermatic cord, the truss from its causing considerable pain and irritation was thrown aside. 3rd, That on the partial subsidence of the inflammation, the part was tapped, and a clear, transparent, colorless fluid was poured out, clearly showing that it was a Hydrocele of the cord. 4th, That on a repetition of the tapping three weeks after, the fluid was still of the same color and consistence. 4th, That on two subsequent repetitions of the operation the fluid poured out was not clear, transparent, or colorless, but of a reddish brown color. 6th, That on searching in the cavity thus laid open, three large clots of blood were found, proving beyond all doubt that it was a Hydrocele no longer, but a Hematocele. 7th, That after removal of the fluid no opening could be discovered; no protrusion of the intestine when in the erect posture; no impulse on coughing; in fact, that there was *no Hernia*. 8th and lastly, That the tumor of the testicle commenced about 15 years ago, causing but little annoyance, gradually increasing until the period of its removal.

Remarks I have but few to offer. We have in the first place an inguinal Hernia closed by inflammation of the Spermatic Cord, the inflammation and subsequent formation of Hydrocele most probably caused by the pressure either of the intestine or the truss against the cord, thereby obstructing the free circulation of the blood in its vessels. And in the second place, the conversion of a Hydrocele into a Hematocele. The first may, from the anatomy of the parts, be satisfactorily accounted for, although the majority of those present considered the inflammation of the cord and subsequent formation of Hydrocele, as caused by, and dependent on, the tumor of the testicle, and, in fact, for that reason was it removed. In the second place we have a Hydrocele becoming a Hematocele; this, as far as I am aware, is a point still undetermined in surgical pathology, nor am I warranted, either by experience or research, in giving an opinion.

Edinburgh, Nov. 27, 1851.

ART. —*Infinitesimal Doses; a notice of Homœopathy, and its Doctrines, by* D. MacCallum, M.D., M.R.C.S. *Eng.*

(*Continued.*)

2nd, *Because the theory advanced, in support of their mode of action is clearly false and untenable.*

Who, that has ever bestowed a serious thought on the subject, has not been deeply impressed with the fearful responsibilities which rest on him who adopts medicine as a profession, and makes its practice his daily pursuit and calling.

His fellow men, confidingly trusting in his professional knowledge, his discretion, judgment and skill, unhesitatingly place that which they value beyond all price—their own health, and the health of those whom they love, under his care and surveillance. Such a one, if he duly appreciates the important position he occupies, as an allowed dispenser of health and happiness to those around him, will never allow himself to adopt novelties of practice, which usually experience an ephemeral existence, without rigidly examining all the claims which their advocates put forth as entitling them to the consideration of the medical profession. The mere *ipse dixit* of an interested party, as to the success of the new practice,—the hackneyed and sickening cry of "the uncertainty of medicine" will produce no effect on him. He cannot conscientiously adopt any new plan of treatment, unless it commends itself, alike in theory and practice, to his mind. Were he to do otherwise, and embrace every wild and extravagant system, which puts forth claims to consideration and adoption on the score of the certainty of cure to be effected in every diseased condition of the body, through its application; there is no medical heresy extant, from that of Hahnemann and Priestnitz, down to Morrison and Holloway, but which he would feel bound to adopt.

Hahnemannism, in common with other systems of quackery, while dealing largely in theory, declaims against any objection being made to it on account of the incomprehensibility or fallacy of its theories. We contend, however, that where medicines are employed in quantities so widely differing from those employed in ordinary practice, some satisfactory, or, to say the least, plausible explanation of their action should be given, to at all authorise a physician to depart from a safe and long-tried practice, and submit his patients to a series of experiments with novel, and, what must appear to him, supremely ridiculous quantities of remedial substances.

The "Sage of Coethen," in the twenty-second aphorism of his "Organon" distinctly lays down his theory of the action of Homœopathic remedies. The italics are ours. "The curative powers of medicines are therefore grounded upon the faculty which they possess of creating symptoms similar to those of the disease itself, *but which are of a more intense nature.* It necessarily follows that disease cannot be destroyed or cured in a certain, radical, prompt, and permanent manner, but by the aid of a medicine, which is capable of exciting the entire group of symptoms which bear the closest resemblance to those of the disease, *but which possess a still greater degree of energy.*"

He regards disease as an immaterial essence, a "dynamic power"—or force, which, interfering with, and disturbing the vital powers, gives rise to various symptoms. This force, be it remembered, then, is capable of interrupting the healthy processes, and inducing all those aberrations from a normal state in the various organs and parts of the body, which, under the name of signs and symptoms authorise us in pronouncing that disease exists. "Medicines possess a *spiritual virtue*"—a force, "by which they can modify the state of the human body and even cure disease."—(aph. xv.) Here, then, we

have two forces: the "dynamic morbific power," and the medicinal force; the latter distinctly stated to be the more powerful one of the two. If, therefore, the lesser power can affect the healthy system in such manner as to produce all those visible and cognizable phenomena characteristic of disease, surely the greater power is capable of inducing equal, if not more marked departures from a normal state of health. This is clear and axiomatic; and it will naturally be supposed that Hahnemann would keep it rigidly in view. Listen, then, to the words of the "Sage." "When a perfect homœopathic remedy acts upon the body, it is nothing more than symptoms analagous to those of the disease laboring to surmount and annihilate these latter by usurping their place. *The remaining symptoms caused by the medicinal substance, which are often numerous and correspond in no respect with the existing malady, scarcely ever show themselves.* * * * * * * "In fact, it is scarcely possible for the symptoms of the medicine to cover those of the malady with as much precision as a triangle would do, in regard to another which is possessed of angles and sides that are equal to its own. *But these differences* which are of little importance in a case which terminates in a short time, *are easily effaced by the energy of the vital principle.*" * * * * * "*An artificial disease rather more intense is substituted in the place of the natural one.* The organism no longer suffers but from the former affection, which, by reason of its nature and the minuteness of the dose by which it was produced, *soon yields to the effects of the vital force to restore the normal state.*" (*Organon*; *Aph.* cxlix, cl and cclxxx.)

Admitting his explanation of the nature of disease and the operation of remedies to be correct, we put it to every candid and intelligent mind, if the above quotations do not present an exquisite specimen of contradictions speciously dressed up in the garb of sound and truthful reasoning? The natural disease, or lesser force excites visible symptoms; but, the symptoms of the medicinal disease, or greater force, which overcomes the former in virtue of the greater intensity of its action, "*scarcely ever shew themselves.*" The lesser force always disturbs the vital force and often extinguishes the vital principle; but, the greater force is "*easily effaced by the energy of the vital principle,*" and "*soon yields to the efforts of the vital force.*" Truly, the profundity of the "Sage" is deserving of our deepest admiration! And it is to "conclusive reasoning" such as this, and in abundance, that the enquirer into the truth of the system of infinitesimals, is treated in the "immortal Organon;" a species of reasoning, which, according to Dr. Black, obtained for Hahnemann the appellation of "that rare double-head!" "Who," demands Locke, "can reasonably expect arguments and conviction from him, in dealing with others, whose understanding is not accustomed to them in his dealing with himself?"

3rd.—*Because the end which Hahnemann professed to obtain by trituration and attenuation of remedies, is contradicted in his own writings, and those of his followers.*

There is a class of persons, in as well as out of the profession, of a certain mental calibre; persons of a prying inquisitive disposition, who mistake their promptings to become acquainted with everything new, for an earnest desire to extend their knowledge and arrive at the truth of all things; persons, who enthusiastically support each novelty in the practice of medicine as it appears, be it Perkinism, Magnetism, Electro-Biologism, Hahnemannism, Priestnitzism, or any other ism! persons who talk by the hour on what they magniloquently term "abstruse questions;" that is, questions, the solution of

which, under the present extent of our knowledge, cannot at all be determined; persons who truly love mysticism for its own sake, to whom the attenuations, triturations and mysterious shakings of homœopathic remedies possess a peculiar charm. But few out of this class, we imagine, will regard the directions to be attended to, as laid down by the "rare double-head," and his followers, for the purpose of *developing the peculiar virtue of medicines*, otherwise than as an insult to the common sense of the reader, and worthy only of a place among the *formulæ* of the professor of the occult sciences, and an embodiment in some antiquated work on the Black Art and Divination.

"Of homœopathic remedies," directs Hahnemann in his Treatise on Chronic Diseases, "take one grain of those which are solid, or one drop of those which are liquid; put this small quantity on about the third part of a hundred grains of sugar of milk, in a porcelain capsule that is not glazed, then mix the medicine and sugar of milk together *for a moment* with a spatula of bone or horn and pound the whole strongly *during six minutes*. The mass is then detached from the bottom of the capsule and pestle *during four minutes* in order that it may be perfectly homogeneous, and then rub down afresh *during six minutes with equal force*. Collect the whole of the powder into a body *during four minutes*, then add the second *third portion* of the sugar of milk, "and mix the whole *for an instant* with a spatula; then triturate *with force for six minutes*;" and so it proceeds to the end of the chapter—mixing for *an instant*, scraping for *four minutes*, and rubbing down for *six minutes*.

Carefulness in the preparation of medicines is highly commendable, and were the object of the hahnemannist limited to the obtention of pure remedies, we might, perchance, merely smile at the rigid exactness with which the time to be devoted to, and muscular strength expended in, manipulation is laid down; but, that something more is intended to be secured by those precautions, will be evident from the following. "When I make use of the word *intimately*, I mean to say that by shaking a drop of medicinal liquid with an hundred drops of alcohol once—that is to say, by taking the phial in the hand which contains the whole, and imparting to it a rapid motion by a single powerful stroke of the arm descending, I shall then obtain an exact mixture of them; but that two, three, or ten such movements would render the mixture much closer—that is to say, *they would develop the medicinal virtue still further, making them, as it were, more potent, and their action on the nerves much more penetrating*. In proceeding, therefore, to the dilution of medicinal substances, *it is wrong to give the twenty or thirty successive extenuating glasses more than two shakes*, where it is merely intended *to develop the power of the medicine in a moderate degree*. * * * *

The homœopathic medicines *acquire at each division or dilution a new degree of power by the rubbing or shaking they undergo, a means of developing the inherent virtues of medicines*, that was unknown till my time; and which is so energetic, that latterly, *I have been forced by experience to reduce the number of shakes to two, of which I formerly prescribed ten to each dilution.*" (*Organon, Note to Aph*, cclxxviii *and* cclxxxv.

Here, then, it is clearly and succinctly stated, that the object in affixing limits to the time to be expended on trituration, and to the number of shakes to be given at each attenuation, is to prevent an extra-development of "medicinal virtue;" and that each attenuation may be regarded as an absolute increment of power. Consequently, there must be a regular gradation of power from the first to the last attenuation—from the *tenth* to the *decillionth of a grain*. This view of Hahnemann's is either openly or tacitly agreed to, by

Black, Dunsford, Curie, Karl Luther, Everest, Jahr and Van Bonninghausen.

*One-fiftieth part of a grain* of aconitine is a dangerous dose, when administered to a healthy individual; and if the regular practitioner wished to administer the medicine with safety to his patient, he would *decrease its power by attenuation*, probably shaking it frequently while doing so. But according to Hahnemann there would be a regular increase of power with each attenuation and each additional shake. How, then, we ask, can homœopathists administer this medicine in millionth and decillionth parts of a grain, which produces dangerous symptoms when given in doses of one fiftieth part of a grain? Oh! says Dr. Dunsford, "the doses prescribed, *are so minute that, if they should not cure, at least they cannot injure.*" "*High attenuations*," says Black, "*do not always exercise an effect upon persons in health*," * * * "*the difference of dilution is really very imperceptible, and the 30th succeeds as well as the 3rd.*" * * * * "Many," says Curie, who recommended *high attenuations* and few repetitions, *have been obliged to have recourse to more powerful and more frequent doses.*"

"Rau, Kramer, Werber, Griessilich, Schroen, Elwert, Ægidi, Muller, Trinks, Simpson, and many others, have successfully proved, that *by the low dilutions they cured diseases which had suffered no change by the employment of the high ones.*"

To justify so palpable an attempt to bolster up a weak cause, by setting reason and common sense at defiance, it would devolve on the hahnemannist to prove, that up to the present, the world has been laboring under a wrong impression as to the nature of the idea which the term "contradiction," is intended to convey; that, instead of regarding the term it as representing the idea of an opposite to some statement already made, it should be looked upon as representing an identity with that statement.

In one place Homœopathic writers, contrast the "large dose" of the profession and its "distressing effects," with the infinitesimal dose and its *insensible operation*; and in another, they descant most eloquently on the *vast development of power*, which takes place with every shake and at each attenuation of the remedy. In one and the same sentence, they state, that, "many who recommended *high attenuations* have been obliged to have recourse *to more powerful doses*;" that is, according to one view, the "more potent" dynamizations "*whose actions on the nerves are the most penetrating*," for the first attenuations, which, according to the same view must be considered less active, but which are stated above to be "*more powerful.*" The greater for the lesser, and the lesser for the greater. The substitution is not to be regarded, however, as the terms appear to be synonymous in Hahnemannism.

*(To be continued.)*

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ART. —*Terrestrial Magnetism; a Lecture delivered before the Mechanics' Institute at Toronto, Nov. 22, 1851, by Capt.* J. H. LEFROY, *R.A.*, F.R.S.

How surely there is a fulness of time for each onward step of human knowledge before which, should it by chance be taken, it nevertheless leads to nothing. With how much justice, therefore, all true knowledge has been declared to be, in its degree, revelation, is a reflection which is often forced upon any one who endeavors to account for the astonishing instances the history of science presents, of abortive and barren discovery. Terrestrial magnetism adds one more to the many illustrations which may be found in that history, of the truth of a remark which a wise and thoughtful writer, (Sir Francis Palgrave,) puts into the mouth of the

great friar. "Man," says Bacon, in one of his imaginary colloquies with Marco Polo, "Man may pass the torch of science from hand to hand; but he must always recollect that the light is darted from above; he cannot steal the sacred fire; he can receive nothing, except it be given from heaven." Who can tell what the result might have been, if *Aristotle*, instead of contenting himself with that bare knowledge that the loadstone attracts iron, which is said to appear in his works, had tried those simple experiments which every school boy now knows how to make, and had given a compass to the fleet of Nearchus; or if *Pliny*, four centuries later, instead of repeating extravagant fables about its wonderful properties, had exercised as much ingenuity as the Chinese did before his time, and had given to the West that discovery of the Polarity of the Magnet, which the East knew not how to appreciate. But this was not to be. The acuteness of Aristotle, the industry of Pliny, wanted that light which guides our researches at this day.

"Professing themselves wise, they became fools," by making the human intellect rather the arbiter and judge of nature, than her humble and teachable disciple; and thus it was, that facts upon the very threshold of which they stumbled, remained, with all their consequences, concealed from them, and lost to mankind for a thousand years.

I say a thousand years; more than that time elapsed before the immediate consequences of those properties of which Aristotle the Greek philosopher was not ignorant, which Pliny, the Roman naturalist, records, were dimly perceived in Europe. The earliest mention in European literature of the property of magnetized steel of pointing to the north, has been found in a French romance, by Guizot de Provence, written a little before the year 1200. Roads as straight as an arrow had been carried over hill and dale, through many a mile of forest and morass: the first and the second crusades had found their way to the Holy Land; Durham Cathedral, Winchester Cathedral, and many another noble building, had been truly placed where its east window should drink, while the world lasts, of the rays of the rising sun, before the compass, that simple instrument, had been brought to the aid of the brave hearts that directed the one, or the skilful hands that reared the other.

Early in the 13th century, then, was the compass first known, and, in the same century, was its variation from the true meridian also known. If this be correct, the knowledge, like much other knowledge before the invention of printing, must have been too much confined to do real benefit to the world. Every one who has read the delightful Life of Columbus, by Irvine, will recollect that, two or three centuries later, that is to say, in his first voyage in 1493, that fact was equally new to him and to his seamen.

"In the evening," says his biographer, "on the 13th September, being about 200 leagues from the island of Ferro, Columbus for the first time noticed the variation of the compass. He perceived about nightfall, that the needle, instead of pointing to the North star, varied about half a point, or between five and six degrees to the North-west, and still more on the following morning. Struck with this circumstance, he observed it attentively for three days, and found that the variation increased as he advanced." He then proceeds to tell us how this unwonted circumstance soon attracted the attention of the Pilots and crew of the Santa Maria, and how it tasked all the ingenuity and influence of Columbus to allay their superstitious fears. He might, indeed have given them the noble reply which his countryman, Nicuesa, once gave to an astrologer, "That he had less confidence in the stars than in him who made them." Comp. of Colum., p. 84. He resorted

instead to a theory which pacified them, if it did not satisfy himself, "That it was the star, not the compass, that had changed its position!" Here then, we have reached a starting point for terrestrial Magnetism as a science of observation, namely, at that period of history when it first became a familiar fact in men's knowledge of the globe they inhabit, that the compass does not point, in most places, truly to the North, but deviates to the East or West of the true meridian, according to certain symmetrical, but complicated laws. I am unable to state at what date the first authentic observation of the amount of the variation was made. Probably, however, the observation made at Paris in 1541, was one of the very earliest. The compass then pointed 7° East of North, in the neighborhood of that city. The earliest observation in London, was in 1580, when the variation was found to be 11° East. From that period, observations of tolerable accuracy became sufficiently numerous to have enabled the celebrated Swedish philosopher Hanstein, several years ago, to construct charts, shewing the variation over a large part of the globe, at a number of epochs, beginning as early as the year 1600.

(Some diagrams copied from Hanstein's Variation Charts, were here exhibited, for the purpose of shewing, thus early in the subject, one of its most remarkable, and at present most inexplicable features, namely the alteration which the magnetic condition of every point on the earth's surface undergoes, in the course of no very long periods of time. This alteration, or secular change, as it is called, takes place equally in the force of magnetism, and in the angle in which that force acts, (called the dip, or inclination;) but the variation having been the longest observed, its changes are best known.)

In the year 1600, the needle pointed to the true north at every point situated along a curve which would be found pretty nearly, by holding one end of a thread on a map, at the island of Trinidad, the other end about the middle of the Gulf of Guinea, and drawing out the centre, in a long loop or oval, as far as the parallel of 70° on the coast of Norway; This was the line of *no variation*, or the line which separates on the surface of the sphere in this Hemisphere, those regions in which the needle points *East of North* from those in which it points *West*. In the year 1700, by what Sir John Herschell has termed the *absorption* of this oval into another system, the line possessing this remarkable property was found, forming a simple curve, sweeping from the coast of South Carolina across the Atlantic, to a point a little westward of St. Helena, and then proceeding in a direction nearly south. In 1787 the centre almost touched Cape St. Roque, and at the present time its situation is far within the continent of South America, while its northern branch passed over Toronto about twenty years ago. But this is not the only line on the globe along which the needle has no variation. There is another of a much more intricate character in the Eastern Hemisphere. Commencing near the North Cape, it descends through Russia, Persia, Tartary, Bokhara, encircles our Indian possessions, thence sweeps back to the heart of Siberia, with a second curve descends through the China seas, and with a final inflexion in the Eastern Archipelago departs without further eccentricity to the Southern pole. It would complicate the map too much, were I to draw on it the lines at which the variation is 1°, 2°, and so on; but, while we are on this subject, there are two other peculiarities of the variation lines, so remarkable that I must briefly advert to them. I mean the system of closed circles, or ovals, represented by these two rings, one in the Eastern part of Siberia, and one in the Pacific. At every point in the Siberian circle, the needle has 6° of west variation, at every point in the other, (which encircles the Marquesa group,) it has 5° of east variation. In the former,

the variation decreases in concentric ovals or what are more or less so, until we reach the line of no variation. In the latter it increases in the same manner up to the line of 10°, which is no longer a closed oval, but returns in two long branches to the opposite magnetic poles.

Of course, what is said of the changes of the lines of *no* variation, applies equally to all lines of variation, which, with more or less parallelism, surround them. These also change their position, almost as circles in the water meet, and absorb or neutralise or dislocate one another. If I were to draw them here for two distant epochs, you would scarcely perceive the least resemblance. Since Capt. Bayfield surveyed the Bay of Toronto, the variation has changed here from East to West. I have mentioned that it was 11° East in London in 1580. It was 0° there in 1657, and it is now 24° West, but evidently returning again towards zero. Thus, the line of no variation which passed over London in 1657 passed over Toronto about the year 1850, and is still journeying here to the West.

The science of Terrestrial Magnetism, then, avoiding that error of commencing at the wrong end, which has been detrimental to so many enquiries, aims, first, at a correct knowledge of these strange and interesting facts respecting the magnetic condition of the globe; and, secondly, at a theory which will correctly account for them. Hitherto, I have referred only to the variation, not only because that was the fact easiest to discover, and in consequence the first to be studied, but because of its practical importance to navigators and surveyors. It was very early observed, however, that if the needle is not every where attracted to the true North, so neither is its natural position that in which we see it in compasses such as this. The attraction of the earth in this hemisphere pulls the North end down, and whenever a needle is so balanced as to be at liberty to obey that attraction, it assumes a position more or less inclined to the horizon. This new fact, the Dip of the Needle, as it is called, is commonly said to have been first observed by Robert Norman, a maker of instruments in London, in the year 1576, and he found the angle there to be about 72°. Long before the Royal Society was founded, before England boasted of an observatory, while most men still believed the sun to move round the earth: and while our great Queen Elizabeth had to send to Holland for the commonest produce of the garden, did this ingenious London Mechanic, not only invent an instrument, rude, perhaps, but identical in principle with the one before you on the table. But he did much more: he put it into the hands of various mariners frequenting the Port of London, and learned from their observations, what his own could not have taught him, how that the angle of Dip diminished as they went southward in their voyage. How, when their Astrolabes told them that they drew near to the Equinoctial line, the needle dipped not at all; and how, when they had passed it, the end which was before the highest began in turn to dip, while the other rose above the horizon.

In less than a century after Vasco de Gama first sailed round the Cape of Good Hope, did English seamen follow in his track, with instruments not unlike, and purposes the same, as those with which in our own time, on a far grander scale I admit, Governments have made it a great thing to equip them. Bearing in mind that the means of this delicate experiment were invented and furnished by a private citizen of London, whose best implement we should probably think only fit for a museum; we must, I think, admit that we are not in all respects so much in advance of our ancestors as we are somewhat too ready to believe.

[A map was then referred to, to point out the line along which, at the present day,

the needle has nowhere any dip; it is an irregular curve cutting the equator in two points. It is somewhat curious to remark also that it cuts the lines of no variation in four points. That is to say, there are four points in the Globe where the needle has neither dip nor variation. What a very erroneous notion of Terrestrial magnetism might people have arrived at who began to study it at either of these points!

There remains one more circumstance in the earth's magnetism to which I must refer, before proceeding to the recent history of the science. I mean the varying amount of the force by which a needle is attracted to the north. Master Robert Norman, from his workshop in Cheapside, might devise an instrument to measure the dip, and even find seamen who would bring him home observations from the most distant shores of India; but the idea of counting the vibration of the needle could not have occurred to him. Galileo's discovery of the equal times in which the vibrations of a Pendulum are made was then too recent to be known to him, nor was it till a century later that Newton demonstrated that the time in which the vibrations are made is a measure of the force by which the pendulum is brought to rest.

Every body knows that if we dip a magnet into iron filings, they adhere chiefly if not entirely at the end. It is at these extremities or poles that the force is chiefly exerted. Just in the same way does the earth attract a magnetic needle with the greatest force near its own poles, and with the least near the equator, and this, although an obvious and almost necessary consequence or rather cause of its other properties, was discovered so long after them, that at the beginning of the present century it was not attested by any published observation. I might indeed say more: the very fact was denied by no less an authority than Cavendish, who affirmed that the force of the earth's attraction was every where the same.

Ten years ago, when one of the greatest promoters of magnetical science, I mean Colonel Sabine, set to work to collect all the observations that had been made up to that time, he was able to assign the force at 670 stations on the globe, and at the present time their number must amount to thousands. And, now it may be asked, how can this force, which, we say, attracts a magnetic needle, be measured at all. Every one knows how, by referring a compass to the sun at noon, or to the pole star, or in some similar way, the variation can be ascertained. Every one can see how by an instrument in which a needle is balanced on a horizontal axis instead of a point,—the inclination below the horizon, or the dip is observed. But it is not so obvious how this minute force, even admitting its existence, can be compared and measured. To make this clear we must refer to the Pendulum again. Why does a Pendulum after a certain number of vibrations come to rest in a line directed to the centre of the earth. Every one will answer "because the force of gravity attracts it in that direction." Why, then, does a pendulum which makes 86,600 vibrations in a mean solar day at the equator, make 86,535, in the same interval in London, and 86,623 at the poles. The answer is equally obvious, that in London, and still more at the poles, its motion is accelerated, it is drawn to its position of rest by a stronger force than at the equator, and makes its oscillations in a less time; or what is the same thing, makes more of them in a given time. This was very early understood, and long before the application of the idea was possible, owing to the great perfection of workmanship required, it was proved that to count the number of vibrations made by a given pendulum in a day would be the best and simplest method of ascertaining how much the force of gravitation varies from the Equator to the Poles.

Now, all that I have said of the force

of gravitation is true of the force of magnetism, and we have only to make a Magnetic Pendulum, to be able to measure the variations of that force in the same way. Such a pendulum is this:

If I set this dipping needle in motion, you see that it continues to vibrate until brought to rest by the force which attracts it back to its natural position. 53 years ago, did a young German naturalist, who was going to South America, provide himself with such a needle. He found that it made 245 vibrations in ten minutes at Paris, and only 211 at a certain spot in Peru. Admitting the accuracy of the observation, nothing more was required to prove the fact of a diminution of the force, for had that been the same the needle must have made the same number of vibrations in ten minutes in both places. As it was, it proved that the force of magnetic attraction in Paris was to that in Peru, in the proportion of the square of 245 to the square of 211, or that of 135 to 100 nearly. It has since been found that the greatest force on the globe is almost exactly three times the force at the equator.

I cannot forbear to mention that that young naturalist has lived to see an ample science built upon the corner stone, which, at that period of bloodshed and revolution, he was so fortunate as to lay. He still lives to enjoy, as Baron Alexander Humboldt, the highest reputation of his time; to give a striking proof of mind surviving the decay of the body; and an illustration which we should do well to note, of the ever vivid, ever expanding interest by which the student of nature is rewarded for the hours he devotes to her works.

*To be Continued.*

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ART. XLV.—1. *Scobie's Canadian Almanac, and Repository of Useful Knowledge for the year* 1852, *containing full and authentic commercial, statistical, astronomical, departmental, ecclesiastical, educational, financial, and general information.—Toronto: Hugh Scobie. Small* 8vo, *pp.* 96.

2. *The Canada Directory, containing the names of the professional and business men of every description, in the cities, towns, and principal villages of Canada, together with a complete Post Office directory of the Province; a directory to public offices, officers, and institutions; a variety of statistical, and commercial tables, exhibiting the population, trade, revenue, expenditure, imports, exports, public works, &c., of Canada, and a variety of other useful information, brought down to November,* 1851, *by* Robt. W. S. Mackay. *Montreal: John Lovell,* 1851. *Royal* 8vo, *pp.* 692.

1. Scobie's Almanac is as copious in important information as usual. It is embellished with a map of a part of Canada West, and, while the astronomical calculations have been prepared with care, we are pleased to witness a carefully adjusted table for the purposes of determining the mean time of the meridian passage of the Polar star for every tenth day of the year, and the mean time of its greatest elongation from the meridian, upon the parallel of $44\frac{1}{2}^{o}$. As the object of this table is to furnish a ready means of referring a theodolite to the true meridian, it recommends itself in an especial manner to land surveyors. The Almanac abounds with most useful statistical information in regard to the Province in general, and we hope that its enterprising and laborious proprietor will be rewarded by an extensive sale.

2. This is the first attempt at the compilation of a general directory for the Canadas, and nobly and well has Mr Mackay executed his task. The volume is replete with most useful information. The work embodies important information in regard

to about 564 of the principal cities and villages of Canada, and, after specifying the locality of the place, its distance from the principal post towns, its population, it proceeds to an enumeration of the principal business and professional men in them, arranged in alphabetical order. The work is an extremely valuable one to all professional and business men, to whose attention we cordially recommend it. We notice that the author is projecting a Gazeteer of the Canadas. From the specimen before us of plodding, persevering industry, we consider Mr Mackay a gentleman admirably qualified for the task which he is imposing upon himself. A work of that kind is one which is much needed, and we wish him every success in his arduous undertaking.

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ART. XLVI.—*The Laws of Health in relation to Mind and Body; a series of Letters from an Old Practitioner to a Patient, by* Lionel John Beale, M.R.C.S. *Philadelphia: Blanchard & Lea,* 1851. 12*mo, pp.* 295.

Important as a knowledge of the laws which conduce to health is, it is unquestionably a lamentable fact that there is no subject upon which a greater extent of ignorance prevails; certainly none the contravention of which is more popularly indulged in. Disease may hover around, and death may single out its victims, yet the cause is, in the vast proportion of instances, overlooked, and the means of preservation thus precluded. Addressed ostensibly to a patient, the letters which constitute the volume before us, abound with sound, practical sense, and appeal not only to the thinking portion of the community at large, but, in a direct manner, to civic authorities and legislators, who may, in their several capacities, most safely follow its maxims, as regards those whom they severally represent.

The subject of hygiene cannot be too frequently nor too strenuously forced upon the attention of the public; and, although many able treatises have hitherto issued from the press upon the subject, there are none more familiarly addressed than the present one,—certainly none in which attention to its rules is more practically exemplified—appealing as it does to the common sense and personal observation of every individual.

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ART. XLVII.—1. *The Cranial Nerves, their leading points arranged for the use of Students, by* Wm. Wright, M. D., *Demonstrator of Anatomy, McGill College.* 1851.

2.—*The Spinal Nerves, their disposition and distribution; arranged for the use of Students, by* Wm. Wright, M.D., *Demonstrator of Anatomy, McGill College.* 1851.

The two foregoing tables, which have just issued from the press of Mr Lovell, are printed on sheets of double demy size, and exhibit, at a glance, the origin, course, and distribution of the various nerves of the body, and are a credit to the industry and ingenuity of the author. Students will find them a very valuable assistant in their anatomical studies, and we cordially commend them to their consideration.

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ART. XLVIII.—*The Dissector: or Practical and Surgical Anatomy, by* Erasmus Wilson, *edited by* Paul B. Goddard, M.D. *Philadelphia: Blanchard & Lea.* 1851.

The works of Mr Wilson have been deservedly popular, both with students and practitioners, and it were a work of supererogation to enter into a review of a treatise which has been so long before the profession, and upon which it has long since pronounced its verdict. Suffice it to say that the present edition contains all that is new in anatomy, and is illustrated by one hundred and fifteen well executed wood-cuts —aids to the study of anatomy, which many of our readers, not favorably situated

for practising dissection, will find of immense use to them in refreshing and keeping up their knowledge.

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ART. XLIX.—*Operative Surgery, based on Normal and Pathological Anatomy*, by J. F. MALGAIGNE, *Professeur Agrege, Chirurgien de l'Hôpital de Lourcine, &c. &c. Translated from the French by Frederick Brittan. Philadelphia: Lea & Blanchard.* 8vo.

In a recent number of this journal we entered cursorily into the merits of a late work on *Operative Surgery*, by a London author, and it may be within the recollection of our readers, that we blamed him for not adopting some methods of practice inculcated by Continental Surgeons; and, in particular, we found fault with his apparent ignorance of the classical work of Mons. Malgaigne, whose title is given above.* In the limits assigned to literary notices in this Journal, it would be impossible to enter into an extended review of the contents of Mons. Malgaigne's Treatise, yet we cannot omit giving a few passages which will enable the reader to form his own judgment of its merits unbiassed by our verdict:—

### 4. OF HARE-LIP.

*Anatomy.*—Hare-lip is met with in three different conditions, which singularly modify the operative proceedings. They are distinguished into—

1st. *Simple Hare-Lip*,—consisting in a congenital fissure of the upper lip, about one-third of an inch from the mesial line, more frequently on the left side than on the right; the cicatrized edges of which present a small reddish portion that must be removed in the operation.

2nd. *Double Hare-Lip*, in which there are two fissures, separated by a middle flap, called the labial tubercle, whose form and size much vary.

3d. *Complicated Hare-Lip*, in which the two fissures occupy even the anterior portion of the roof of the palate, and unite behind into a cleft that generally divides all the roof and the velum of the palate; in this case usually the middle portion of the maxillary bones, or the osseous tubercle, much more developed than the rest of the bone, projects considerably downwards and forwards, and is rendered still more prominent by the presence of the incisor teeth, which are cut when the child is born. Sometimes there is also a deviation, which carries the alveolar edge and the teeth directly forwards. In consequence of this projection, the labial tubercle is pushed forwards, and even becomes attached to the point of the nose. Lewis has attempted to prove that in hare-lip there is no real loss of substance. This, in our opinion, is a play upon the words; there is evidently a want of development in the fissure, and you can never expect to have the lip as well formed after the operation as it would be after the reunion of a simple recent wound. Even after the slightest hare-lip, you must always expect that the free edge of the lip will present a little notch, however well the operation has been done; but it is especially the slight projection in the middle of the lip, that it is almost impossible to restore, when the fissure occupies the median line.

#### SIMPLE HARE-LIP.

1st. *Ordinary Proceeding.*—The patient should be seated opposite the light, with his head leaning on the breast of an assistant, who embraces the jaw, so as to compress the external maxillary (facial) arteries, pushes the cheeks towards the median line, and holds the lip, if necessary, whilst the operator refreshes its edges. The operator standing in front of the patient, first seizes the inferior angle of the portion on the left side, either with a hook, (roux,) dissecting forceps, or his fingers; and with the other hand passes a strong sharp pair of scissors two or three lines beyond the superior angle of the cleft, with which, in one cut, if possible, he removes all the reddish border on this side, encroaching a little even on the healthy tissues, so as to leave a clean, straight, raw edge. For the right side he extends the lip itself, grasping and stretching it, with the left finger and thumb placed outside the edge to be cut off. The scissors are used as before, only they ought not to extend so far as the first cut, so as to leave a neat, clean angle of division, according to the rules for V incisions. The double incision then represents a V reversed, whose edges should be

* Review of *Skey's Operative Surgery*, British American Journal, vol. vii. page 239.

free from any adhesion to favor reunion. If the frænum of the lip offers any obstacle in this respect, it should be cut without hesitation. This first step finished, you must arrest the flow of blood with cold lotions, and then reunite with the twisted suture. The operator seizes with his left forefinger and thumb the left angle of the cleft, with his right he passes in a needle about three lines from the edge of the wound, and half a line above the natural rosy part of the lip, obliquely from below upwards, and from before backwards, to bring it out at the union of the two anterior with the posterior third of the bleeding surface, brings up the other portion on the right side, places it in exact corresponding apposition, and pushes the needle through it from within outwards in the inverse direction. This first needle passes through the tissue with a slight curve, its concavity inferiorly; the object of which is to cause the inferior angles to project a little, and efface as much as possible the notch which the reunion leaves on the free edge of the lip, which is rendered more perceptible still by the consecutive retraction of the cicatrix.*

The first needle being placed, and fixed by a loop of thread, the rest of the division must be brought exactly together with the fingers of the left hand, and a second needle passed through both edges at once at an equal distance from the first, and the superior angle of the wound. The rest of the operation is performed according to the general rules for this kind of suture. The whole must be covered with a bit of lint and sticking plaster, and a bandage which keeps the cheeks forwards, and prevents any muscular strain that might tear the tissues comprised in the points of suture. The patient is then placed in bed, with his head elevated; he should not for the first few days be allowed to speak or move his jaws; a fit of sneezing or laughing will sometimes tear the suture. He should only have fluid diet: after three or four days, if all goes well, you may remove first the lower needle, the next day the upper. The thread adherent to the skin should be left a few days longer; about the ninth or tenth day the cure is usually complete.

A number of modifications of this operation have been proposed. We shall say nothing of refreshing the edges by means of a blister; but the bistoury has had more partisans. It is necessary, in order to use it securely, to place a bit of wood or solid cardboard under the lip to cut on, and for this the frænum must be previously divided. But the scissors with more facility and promptitude give a neater section.—The scissors of Dubors have been generally adopted in France.

There is only one proceeding in which the Bistoury is indispensable; it is when you wish to give a slightly concave form to the edges, so that when reunion has taken place, there remains projection at the inferior part that imitates the natural prominence better than the ordinary method. This modification has not been very successful, but perhaps ought not to be altogether rejected*

The modes of reunion have greatly varied. Bandage, sticking-plasters, interrupted quilled sutures, &c., are now-a-days generally replaced by the twisted suiure; only I agree with those surgeons who, instead of two needles, use three.—The first should then be placed a little lower, even in the rosy part of the free edge of the lip. I should add also that the bands of sticking-plaster, after the manner of Rigal, seem to me to be of great assistance to the success of the operation. After the incision, in whatever way it may have been performed, the refreshed surfaces present some inequalities which are caused by the different degrees of retraction of the tissues of the lip. We should be aware of this fact, and not try to heal the wound by a fresh and useless section.

* M. Malgaigne now adopts a very simple proceeding to prevent the formation of this notch. Instead of refreshing the edges from below upwards, he incises them from above downwards, leaving the detached slip adhering by a small slip below; he then unites the wound, and bringing the two little strips above the inferior angle of each edge of the lip, he cuts and trims them to fill up the depression. This is the method we have practised for some years, and find it far superior to the older plans.—*Rev.*

* This modification of the operation is claimed by two London surgeons, neither of whom seems aware that it has been mentioned already by Malgaigne. Mr. Skey, in page 407 of his Operative Surgery, gives a diagram representing the lines of incision; whilst his colleague at St. Bartholomew's, Mr. Lloyd, gives a clinical lecture also claiming the operation as his own. It is clear that neither originated the practice, whilst they are both open to censure for neglecting to consult our author's treatise before placing their suggestions before the profession.—*Rev.*

*Proceeding of Mayor.*—M. Mayor applies in Hare-lip a new kind of suture, called by the mattrass-makers the quilt stitch, "*le point piqué.*"

In this process the sutures pass through two little pellets of lint, about the size of a pea, and are tied over these; they, acting as the compressing agents in bringing together the lips of the wound, just as the upper and under parts of a carriage cushion or mattrass are brought close to one another by the sutures that are passed through the buttons on the upper side of the cushion.

*Appreciation.*—The ordinary method perfectly accomplishes its end, so that there is litle hope or fear that the method of Mayor will replace it. It is, in fact, nothing more than the quilled suture in a new form nicely modified, and applied in an operation for which it has been hitherto rejected. It will be recognized, especially in the second proceeding indicated by M. Mayor; and in each it appears with all its advantages, but also with its well-known inconvenience of causing the wound to gape at its external surface. The author's comparison of it with the "point piqué" of the mattrass-makers falls, inasmuch as the "point piqué" serves to unite surfaces pierced and traversed perpendicularly, whilst in hair-lip it is employed to unite surfaces it does not traverse. The same holds good with regard to the bolts and rivets of locksmiths, also brought forward by M. Mayor. In all these cases, the intermediate band between the two heads or pellets describe a straight line; but in hair-lip M. Mayor causes it to describe a curved line; no comparison can be established.

2. *Of Double Hare-Lip.*—Your mode of action depends in a great measure on the size of the tubercle. If it is narrow and projects but slightly, it may be excised without inconvenience; if of considerable size, its preservation is indispensable. Its borders must be refreshed along with those of the lateral fissures; so that if it descends to the free edge of the lip, you have two V reversed incisions representing an M. The needles are then placed as usual, bringing perfectly in apposition the lateral edges with those of the middle flap, and traversing all three together. In this manner two parallel linear wounds are obtained, or a Y shaped wound, maintained by one range of needles; but if the parallel wounds, or even the branches of the Y, are too far apart, you can apply to each separate points of twisted suture (Gensoul.)

3 *Complicated Hare-lip.*—Some differences in the deformity should doubtless influence the operation, for instance, prominent teeth should be extracted; and the projection of the osseous tubercle in different directions also demands different means of reduction, when it is deemed fit to preserve it; but in general all of those proceedings may be reduced to three, which we shall describe. *Old proceeding*, with strong scissors, or resection forceps, all the projecting part of the osseous tubercle is removed: then, either immediately, or after some days, the operation is proceeded with as for simple hare-lip. This proceeding leaves a more or less considerable gap in the anterior part of the jaw, and deprives the patient of his incisor teeth. After some months another deformity, described by Desault, comes on. The maxillary bones approximate, and finish, by obliterating the cleft in the roof of the palate; but the diameter of the upper jaw diminished by the breadth of the osseous tubercle, no longer corresponds to that of the lower and the encasement (l'emboitement) of the upper in the lower jaw, which is seen in old people particularly, and is so inconvenient for mastication, follows. The consideration of this inconvenience, and the facility of the approximation of these bones, led Desault to the following proceeding:—

*Proceeding of Desault.*—He commenced by applying on the projecting portion a simple bandage, drawn tightly backwards, and fixed on each side. The compression exercised by this band, was continued until the parts were quite level; eighteen days sufficed in one case; then he proceeded as usual, to the reunion of the soft parts; more powerful means may be applied, a spring bandage, &c. In a child of thirteen, where the osseous tubercle presented its alveolar border forwards, Gensoul seized it with strong forceps, as if to break it and brought it by force to the perpendicular.

This bold experiment perfectly succeeded. But this proceeding has another very serious inconvenience, when the labial tubercle is inserted very near the point of the nose, its reunion to the lateral parts draws up the upper lip, and leaves exposed the teeth and gums; on the other hand

the nose drawn downwards, flattened and squashed like a calf's muzzle (Dupuytren), constitutes a deformity no less than the preceding; whence the idea of making the labial tubercle, serve to form the columna of the nose, renuiting immediately the lateral portions of the lip.

*Proceeding of Dupuytren.*—The patient placed as usual, the operator divides with a knife the fold of mucous membrane, that binds the labial to the osseous tubercle, and, with a sharp-cutting forceps, cuts off all that portion of the latter above the level of the maxillary bones. This first step finished, with a well pointed bistoury, he refreshes the lateral edges of the cutaneous tubercle, then its inferior border; lastly, with sharp scissors, he removes the vertical borders of each lateral portion of the fissure.

These two lateral portions are then brought together, and immediately united by two needles, placed as usual. Then the median tubercle, raw on all sides except in front, is folded and applied on the osseous septum of the nostrils. A third needle is put in, compressing at the same time the upper end, of each portion of the lip, and the free end of the folded tubercle.

Two points of interrupted suture suffice to unite the angles of the tubercle to the lateral portions of the lip. All these sutures are maintained by strapping, and a bandage pressing on the end of the nose, to prevent a straining of the flap; a notch cut out of each turn of the bandage embraces the end of the nose, and hinders the bandage from slipping; we have seen this operation crowned with success. The columna being too wide, Dupuytren narrowed it by removing a little band on each side with a forceps and scalpel. Gensoul, in a similar case, made the loss of substance of the middle of the columna. The lip is less narrowed than one would have expected; but notwithstanding the precautions taken to restore to its free edge the median projection, it is replaced by a marked notch, or retiring angle.

*Appreciation.*—The old proceeding includes all the inconveniences, and should be absolutely rejected; but each of the others has its deficiency also, and neither in our opinion, should be constituted the general and rational method. We conceive that it is indispensable to combine their advantages, viz., first to level the osseous tubercle by compression, and afterwards use the labial tubercle in the way Dupuytren did. If the teeth are malplaced, they may also be drawn to a better position by compression; if they are of the first set, they may be extracted without inconvenience to facilitate the operation; but when they are of the second, we should decide on their removal only when necessity of this sacrifice is absolutely demonstrated, as it not only leaves a deformity, but is a great loss in mastication."

We make no apology for the length of the foregoing extract, as it affords a good specimen of Mons. Malgaigne's method of treating his subject. Throughout the whole work evidence is furnished of the great care, and research bestowed by the author upon his treatise; and the impartial manner in which he compares plans of treatment widely differing from one another, is worthy of the highest praise, and deserves more general imitation. In conclusion, we strongly recommend *Malgaignes, Operative Surgery* to every practitioner, who is anxious to become familiar with the present state of the science amongst our continental brethren.

## PRACTICE OF MEDICINE.

*On the Oxidation of Ammonia in the Human Body; with some Remarks on Nitrification.* By Henry Bence Jones, M. D. F. R. S., &c.—It is shown in this paper, that when ammoniacal salts are taken into the body, nitric acid is excreted by the urine, although no trace of that substance could previously be detected in it. The author was then led to investigate other cases of combustion, in which ammonia is present, and came to the conclusion, that nitric acid is formed out of the body as well as in it; and he further ascertained, that even the nitrogen of the atmosphere is not indifferent in ordinary cases of combustion, but that it gives rise to minute quantities of nitric acid. He found that a mixture of starch with a drop or two of hydriodate of potash and hydrochloric acid was a more delicate test of the presence of nitric acid than either the indigo test or the protosulphate of iron

test; and that he was able to detect, by its means, as little as 1 grain of nitre in 10 oz. of urine, which neither of the other tests would indicate.—*Proceedings of the Royal Society.*

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*Case of Colica Pictonum, from the medical employment of Acetate of Lead.—With remarks.* By L. S. Joynes, M. D., *of Accomack.* The following case is communicated, with the hope that it may prove a useful caution to some of the younger members of the profession, who may be inclined, from over-confidence in the assurances of many of our standard authors, to make too free a use of the potent drug above mentioned. It cannot be doubted that young practitioners in general are too prone to adopt *heroic* methods of practice, and to esteem boldness and decision the chief qualities of a successful physician. Of all the rich fruits which experience brings with it, not the least valuable, certainly, is *caution* in the employment of active remedial agents —all of which, without exception, are potent for evil as well as for good.

It has often appeared to me, that one of the most valuable contributions that could be made to the science of medicine, would be a faithful record of the *real experience* of the profession in the use of the class of remedies just referred to—setting forth the deleterious effects which may be caused by antimony, opium, mercury, lead, &c., as prominently as the good they are capable of accomplishing. Such a record would furnish the most useful lesson of caution in practice that could be given. A desire to contribute to this useful kind of information has influenced me in furnishing the following case for publication—in regard to which, I must admit that the length of time which has elapsed since its occurrence renders my history of it less complete than is desirable, inasmuch as I made no record of it at the time, and am compelled to rely chiefly on memory for the details.

On the 15th of October 1843, Mr. J. J. B., merchant, aged 25, consulted me on account of a chronic diarrhœa, which had troubled him from time to time for several years, and which had always been obstinate and intractable. He had been treated by different physicians, who had prescribed a great variety of remedies, nearly all of which seemed of little efficacy. After listening to the details of his case, I became satisfied that acetate of lead and opium would prove the most efficient remedy; and as none of his previous medical advisers had prescribed this combination, I determined to give it a trial. I believe I had never before prescribed the acetate of lead, but I relied, very naturally, on the assurances, everywhere to be met with in the books, that the use of the drug is free from risk, provided a perfectly pure article be employed, and acetic acid in some form be prescribed in conjunction with it.

I accordingly selected the most perfect crystals of the acetate; added more than enough of distilled vinegar to neutralize any of the carbonate which might be present as an impurity; then adding the opium, I made the mass into pills. I also directed the patient, immediately after taking each pill, to swallow a teaspoonful of vinegar. The precise formula which I employed I am unable now to state, but my recollection is distinct, that the entire quantity taken was 30 grains, in the course of about four days. The medicine proved most efficient in the relief of the diarrhœa, the discharges being arrested more promptly than by any other remedy, and without any *immediate* ill effects. The patient and myself were both congratulating ourselves upon the favorable result, when one day, perhaps a week after he discontinued the pills, he complained to me of a pain in the epigastrium, radiating to the spine. As the patient was then apparently regaining his health, and in good spirits, I paid little attention to this complaint, supposing it to be a momentary gastralgic affection, occasioned by some imprudence in diet. Not long after, I learned that he was laboring under a severe attack of colic, and I was called on by Dr. Young of this place, his ordinary medical attendant, who came on purpose to ascertain the composition of the pills which the patient had been taking. The peculiar character of the colic with which he was at that time suffering, so strongly resembled those of colica pictonum, that Dr. Young had been led to enquire of him whether he had taken any medicine recently for diarrhœa. There could indeed be little doubt, from the account given me of the symptoms, and the subsequent progress of the case, that the attack was one of saturnine colic, of more than ordinary severity.

This attack commenced on the 3d of November, about a fortnight after the patient had taken the last pill, and con-

tinued, with occasional slight remissions, for eight days, before any decided relief was obtained. The treatment consisted principally of free and oft-repeated doses of calomel and opium, purgatives by the mouth, enemata and blistering. A very large quantity both of opium and calomel was administered, and every other means employed which an experienced physician could devise, but there was no permanent relief to pain, and no decided action of the bowels, until the eighth day, when the mouth became affected by the mercury. The patient then slowly recovered, but he remained for some time in a very reduced and debilitated condition. It would have been some compensation for all this suffering, if he had been permanently cured of his diarrhœa; but no such fortunate result ensued. The attacks continue to recur from time to time, and are as obstinate as ever.

If any should be disposed to doubt whether the above was truly a case of lead colic, in view of the long interval which elapsed between the employment of the remedy and the manifestation of the symptoms, I would remark that this is entirely in accordance with the oft-observed facts in regard to the poisonous operation of lead —*slowness* of action being the general rule.

This is the only case I have ever met with in my own practice, of any serious result following the exhibition of the acetate of lead; indeed, I rarely trifle with the drug now-a-days. ("*Chat echaude craint l'eau froide.*") But I know of three other cases of the same kind, which have occurred in this neighborhood. It is fair to add, however, that in at least two of them the remedy was freely used. There is no lack of recorded instances of the sort; but so far as I am informed, cases are very rare, in which colic is produced by so small a quantity of the acetate as was administered in the case which I have just related. One such is mentioned by Dr. Burton, in a paper of which extracts are given in Braithwaite's Retrospect, No. 2, p. 86; here the patient took fifteen grains in five days, and experienced severe colic. And Prof. Trousseau, in his work on Therapeutics, quotes a case in which the patient took six grains of the neutral acetate of lead daily for three successive days; the fourth day, a most violent saturnine colic supervened, with jaundice, constipation, retraction of the belly, etc., which only yielded to the "treatment of La Charité," energetically employed. The most remarkable case of all is given by Devergie, in his *Med. Legale*:—A student of medicine consulted Professor Fouquier, who prescribed for him some pills containing each one grain of acetate of lead, of which he was directed to take one every day. The *first pill* produced slight colic, the second acted more severely, and the third occasioned such violent symptoms that some mistake of the apothecary was suspected. The pills were analysed by Devergie, but were found to contain nothing but acetate of lead.

It may be urged, and with truth, that such cases are exceptional, and that they may be explained by the existence of idiosyncrasies in the subjects of them, such as are known to exist with respect to mercury, opium and other remedies. But allowing this to be true, it must also be admitted that a prudent physician is bound to regard such idiosyncrasies in his practice. The knowledge of their occasional existence should be a warning against the use of hazardous remedies, except under circumstances imperatively calling for their employment.

A circumstance which has doubtless contributed in no small degree to extend the employment of the acetate of lead as a medicine, and to set the minds of physicians at rest in regard to any risk attending it, is the opinion so confidently expressed by Dr. A. T. Thomson, that *the carbonate is the only poisonous preparation of lead*, and that the acetate can only become so in consequence of its decomposition by the free carbonic acid extricated in the alimentary canal. Hence his precept to direct a draught of vinegar to be taken with each dose of the acetate, in order to prevent such decomposition, as well as (I presume) to re-saturate with acetic acid any portion of the carbonate with which the crystals of the acetate may be contaminated.

It requires but little examination of the facts to convince us that this idea is entirely opposed to the well known general laws of the action of mineral poisons. *Ceteris paribus*, these poisons are active in the direct ratio of their solubility; and on this general fact is based the theory of antidotes. We give antidotes with the view of converting a soluble preparation of a metal into an insoluble one. Would it not be a singular exception to a general

rule, if the acetate, one of the most soluble forms of lead, should be entirely innocuous, and the carbonate, one of the least soluble, alone endowed with poisonous properties? It is true, that small doses of the carbonate would be rendered soluble by the acids of the gastric juice, being converted by them into the chloride and the acetate, (assuming, in accordance with the general opinion of chemists, that the hydrochloric or acetic acid, or both, exist in the secretion of the stomach.) What then will become of the acetic, when swallowed? If it meets with acetate acid in the stomach, it will remain acetate still; if with hydrochloric acid, it will be converted, like the carbonate, into the chloride of lead. The two substances, therefore, when they begin to act on the system, and are absorbed into the blood, will be in precisely the same chemical state. Considering the acid nature of the gastric secretion, and its probable action on all chemical compounds capable of being affected by its ingredients, is not Dr. Thomson's idea of the conversion of acetate of lead into carbonate, by the free carbonic acid in the alimentary canal, evidently a fallacious one? And is not therefore his employment of distilled vinegar in conjunction with the acetate, an illusory protection against the dangers of lead poisoning?

But without further argument on the chemistry of the question, it is sufficient to state that Dr. Thomson's theory is in opposition to the concurrent testimony of the best toxicological authorities of the day, among whom I may cite Orfila, Apjohn, Taylor, Christison and Devergie. The latter writer, whose authority is second to none, distinctly states that the poisonous activity of the compounds of lead is in direct proportion to their solubility. Christison and Taylor both (conclusively, it seems to me) combat the opinion of Thomson. I will quote a few words from the last mentioned of those authors, bearing directly upon the practical point at issue: "So far as observations on man have yet extended, the carbonate has no more action than the common acetate. Dr. C. G. Mitscherlich has lately proved that the acetate is a poisonous salt, and that when mixed with acetic acid *it is more energetic than when given in the neutral state.* This fact clearly shews that the poisonous effects cannot solely depend on the assumed conversion of the salt to the state of carbonate." (Taylor's Med. Jurisp., 2d ed., p. 169.)

This result of Mitscherlich's researches is precisely what a consideration of the general laws of toxicology would lead us to expect. Let physicians, therefore, take care how they rely on vinegar, or dilute acetic acid, as a *safeguard* against the poisonous effects of the acetate of lead. —*Stethoscope.*

## SURGERY.

*On Treatment of Paraphymosis in Children.* By Dr. Rau.—Since 1848, six cases of this affection have come under Dr. Rau's notice, the paraphymosis having existed from twelve to twenty-four, and in one instance for thirty-six hours, so that very considerable tumefaction and inflammation of the glans and prepuce were present. Attempts at reduction by Walthers' and other methods proved fruitless; but this was easily accomplished after the application, for from twelve to twenty-four hours, of the following ointment:—*Ung. Hyd. Ciner.*, ʒ½; *Ext. Conii vel Belladon.*, ʒj *ad* ʒij. In the case which had continued for thirty-six hours, *Aq. saturni* was also, on account of the excoriations, applied for thirty-six hours, after which the reduction was easily effected. —*Casper's Wochenscrift*, 1851, No. 21.

*On the Abortive Treatment of Gonorrhœa by Chloroform.* By M. Venot.—M. Venot of Bordeaux, states, as the result of a twelvemonth's experience, that injections of chloroform, though of little avail in confirmed gonorrhœa, are possessed of a complete abortive efficacy, if employed during the first week.—*Bull. de Thérap.*, tom. xl, p. 184.

*A Case of Puncture of the Stomach, with Protrusion for six hours.* (Reported by Chas. Wm. Ashby, M. D., of Culpeper C. H.)—A negro boy, 6 years old, the property of Mr. R. B., fell upon a pair of sheep shears, which he had in his hand, whilst running down a hill. The instrument penetrated the stomach obliquely from above, just grazing the left side of the sternum and edges of the ribs, making a flap-like orifice in the integuments.

I was called in consultation by my friend, Dr. P. C. Slaughter, and found

nearly the whole stomach protruded, and discharging its contents through an aperture about three-quarters of an inch in length.

Aware of the controversy which has long existed among able surgeons, on either side, as to the propriety of stitching the stomach or bowels, the everted edges and gaping appearance of the wound in the stomach made it necessary, I thought, that a stitch should be taken. To avoid irritation, as much as possible, with the finest needle and silk I ventured to take a single stitch through the middle of the wound.

Before I saw the case, Dr. S. had made some efforts to restore the organ to its natural position, but it did not occur to me at the time that I should have any serious difficulty in replacing it, at least after enlarging the orifice a little. But such was the unruly nature of the boy—his violent screaming and resistance, the nausea and vomiting which constantly attended the handling of the stomach—that notwithstanding I enlarged the orifice several times to a considerable extent, our best efforts not only failed to restore the organ, but it seemed to protrude the more.

At this juncture, fearing the irritation resulting from further efforts, I suggested the use of chloroform, notwithstanding the necessary delay of having to send several miles for it. Whilst under its influence, I found it necessary again to enlarge the aperture slightly, and then had no farther difficulty, although the boy vomited as freely as before from handling the organ.

The wound of the integument was rather ragged in its appearance, and of course a little bruised by our efforts.

The wound of the stomach was brought directly opposite the tegumentary wound, and gently retained within its verge. A single stitch, patent lint, with cold water and a bandage completed the dressing.

The patient was placed on his side, absolute rest enjoined, and soon afterwards a large dose of opium was administered.

From the time of the accident until the completion of the dressing six hours intervened, and yet the boy retained his strength most remarkably.

Under the influence of the opium our patient rested well the first night.

2d day.—This morning the pulse is a little excited, and face flushed—vs. to make a decided impression; and this was repeated twice during the day, and opium after each bleeding—absolute diet enjoined—but the boy desires no food.

3d. The wound had a healthy appearance, but tenderness of the abdomen and tympanitis greatly increased our fears as to the result. The pulse feeble and quick—the bowels not moved since the accident.

Turpentine enema and a succession of blisters were ordered, and after the bowels were moved the opium was resumed.

4th. Our patient evidently improved, tympanitis and tenderness diminished, pulse more quiet, countenance and general aspect of things more encouraging—takes a little hot water tea this morning, for the first time—gum water and opium continued.

5th. The wound not healed by the first intention—has a dark spot immediately over the wound of the stomach, and is discharging a very offensive sanious matter. A soft poultice, and the same prescription continued.

6th. The ligature came out this morning. The same prescription continued. From this date the boy gradually recovered, without any particular change in the treatment.

*Remarks.*—1st. It has occurred to me, that possibly it would have been better for me to have restored the stomach, at least partially, before the stitch was taken, as I ran the risk of breaking out the ligature by the subsequent efforts at reduction; and I am sure that the accumulation of gas, though some escaped with an audible sound several times, did not increase the difficulty.

2d. This case was admirably adapted to the use of chloroform, and illustrates most happily its incalculable value, when used with discrimination.

3d. As your journal is eminently practical in its character, for the benefit of the younger members of the profession, it may not be amiss to allude briefly to what I conceive to be a most important principle in our profession, viz: that an *inflamed or diseased organ must have rest.* In this case, the stomach, instinctively sensible of its wounded and disabled condition, refused most emphatically, for four days, to receive any nourishment—not even gum water—and but very little of anything for about ten days, notwithstanding the entreaties of master and friends, contrary to our orders.

An inflamed eye instinctively excludes

the light from itself, so that the physician who interrogates nature intelligently, at once gets the idea of confining his patient to a dark room, and thus putting the organ entirely to rest. When the lungs are inflamed the patient breathes as much as possible by the abdominal muscles, and lymph is thrown out, gluing the organ to the side, doubtless to prevent motion and friction as much as possible. The same thing is true of inflamed bowels; and because some constipation, the result of this principle, exists, I have known great error—and I may say even death—to result from goading and stimulating the organ with drastic purgatives.

This principle of rest is susceptible of very extensive application in practice; and any inflammation can be cured, I believe, to which it can be applied.

The immortal Physic, always true to the laws of nature, recognized this principle in the treatment of coxalgia and other diseases of the joints. In conformity to this important law of the animal economy, in the above case, we gave opium freely, to prevent nervous and vascular reaction; and by thus aiding in keeping the wounded organ in a profound state of repose, it contributed, it is believed, no little to the favorable result.—*Stethoscope.*

## MIDWIFERY.

*On Keistein.* By Dr. VEIT.—In consequence of the discrepancy of opinion which prevails among observers as to the value to be attached to the appearance of the urine termed Kiestein, as diagnostic of pregnancy, Dr. Veit has, during a year and a half, been conducting a series of experiments at the Halle Lying-in Institution. He has examined for this purpose the urine of 10 men, of 4 non-pregnant females, and of 48 women in various stages of pregnancy. He comes to the same conclusion as Höfle (*Chemie und Mickroskop am Kramkenbette*) and, recently, Lehmann, viz., that the so-called pellicle of Kiestein is no peculiar matter at all, and is not of the slightest value as a sign of pregnancy. In urine of both non-pregnant and pregnant women, pellicles are formed containing vibriones, and frequently the triple phosphate; the chief difference between the respective urines being, that in that of pregnant women, alkaline, and in that of non-pregnant women acid, reaction more frequently manifests itself. This may in some measure depend upon the greater concentration of the urine in pregnancy, and the larger proportion of mucus mixed as a consequence of the changes induced in the condition of the mucous membrane of the bladder by the passive hyperæmia of that organ during pregnancy. Persons partaking of a more nitrogenous diet than did the poor pregnant women whose urine was examined, might furnish different results in this respect.—*Zeitsch. fur Geburt.*, vol. xxx, pp. 257—278.

*Examples of Large Infants.*—Dr. Siebold, in a recent paper in the *Zeitschrift fur Geburtsk*, (vol. xxix, p. 178), observes, that when new-born infants are not actually weighed, the most ridiculous exaggerations prevail in respect to the estimates of the weight of the larger ones. Since 1825, he has had all the children weighed at the Berlin, Marburg, and Göttingen Institutions, with which he has been successively connected, and the heaviest he has met with only reached 11¾ lbs., notwithstanding we peruse fabulous statements of 20 lbs. being attained.

That such statements, however, are not always fabulous, is seen from the fact of a recent instance recorded in the American Journal by Dr. Johnston, in which the child weighed exactly 20 lbs., and the placenta 3 lbs. Its length was 25¼ inches, the breadth of the shoulders 8½, and of the hips 7⅜ inches. The occipito-mental diameter was 6¾ inches; the occipito-frontal 5⅜, and the biparietal 4¾ inches. The labor was accomplished in eight hours; but, owing to the great delay which the passage of the shoulders and hips entailed, the child was still-born.

In another case recently observed by M. Depaul, the child which was born dead, with the epidermis detached, after version, weighed 6½ kilogrammes (nearly 14½ lbs.), and measured 62 centimetres (about 21 inches) in place of from 45 to 48, from head to foot.—*Amer. Journ. Med. Sc.* vol. xxi, p. 341; *L'Union Médicale*, 1851, No. 22.

*Remarkable case of Suppression of the Menses.*—By M. L. BYRN, M. D., New York.—Margaret D——, aged 40, applied to me for advice, and on inquiry, I ascer-

tained the following facts:—Until the age of 22, she was in good health, and of medium size—weighing 128 pounds. At that age, a young man into whose company she was often thrown, became the object of her tenderest affections—she loved him with all the devotedness of woman; they were engaged to be married, but from some cause they were disappointed in its consummation, and he left the country. She never again heard of him, and the consequence was, a severe shock to the nervous system. This happened near the period for the regular recurrence of her menses, and such was the effect of the disappointment on her system, that menstruation did not take place at the accustomed period. Another month passed, and still it had not appeared; two, three and four months, and the same condition existed; all medicine having no effect whatever on her.

About the fourth month she observed that she was becoming "fleshy," as she termed it. Six months passed, and she abandoned taking any more medicine, feeling no inconvenience whatever from her situation. At the expiration of twelve months her health remained undisturbed, and she had during the whole time gained in flesh; the menses, though, had not returned. Ten years elapsed, her health remaining unimpaired—slowly gaining flesh all the time, and the menses still absent. Thus she continued until the last two years when she was seized with asthmatic symptoms; these symptoms grew worse continually. Many remedies have been employed for their relief, but most of them have been without effect. She abandoned trying anything for more than three months, resigning herself to her fate; but about this time she began to feel much better. Before long she was not much troubled with the difficulty of breathing; but a very troublesome cough soon attacked her, and which has continued until she applied to me for advice. She is, indeed, not only an object of pity, but an object of wonder. She has not menstruated for eighteen years,—has never married,—never loved again,—never eat much,—and yet strange to say, she weighs near *three hundred pounds*. Her neck is scarcely discernible, from the amount of fat pushing down her face, and pushing up her shoulders. Her trouble now is a sort of smothered cough, which is much worse at night; there is also considerable difficulty in locomotion.—*Northern Lancet.*

## MATERIA MEDICA.

*On Medicinal Cigars.* By Dr. Landerer.—The employment of various organic and inorganic substances of a volatilisable nature in the cigar form, has frequently been resorted to. In this way stramonium, cicuta, Raspail's camphor, and corrosive sublimate, have been used by means of tobacco deprived of its nicotin. The great efficacy of this last substance in ulcerated syphilitic throat, in Dr. Landerer's hands, has rendered him very desirous of extending this form of medication. He prepared cigars, therefore, by moistening tobacco freed from nicotin with tinct. of iodine, a solution of iodide of mercury in sulphuric æther, or a solution of iodide of potassium. He found these cigars of great utility in syphilitic ulceration of the throat and in ozæna. So, too, by moistening the tobacco with an æthereal solution of hyoscyamin, he has relieved most obstinate spasmodic cough without inducing any narcotism. Among other substances tried, he found a solution of creasote in spirit of wine and æther, a very useful form in scorbutic ulceration of the gums. Cigars moistened with *tinct. moschi* relieved hysterical and spasmodic coughs; and a case of severe hysterical paroxysms, occurring in an irritable subject, was advantageously treated by the alcoholic solution of the acetate of morphia. Cigars formed of this substance are also very useful in the toothache. Arsenical cigars, formed by steeping the tobacco in Fowler's solution, have also been employed; and Dr. Landerer believes that this form of medication might be extended to a great variety of substances.—*Buchner's Repert.*, B. vi, p. 347.

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*On Ferruginous Preparations.* By M. Martens.—The following are the conclusions of an Essay recently read by M. Martens at the Belgian Academy of Medicine. 1. That as a general rule the *lactate of iron* is the best preparation. This conclusion, founded on the chemical fact of the conversion of the other preparations of iron into lactates in the stomach, was disputed as regards its therapeutical truth, by M. Lombard and other members, who denied that the lactate possessed any superiority. 2. It may be advantageously replaced by the carbonate given in water, or in pills made with honey, so that

superoxidation may be prevented. 3. All ferruginous pills in which the metal is liable to superoxidation should be rejected, because they soon become indurated, so as to be soluble neither in water nor in the juices of the stomach. 4. Insoluble ferruginous preparations ought always to be administered at meal-time, in order that they may become dissolved in the acid juices then existing in the stomach. 5. Those preparations should be chosen which cannot be precipitated, or rather rendered quite insoluble by the alkaline juices of the duodenum, especially during intestinal digestion. 6. The most active are those which having penetrated into the blood in their liquid state, are there most easily assimilated with the hæmatosine, so as to form with it the red coloring matter of the blood. 7. In the treatment of chlorosis or anæmia, it does not suffice to prescribe preparations of iron, but their assimilation should be aided by residence in the country, or in localities well exposed to the sun's rays. 8. The regimen in chlorosis, should, as far as possible, be composed of succulent and dark colored meats, and not of white alimentary substances, in which the oxide of iron is usually defective. 9. Slight or recent chlorosis may be generally cured by animal regimen alone, in combination with exercise in the open air, and insolation. 10. The habitual use of meat introduces into the economy sufficiency of iron for the formation of the red globules, and may give rise even to their excessive formation. 11. On the other hand, the exclusive use of potatoes, white bread, vegetables, and fatty substances, the ordinary regimen of the working and poorer classes, pre-disposes to chlorosis or an anæmic alteration of the blood, because such aliments contain too little iron to concur efficiently in the formation of red globules. 12. Wheaten bread may be rendered much more restorative by adding, prior to panification, a little *sulphate of iron*, and it is only thus that an alimentation entirely capable of replacing meat can be furnished. 13. We may estimate approximatively at a *minimum* of two grains the quantity of oxide of iron that is daily required for the restoration or renewal of the blood; and for alimentation to suffice for the maintenance of health, it must contain this quantity. 14. All persons who, in consequence of a too slightly animalized regimen, or of residing in badly-lighted localities, are disposed to anæmic vitiation of the blood, should employ such ferruginous bread to favor the formation of red globules. 15. Manganese, only entering into the constitution of the blood-globules in an infinitesimal quantity, does not appear necessary for sanguification. Compounds of this substance cannot be considered as antichlorotic medicines, like ferruginous preparations. At least they do not concur directly in the restoration of the blood.—*Gaz. Méd.*, No. 48, 1850.

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*Phosphate of Lime in Consumption.*—In the first number of the New Orleans "Monthly Medical Register," we find an article by Professor Stone on the virtues of "Phosphate of Lime in Scrofula, and other depraved states of the System," which is of some moment. It was suggested by an essay in the London Lancet on the "physiology and pathology of the oxalate and phosphate of lime, and their relation to the formation of cells."

"The conclusions of the author," says Professor Stone, "are based upon careful chemical research and results from the use of the remedy. His researches show that in man, as well as in vegetables and inferior animals, phosphate of lime, as well as albumen and fat, is absolutely essential for the formation of cells, and he considers that many of the pathological states of the system depend on a deficiency of this salt. The affections in which it is advised, are ulcerations dependent upon a general dyscrasia, and not a mere local affection; infantile atrophy, in those suffering from rickets, and consequent diarrhœa and tuberculous diseases, particularly of the lungs in the early stages."

Struck by this article, Prof. Stone tested it, and he thus describes three cases in which its virtues were very obvious. The first was that of a slave, who was admitted to the Professor's Infirmary in July, with a disease of the nose, the whole system showing great progress in scrofulous decay. The usual remedies were unsuccessfully applied until August, when cod-liver oil was used, but the disorganization of the stomach was increased by it. The phosphate of lime was then applied—eight grains three times a day. Its good effects were soon apparent. It and the oil were therefore administered together, and the patient was soon restored to health.

The second case is that of a young lady,

aged 24. Her disease was one of "unmixed phthisis, which might have been expected to terminate in the course of a few months" fatally. The upper part of both her lungs was filled with tubercles, and in some places was beginning to soften. The case was evidently a bad one. The treatment of cod-liver oil was at first used, but without marked improvement. The phosphate of lime was then administered with the oil, and the result, as in the case of the negro, was soon apparent. The patient was rapidly getting well.

The third case was that of a child seven years of age, in which the phosphate of lime was used with complete success.—*N. Y. Med. Gaz.*

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*Æthereal Solution of Iodine.*—(To the Editor of the Boston Medical and Surgical Journal.)—Sir.—I beg to offer to your notice a preparation of iodine, which is as yet unknown to the profession, except to a few in this locality whose attention I have directed to its efficiency as a counter-irritant. I have employed it in my practice for upwards of ten years, and generally with the most satisfactory results, in the most of those cases where the use of the tincture is commonly indicated. It is applied in the same way as the tincture, by means of a camel-hair pencil rubbed over the part, until it begins to produce a burning sensation in the part; then cover it with a pledget of wadding, so as to prevent evaporation. For the first fifteen minutes the burning sensation is pretty severe, so as to alarm some patients. Yet it soon becomes tolerable, but usually continues to be felt for several hours. The next day the cuticle has a dry hardened feel, having the iodine color; and great relief to deep-seated pain is obtained. In the course of two, three, or four days, vesication will be observed around the edges of the superficial eschar which has now commenced to suppurate; and as the destroyed cuticle cleans off, a very copious discharge of purulent matter takes place, and may be kept up for two or three weeks under the popular application of a cabbage leaf, or oiled silk, which I usually apply on the second day. The surface of the sore assumes a fine granular appearance, and heals without leaving a cicatrix. I have often thought that, in cases of chronic inflammation of the joints, this application is more efficient than the caustic issue, relieves pain quicker, and can sooner be repeated.

I have frequently derived great benefit from keeping up a discharge from the chest in chronic affections of the lungs, making a sore the size of a quarter or half a dollar at a time, and opening a new sore as the other heals.

This solution is very simply prepared. I commonly use the sulphuric ether of the shops; but the stronger the ether, the more efficient is the preparation. Hence the importance of obtaining a good article and in full strength.

I commonly put a quantity of pure iodine into a phial, and add sulphuric ether until dissolved; that is, the ether must be perfectly saturated. To make the solution as strong as possible, I have added a few grains of the iodide of potassium, which furthers the capability of the ether to take up more of the iodine. There are different modes by which this can be prepared, that will be readily suggested to your several readers. All of them, however, will tend to the same result.

In some cases it may be used at a reduced strength, acording to the amount of counter-irritation or stimulation which individual cases may seem to require.

I am yours truly, ROBERT THOMSON.

*Dover, N. H., June 27, 1851.*

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*Tannate of Alumina.*—Mr. Rogers Harrison placed before the Medical Society of London a specimen of tannate of alumina, and recommended its employment in the treatment of purulent and mucopurulent discharges from the urethra, especially when the former were not of an acutely inflammatory character. Mr. Harrison had found the local exhibition of the remedy in question followed by the most satisfactory results. The method of using was to throw into the passage an injection containing from two to ten grains of the salt dissolved in distilled water, the strength of the solution being in a great measure determined by the amount of smarting pain produced. The most advisable method was just to keep the strength of the injection up to the smarting point. He thought it injurious to produce more than a gentle scalding. Mr. Harrison did not anticipate, of course, equal success in every case; but he generally found the

disordered condition of the urethral mucous membrane removed in the course of one or two weeks, in the ordinary run of cases. On his recommendation, some of his professional friends had employed it in their pratice, and from their reports he was supported in his high opinion of the remedial properties of the tannate of alumina. The combination of alumina and tannic acid produced by Mr. Harrison, was of a dirty yellowish color, and in crystals about the size of those of coarse sugar, and readily soluble in hot water.—*Dublin Medical Press.*

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*Substitution of Iodated Oil for Cod-liver Oil.*—M. Champouillon gave the following results of his experiments:—

102 phthisical patients were treated with cod-liver oil. Of these, 51 were in the first stage, of which 21 were cured: 37 were in the second stage, of which 9 were cured; 3 died: 14 were in the third stage, of these, 6 were cured, 4 died.

75 other phthisical cases were treated with iodated oil. In none of these did any amelioration take place: in many the disease was aggravated.—*London Medical Gazette.*

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*On the Preparation of Mercurial Ointment.*—M. Fournier states that he has adopted the following process for ten years. The mercury is triturated in an iron or marble mortar, with a fourth part of the lard, to which a small portion of wax has been added. The remainder of the lard is to be added in portions in a melted state, as the previous quantities become solidified. This method gives a good ointment in the course of an hour. In the winter season suet may take the place of the wax. The success of the process depends more upon the mode of its performance than upon the addition of wax or suet.—*Journal de Chimie Médicale*, September, 1851.

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*Syrup of Proto-Nitrate of Iron.*—By W. W. D. Livermore.—Syrup of proto-nitrate of Iron is an improved form, in which the officinal Liq. Ferri Nitratis is at present prescribed by several prominent physicians in this city; and combining as it does the advantages of the proto-salts of iron, with stability of preparation, is destined to come into general use as an active ferruginous remedy. I believe no formula for it has yet been published, and as apothecaries have found it both inconvenient and disagreeable depending upon others to prepare it by some secret recipe, the subjoined may be found a convenience.

| | | |
|---|---|---|
| ℞. Sulphate of Iron. | | ℥viii. |
| Carbonate of Soda, | | ℥x. |
| White Sugar, | | ℥xx. |
| Nitric Acid, (sp. gr. 1.42) | f. | ℥v. and f℥v. |
| Boiling Water, | | |
| Simple Syrup, | *aa.* | q. s. |

Dissolve the sulphate of iron and carbonate of soda, each in two pints of water, filter, and add to each solution two ounces of simple syrup. Mix the solutions, and allow the precipitate to subside. Pour off the supernatant liquid, and wash the precipitated carbonate carefully with sweetened water, until the washings have no longer a saline taste. Collect the precipitate upon a fine muslin strainer, and with gentle pressure express as much of the water as possible. Transfer to a porcelain capsule, and add gradually the nitric acid, previously diluted with an equal measure of water. Mix the sugar with the solution, and dissolve over a water bath, stirring from time to time with a glass rod. When done the syrup should be made to measure thirty fluid ounces, by the addition of a sufficient quantity of water.

It does not always happen that the apothecary has on hand an acid of known specific gravity, and when this is the case, it will answer to add nitric acid diluted with an equal measure of water to the carbonate of iron, until dissolved, and the solution possesses a slightly acid reaction.

This syrup contains ten grains of dry nitrate of iron, to each fluid drachm, and the dose varies from twenty to forty drops.—*American Journal of Pharmacy.*

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*On the Administration of Cod-Liver Oil.*—We extract from the *Gazette Médicale de Lyons* the following modes of exhibiting this nauseous remedy:—

1. Cod-liver oil, 30 grammes; solution of carbonate of potash, 8 grammes; syrup

of orange peel, 30 grammes. Mix; a teaspoonful or two twice a day.

2. Cod-liver oil, syrup of orange-peel, aniseed water, equal parts. Mix; a tablespoonful for a dose.

3. Cod-liver oil, 250 grammes; gum arabic, 30 grammes. Make an emulsion, and add syrup of orange peel, syrup of peppermint, utrq 30 grammes. A large table spoonful for a dose.

The disagreeable flavor of the oil may be disguised by hot milk or coffee.—*Revue Medico Chirurgicale*, Fev., 1851.

## ANATOMY AND PHYSIOLOGY.

*On the Effect of Chloroform on Muscular Fibre.* By W. F. Barlow, Esq., M. R. C. S.—Mr. Barlow has performed a series of experiments, which seem to show that chloroform rapidly exhausts muscular irritability, and in common with other agents inducing the same effects, conduces to the rapid stiffening called rigor mortis. He observes:—"It has been shown by Nysten, in his ingenious researches, that a long time intervenes, as a general rule, between dissolution and this peculiar rigidity, during which time the muscles remain irritable; and that the rigor does not approach until the muscular irritability is either completely or nearly extinguished. This, is of course, a main fact. All kinds of muscular action prove the irritability of muscles, except rigor mortis; this, on the contrary, is a form of contraction which prevails not until muscular irritability is lost. After *excessive voluntary* action, such as that of the hunted animal, which though exhausted to the utmost, still runs for life, and forces to contraction muscles become almost too languid to respond effectually to any stimulus however violent, rigor mortis has been commonly noted to ensue with unusual rapidity. As Nysten says, "c'est parceque l'action vitale du lièvre que le chasseur a forcé est, pour ainsi dire, epuisée par une fatigue excessive, que cette animal se roidit en mourant." So, too, *extreme involuntary* muscular contraction has been known to lead to the swiftest possible death-rigor. And it is very probable that the exhaustion of muscular irritability after death by galvanism would be found to hasten the phenomenon."

The experiments were performed on frogs and birds, decapitated and skinned, and afterwards suspended in a bottle containing chloroform. In a medico-legal point of view they are important, as if the same effects are produced on the human subject, a person poisoned with chloroform might, from the muscular rigidity be thought to have been dead some time, when in reality the reverse is the case.—*Medical Gazette*, October 24, 1851.

## MEDICAL JURISPRUDENCE.

*Further Experiments on Cadaveric Rigidity.* By Dr. Brown-Sequard.—Following up the researches on which he has been for some time engaged, the author has ascertained that if a current of arterial blood be re-established through muscles in which cadaveric rigidity has already begun to show itself, they cease to be rigid and recover their irritability. He found that when he connected the aorta and vena cava of the body of a rabbit, in which the cadaveric rigidity had already manifested itself for between ten and twenty minutes, with the corresponding vessels of a living rabbit, so as to re-establish the circulation in the lower extremities, the rigidity disappeared in from six to ten minutes, and that in two or three minutes afterwards, muscular contractions took place when the nerve-trunks were irritated. These experiments have been repeated in various ways with the same result; and they fully justify the opinion of those who maintain that cadaveric rigidity is a vital phenomenon, and not an indication of the death of the muscles, which does not take place until the rigidity passes off. He has even succeeded in removing the cadaveric rigidity from the muscles of the decapitated body of a criminal, thirteen hours after execution, and two hours after the supervention of the rigidity, by the injection of defibrinated human blood. The muscles lost their rigidity, and continued to contract on irritation, during several hours.—*Gaz. Méd.*, Nos. 24, 27.

[Fully recognising the interest and importance of the series of experiments on which M. Brown-Sequard is engaged, we would yet express the earnest hope that he renders them, by the use of anæsthetic agents, as little productive as possible of

animal suffering. He speaks so coolly of cutting a live rabbit or guinea-pig in two, leaving the anterior and posterior portions connected only by the aorta and vena cava, that we fear that he must be ranked among those who have been so inured to the manifestations of pain, that they cease to take account of them, save as scientific phenomena, as indications of sensibility.]—*Medico-Chirurgical Rev.*

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*On the Effects of Poisoning by Alcohol, considered in relation to Juridical Medicine.* By M. Rösch.—The alcoholic fluid which M. Rosch's observations chiefly relate to, is *brandy;* and he considers, first of all, the consequences of *slow or chronic poisoning* by this substance, as observed in the bodies of persons submitted to official inspection, who have met with their death from accident or suicide. The changes which have been, to a greater or less degree, found in the bodies of all spirit-drinkers, are thus summarily mentioned.

1. The *brain* itself has exhibited no constant changes of sufficient account; but its *membranes* have always manifested more or less diseased conditions. Of these the partial thickening of the arachnoid, giving it a milky-white appearance, has been especially observed. Commonly, too, colorless fluid, though in general not in very large quantities, was effused between its layers, and was also found in the spinal canal. In several cases, some serum was found in the cavities of the brain, and the spinal marrow had become softened by imbibition of such fluid. In several cases the membranes of the brain had grown together, but in others the dura mater was only adherent to the cranium. These changes have all been observed in cases in which, during life, no signs of inflammatory action or of effusion were present, —unless we are to consider as such the decrease of mental activity, and the blunting of all sensibility, both general and special.

2. The lungs exhibited various diseased appearances. Of these œdema was a frequent one, a colorless or reddish frothy fluid flowing out on incision, and escaping in large quantities when pressure was applied, the compressed parts retaining the impression of the fingers. In several cases, lobular emphysema was observed. Adhesions of variable extent to the ribs and diaphragm occurred; and in certain places the investing membrane of the lungs was thickened.

3. The mucous membrane of the stomach exhibited isolated, bright red, punctated spots, and this especially near the pylorus. Similar groups were observed in the duodenum, jejunum, and ilium. The mucous membrane of the small intestine was much thinned; the muscular, likewise, in a less degree; but the serous remained unchanged. The mucous glands of the small intestines were enlarged.

4. General emaciation, and a whitened appearance of the muscles was observed, as well as laxity and thinness of the walls of the heart. On the other hand, a considerable quantity of fat was found deposited under the skin and between the muscles. The mesentery, heart, and kidneys were covered with fat; and the liver so penetrated with it, that, in many cases, its texture seemed as if converted into adipose substance.

5. The blood in the vessels was dark and diffluent. The spleen, as a rule, was softened, and in several cases pappy.

(2.) *Acute Alcoholic Poisoning.*—In strict language every intoxication and stupefaction by spirits should be called poisoning; but as intoxication is of daily occurrence without danger to life, it is only so considered here, when urgent symptoms, requiring medical aid, are present. Cases are, however, not wanting, in which paralysis, soon ending in death, has followed this undue stimulation by alcohol; and the author supplies the particulars of such as have come under his notice. In these, besides the appearances due to chronic poisoning, others due to the rapid influence of the spirit upon the body were observed,—viz., a considerable repletion of the brain and its membranes with blood, and a congested state of the lungs (in one case acute œdema pulmonum being present). The immediate cause of death in those who die soon after taking a large quantity of spirit, is arrest of blood in the central organ of circulation and the respiratory organs,—a state of asphyxia. Such effect upon the circulation and respiration is, however, but a consequence of the repletion and paralysis of the brain by blood containing alcohol. In acute alcohol-poisoning, not only is the ingested spirit found in the digestive canal, but the various visceral structures

and fluids of the body strongly smell of it, and are, therefore, penetrated by it.

In violent deaths it may often become a matter of importance and difficulty to state what part alcoholic fluids have exerted in producing the fatal termination. Two cases are given by the author, in one of which an effusion of blood was supposed to be due to external violence; but that this was the case could not be positively stated, since, during the state of distension of the blood-vessels in drunkenness, they are ill capable of resistance, while the blood itself is in a dissolved condition. The effects upon the brain do not arise from a simple excess of healthy blood, but of a blood which has undergone change, which in acute spirit-poison still contains the substance inducing this.

While the nervous system is stimulated and enfeebled through this changed condition of the blood, so also, in a reverse order, the blood, heart, and circulation are disturbed and enfeebled by the condition of the brain and nerves; so that here is a continual reciprocal mischievous influence of the blood and venous system going on, until the disturbance of the economy becomes complete, physical disease prostrates the body, and all controlling power and mental activity are destroyed.—*Henke's Zeitsch.*, Band lx, pp. 241—279.

## MISCELLANEOUS.

*On the Iodine of the Atmosphere.* By M. CHATIN.—The constant dispersion of iodine, through the slow, spontaneous evaporation of the waters which contain it, and its more rapid volatilisation when heat is applied to these; its elimination from hard waters, which is so speedy that it can seldom be detected therein, even when they spring from highly iodined soils; and the results, though incomplete, which have been obtained by operating on rain water, are so many circumstances which have led M. Chatin to conclude that this substance must exist in the atmosphere. He estimates the 4000 *litres* of air, which traverse the lungs of a man in 12 hours, as containing 1–45 milligramme, *i. e.*, the same quantity that is found in a *litre* of potable water moderately iodined. This iodine becomes fixed during the act of respiration, the expired gases exhibiting about 1–5 of the iodine contained in the inspired air. The atmosphere of ill-ventilated and crowded places is in part deprived of its iodine. The proportion of iodine contained in the waters of a given locality indicates approximatively the quantity contained in its atmosphere. Rain is notably more iodined in the interior than in the vicinity of the coast, inasmuch as the iodine of fresh waters is much more completely dispersed than is that of sea-water. Great differences, due to causes not yet appreciated, exist in the amount of iodine contained in the rain of the same locality; the proportion, however, always diminishing when the rains are very prolonged. As rain always loses its iodine on falling, this might be fixed for useful purposes by placing in cisterns a millionth or half-millionth part of carbonate of potash. Snow is iodined; but, *cæteris paribus*, less so than rain. Dew contains iodine. Additional observations are required to decide whether iodine exists in the air in the free state, as hydriodic acid, as hydriodate of ammonia, or as forming a volatile combination with certain organic elements.—*Gaz. Méd.*, 1851, No. 19, p. 300.

*Kinesipathy.*—A new system of medical practice has been introduced into Europe, and it may naturally be expected that it will be imported, and sooner or later practised among us. It would not be strange were it to supersede and take the place of homœopathy, to which it is assimilated in other points besides a common lack of science or reason. It certainly is superior on the score of economy—for though the doses to be taken in the former are infinitesimal and therefore portable and cheap, in the latter no doses at all are required, and all the mysterious movements and "shakings" are to be accomplished on the sick body itself! The originator of this improved system seems to have been a Swedish fencing master by the name of Ling, who is represented, in the Edinburgh Monthly Journal, to have been an universal genius. He was successively a graduate in theology, a volunteer in the Danish navy, a fencing master (in spite of gout in his arm), a lecturer on old Norse poetry, history and mythology, a professor of fencing and gymnastics, a student of anatomy, physiology and other sciences, a writer of poetry, and, withal, "a man of high moral tone, pious, sincere and

honest," and died in 1839 with the honors of knighthood upon him. His qualifications are therefore unquestionable! All that Ling himself appears to have really accomplished, and probably all that he claimed at first, was set forth in a work published by him, and may be considered as merely an improvement in the practice of gymnastics and calisthenics. Upon this has been engrafted the system of quackery alluded to above. M. Roth, M.D., of London, who comes before us clothed with Ling's mantle, has sent out an octavo of 300 pages, devoted to the treatment of disease by "movements," alias Kinesipathy. His interpretation of the term is as follows:

"By the word 'movement,' in a medical and hygienic sense, is to be understood every change of position and difference of form, determined by time and amount, in the whole body, or in any part of it, and which may be produced by the organism itself, or by any animate or inanimate mechanical agent."

In accordance with this definition, there are a great variety of movements—quite as many as there are dilutions and potencies in the homœopathic system—and each and all possess great power over the human body, as is rendered plain by another quotation:

"Whatever exists in our body, either as a part of it or as a foreign substance, must at a certain moment have a definite shape; therefore every change of the space in one part necessarily produces a corresponding one in the surrounding tissues—a change that is thence propagated to the most remote parts of the body, and which depends, with respect to its form, upon the amount of the alteration produced by the first movement."

Lest any one should still be in the dark, however, respecting what kinesipathy really is, we copy the full definition of one of the movements and its effects. It is called the

"*Chopping Movement.*—Chopping consists in alternative short blows, produced by the external sides of both the operator's hands. Choppings are principally used on the posterior surface of the trunk, chest, and also on the limbs. If it is desirable that the succession produced by this movement shall be less and softer, then the chopping is done with the external edges of the two little fingers, while the other fingers are spread apart, but not kept spasmodically fast, so that they act also by striking upon the little finger.

"Chopping may be confined to one part only, or may be exercised on a larger surface, by constantly moving the position of the hands. The chopping is called a 'longitudinal' one, if the hands are moved in the longitudinal direction of the trunk or of the limb; and a 'transversed' one, if the blows are executed across the limbs.

"*Effect.*—Choppings produce generally a venous absorption in the capillary texture, not only of the external skin and the tendinous expansions, but also, if more strongly used, in the muscles and bones; in imperfectly paralyzed muscles they excite the innervation both of the motory and sensitive fibres. If directed on the lower extremities, on the soles, they act very well in hæmorrhoidal complaints, headache, &c. On the chest or along the spine, they are efficacious specific movements in certain complaints of the chest, partly by their direct influence on the muscles of the chest, partly by the tremulous, passive vibration communicated to the lungs."

Then there is the "shaking movement," the "the rising-up movement," the "letting-down movement," "transversal chopping," "vibration," &c. &c., which we have not room to describe. These "movements" are all claimed as a remedy in acute as well as chronic diseases. In gonorrhœa, even, cases are brought forward to show their great efficacy. Can quackery and imposture "further go"? It does really seem as though we might hope that "things will come right at last," when such a multitude of absurdities and inconsistencies are countenanced and supported by those who break away from, or who never have entered, the ranks of legitimate and scientific practice.—*Med. and Surgical Journal.*

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*The "Mange" Communicated to three persons by a Pig.* By H. R. Casey, M D., of Columbia Co., Ga. I will give you the particulars of a conversation held a few days since with a gentleman of this county, and if the deduction I have drawn from the facts as reported is correct, we have presented to us, so far at least as my observation extends, a new disease of the cutaneous system—one hitherto undescribed by dermatologists.

Mr. S. asked me "if I had ever known a man to have the mange?" to which I gave a negative reply: having always understood that it was a disease peculiar to the quadruped. He then asked me "if I thought it possible for a man to catch it from a hog?" I replied, that there are a great many things regarded as impossible, which are not found to be so when subjected to the test—and that this might be one of the cases. He then proceeded to give me the following particulars.

He states that about the first of May last, having a pig badly diseased with the mange, and being desirous to cure him, he had some soap and water got and went to work on him with his hands—and that after giving him a good washing, he stripped him almost of his entire *external* with his nails. That he was entirely well at this time; but that in about three hours thereafter, he felt an itching on his hands and wrists, and an eruption which commenced spreading upwards; that about the same time, his ankles began to itch, and the eruption there made its appearance, which also spread upwards and met the eruption from above at the half-way house—the umbilicus; that it reached its height in about two weeks; that the eruption was characterized by great heat and intolerable itching, composed of small vesicles, which, though not confluent, stood close together over his entire tegumentary tissue. Thus was he at the time of his commencement with the ablution—a sound and healthy man—but in a very short time thereafter, he was transformed into a Lazarus. He thought he had contracted his disease from the pig, and went to work to cure himself, using first the soap and water. This not benefiting him, he was bled and took salts. This failing, he tried *pot-liquor*—then the grease from fried bacon—then a solution of blue-stone. He does not think that any of the means used had any control whatever over the disease, but that it seemed to pursue its course, knowing no conqueror, until it finally wore itself out in about five weeks.

Now, from the above narrative, I can but infer that the disease in question was one identical with the mange, and that it was communicated from the quadruped to the man. And I am further strengthened in this view of the case, from the fact—that a female and the negro boy who held the pig while being subjected to treatment, became in like manner affected. The view I have taken of this case, I know to be in direct conflict with the long-established dogmas of the veterinary school, but I think I am sustained in my position from the facts of the case—and "facts are stubborn things." By reference to the "*History of the Horse*," I find the following language. The author, in speaking of the contagiousness of the mange, goes on to say—"if the same brush or curry-comb be used on all the horses, the propagation of mange is assured; and horses feeding in the same pasture with mangy ones, rarely escape, from the propensities they have to nibble one another. Mange in cattle has been propagated to the horse—and from the horse to cattle—but there is no authenticated instance of the same disease being communicated from the dog to the horse. There is as much difference in the character and eruption of mange in the horse and dog, as between either of them and the itch in the human subject; and the itch has never been communicated to the quadruped, *nor the mange of the quadruped to the human being.*"

My only reply to the above quotation, is the presentation of the case related; and if I am not sustained in my corollary from the facts of the case, this article will go for nothing. I pretend to no familiarity with cutaneous diseases; but if I were called upon to classify the mange, I should locate it in the group *dermatoses scabienses* of Wilson, not only from the pathology, but also from the therapeia of the disease; for I find sulphur the anchor of safety to the veterinary surgeon. Nor do I think there is anything very strange in all this; and the only reason why we have never before had the mange communicated to man arises simply, I think, from the fact, that in all probability more caution has hitherto been exercised than was in the case before us. We have examples of other diseases occurring in the human subject, the result of propagation from the lower order of animals. In the Révue Médicale of July, 1845, we have detailed the case of an officer who took the glanders and farcy from a horse, and in which experiments were made by M. Andouard, to test the contagiousness of the human fluid introduced into other animals—the results of which experiments went to prove that the disease was not only communicable to man from the horse, but that the disease was again transmissible from the human subject to the quadruped. In the Southern Medical and Surgical Journal, Nov. 1847, we have a case of glanders in the human subject, derived from the horse, reported as occurring in your own city. Other diseases might be mentioned occurring in the great paragon of animals, communicated from the lower order; but I have already spun out this article to a greater length than was designed at its commencement, and will conclude by merely advising those persons who may have to treat the mange in stock, to touch it lightly, and never make a curry comb of their hands; to which injunction I know my friend S. will say amen.—*Southern Medical and Surgical Journal.*

*The Infatuation of Homœopaths.*—At a recent meeting of the Edinburgh Medico-Chirurgical Society, held on the 19th Nov., at which 64 members were present, a resolution was carried "that the public profession of Homœopathy shall be held to disqualify for being admitted or remaining a member of the Medico-Chirurgical Society." Prof. Simpson, in seconding Professor Syme's motion, narrated the following anecdote, which is too rich not to be repeated:—

One remark of Mr. Syme reminded Dr. Simpson of a curious fact in the early history of homœopathy in Edinburgh, proving on the one hand how far imagination will go, on the other hand that all homœopathic globules are alike, or rather are alike inactive. Some eight years ago Dr. Simpson received a present of a box of homœopathic medicines from an old school-fellow, who had set up as a homœopathic druggist. During the time it was in Dr. Simpson's possession, it was given as a plaything to his son, then a child. The boy amused himself by uncorking the bottles, emptying their contents into a general heap, and then refilling them promiscuously. The effect of this was a complete compounding of the globules of different kinds, by mixing them together. It soon happened that a professional brother calling at Dr. S.'s, took a fancy to the box and carried it off. Many weeks after, the new proprietor of the box met Dr. Simpson, and told him he had been trying homœopathy, with the contents of his box, and that he had accomplished wonderful cures! Dr. Simpson enjoyed the joke, and said nothing about the box until, finding his friend had got deep into the homœopathic mine, and actually published a list of cases, he at length told him of the elaborate mixture the globules had undergone. This friend is Dr. Henderson!!!—*Prov. Med. & Surgical Journal.*

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*Mechanism of Jenny Lind's Voice.*—The following interesting article on the mechanism of Jenny Lind's voice, is taken from a late English journal. We fully agree with the writer as to the remarkable power of her voice, and her wonderful skill in managing it.

"The voice of this great *cantatrice* is one of those wonderful natural gifts which Providence occasionally vouchsafes to a favorite mortal. Jenny Lind possesses what may be termed a *double voice*, the natural voice from grave to the acute, a range over three octaves; and she has the power and faculty of producing a *recurrent*, or backward voice, into the lungs, upon the upper and lower notes in singing, which is purely ventriloquous, of which faculty her 'echo' song is a perfect illustration. Thus she is able to control her voice upon the most difficult vibrations of the vocal chords, to be perfect in her intervals, and, which renders her so surprising in the perfection of her intonations, that they ring upon the ear with an effect and a charm so indescribable and puzzling to the hearer.

"The peculiarity of this ventriloquous power, and the wonderful part of her vocalization is, that her organization enables her to use those recurrent sounds, the same as a person whistling executes sounds by the recurrent action or drawing in the breath while inspiring. This faculty Jenny Lind controls and manages with an ease, a grace, and with such masterly artistic skill as almost to defy detection by the most refined and critical ear. By this recurrent or ventriloquial action she has the command of the epiglottis and its parts (the valve closing the laryngeal chamber when in the act of swallowing,) vibrating plates, similar to the plates forming the bronchial fissure of the larynx which I have stated is the natural passage for the air forming the voice.

"In addition to the command over her vocal faculties, she sings from the larynx, while she throws the vocal force from the lungs and diaphragm, giving to it the strength, the fulness, the roundness, and the steadiness and endurance of the *grave*, or "chest voice." By this immensity of vocal power, by the contraction and diminution of the vocal chamber, she is enabled to trill and revel high in *alto*, without any detection from her hearers of any stop, or of any change in her voice. Thus her intonations and modulations by this peculiar organization, are rendered perfect, and her upper and lower notes are given with an inflexibility and softness of which her dying away "echo" tone is a practical illustration; as are also each cadenza, "run," "shake" and "trill" made upon her tones with a decision, flexibility,

purity and correctness that are only surpassed by the delicate yet magnificent swell and chaste *diminuendo* of her middle and lower tones, which has established that "indescribable peculiarity" in her voice, and emphatically secured to her the euphonious title of "the Nightingale." Nor are these all. In her trilling notes she has the faculty of using the accessory recurrent notes. It is our opinion, that the exercising of these notes and this ventriloquous faculty, by overtasking her powers, lost to Jenny Lind her voice for a period. These accessory notes, although dissimilar, are rendered artistically correct, and at once strike the mind, awaken attention and wonderment, both as to the cause and their execution."—*Boston Medical and Surgical Journal.*

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*Observations on the Teas of Commerce.* By R. WARINGTON, F. C. S.—In my previous communication to the Society on this subject, in February, 1844 (Memoirs and Proceedings of the Chemical Society, ii. 73,) I endeavoured to show that there exist two distinct kinds of green tea, known in commerce as *glazed* and *unglazed;* that the former is colored by the Chinese with a mixture of Prussian blue and gypsum, to which a yellow vegetable coloring matter is sometimes added, while the latter are merely dusted with a small quantity of gypsum; that in the specimen of the so-called Canton gunpowder, this glazing or facing is carried to the maximum. I also mentioned, that I had never met with a sample of green tea in which the blue tint was given by means of indigo. Since the publication of that paper, I have been in communication with several parties of great experience in this subject, from whom I have received much additional information, which, with several experimental points of interest that have come under my own immediate observation, will form the subject of the present paper.

The first point to which I wish to call the attention of the Society is, the question of the blue coloring matter used by the Chinese for coloring the green teas being Prussian blue, because some doubts have been thrown on this subject from various quarters. Mr. Bruce thus states (Report on the Manufacture of Teas, &c., by C. A. Bruce, August 16, 1839):—"The Chinese call the former (the indigo) *youngtin*, the latter (the sulphate of lime) *acco*." Now I am favored with the opinion of Mr. J. Reeves on this point, whose knowledge and experience render him most competent to decide in such a case; he believes that indigo is *never* employed for coloring used on tea, that the term youngtin, as used by Mr. Bruce, should be yong-teen, *foreign blue*, the name given by the Chinese to Prussian blue, in contradistinction to Too-teen, *native blue* or *indigo;* this, I think, is very conclusive evidence, and shows that Mr. Bruce's statement was erroneous.

In another quarter a surmise has also been published on this same point. Mr. Fortune, in his entertaining work (Three Years' Wanderings in the Northern Provinces of China, by Robert Fortune) on China, says, speaking of the ingredients used in dyeing the northern green teas for the foreign market, page 201:—"There is a vegetable dye, obtained from *Isatis Indigotica*, much used in the northern districts, and called Tein-ching, and it is not unlikely that it may be the substance which is employed;" again, at page 307—"I am very much inclined to believe that this (the Tein-ching) is the dye used to color the green teas which are manufactured in the north of China, for the English and American markets." This question, however, I think is now satisfactorily settled, and the experimental evidence I had adduced of the material being Prussian blue of a darker or paler tint, placed beyond a doubt by a positive demonstration; for Mr. Fortune has forwarded from the north of China for the Industrial Exhibition, specimens of these materials, which from their appearance, there can be no hesitation in stating, are fibrous gypsum (calcined,) turmeric root and Prussian blue; the latter of a bright pale tint, most likely from admixture with alumina or porcelain-clay, which admixture may account for the alumina and silica found as stated in my previous paper, and the presence of which was then attributed possibly to the employment of kaoline or agalmatolite.

Mr. J. R. Reeves, in a letter to my friend Mr. Thompson, dated July 1, 1844, commenting on my paper, says:—"Mr. Warington's experiments have led him to correct results as to the substances used, which I know to be Prussian blue, gypsum (fibrous,) and turmeric; the second being sulphate of lime; and the last, the 'yel-

low, or orange-colored vegetable substance,' which Mr. W. does not otherwise name. That the coloring is not intended as an adulteration, I feel quite sure. It is given to suit the capricious taste of the foreign buyers, *who judge of an article used as a drink by the eye instead of the palate.* You well know how little the London dealers, even now, like the yellowish appearance of uncolored green tea. The Americans, a few years since, carried the dislike even farther than the English, and therefore the Chinese merchant had scarcely any chance of selling his tea unless he gave it a 'face' that would suit *their fancy.* The small quantity of the coloring matter used, must preclude the idea of adulteration as a matter of profit." Mr. J. Reeves states, "that in the East India Company's time, gypsum and Prussian blue were sometimes used upon hyson teas, Tien Hing using the first on his pale, bright hyson; Lum Hing, the latter on his dark, bright leaf; but these were only in minute quantities, just sufficient to produce an uniform face.

It is still a question of interest, which I before alluded to, whether the gypsum in its *calcined* state is not used for the absorption of the last portions of moisture, and allowing the tea the better to withstand the damp of the sea voyage. Through the kindness of Dr. Royle, I have received, since my last communication, a sample of green tea from the Kemaon district, in the Himalayas, which is quite free from any facing, as are also the green teas of Java, a large number of which I have had the opportunity of examining, and which are exceedingly clean and genuine in their appearance and character.

*On Black and Green Teas.*—Although the preparation of green and black tea from the respective plants, the *Thea Viridis* and the *Thea Bohea,* has been warmly advocated by many botanists, yet it is now, I believe, pretty generally admitted by all parties, that both green and black teas can be and are made, indiscriminately, from the same parcel of leaves, taken from the same species of plant. It is also well known to all persons, that the infusions from these teas have marked differences of color and of flavor, and that the effects produced on some constitutions by green tea, such as nervous irritability, sleeplessness, &c., are very distinct from those of black tea. Their characteristic physical differences are too well known to require any comment, but they have peculiar chemical properties to which we shall have occasion to allude more particularly presently, and which have always been attributed by chemists to the effect of high heat in the process of manufacture.

The question presents itself then—from whence do these distinguishing peculiarities arise, and to what are they to be attributed? From observations made in other directions, in the course of the routine work of the establishment to which I am attached, I had formed in my own mind certain conclusions on this subject. I allude to the exsiccation of medicinal herbs; these are for the most part nitrogenous plants, as the *Atropa belladonna,* the *Hyoscyamus niger,* the *Conium maculatum,* and others. The plants are brought to us by the growers or collectors from the country, tied up in bundles, and when they arrive fresh and cool they dry of a good *bright green* color; but, on the contrary, it is found that if they are delayed in their transit, or remain in a confined state for too long a period, they become heated, from a species of spontaneous fermentation, and when loosened and spread open emit vapors, and are sensibly warm to the hand; when such plants are dried, the whole of the *green color* is found to have been destroyed, and a *red-brown* and sometimes a *blackish-brown result* is obtained. I had also noticed that a clear infusion of such leaves evaporated carefully to dryness was not *all* redissolved by *water* but left a quantity of *brown oxidized extractive matter,* to which the denomination *apotheme* has been applied by some chemists; a similar result is obtained by the evaporation of an infusion of black tea. The same action takes place by the exposure of the infusions of many vegetable substances to the oxidizing influence of the atmosphere; they become darkened on the surface, and this gradually spreads through the solution, and on evaporation the same *oxidized extractive matter* will remain insoluble in water. Again, I had found that the green teas, when wetted and re-dried, with exposure to the air, were nearly as dark in color as the ordinary black teas. From these observations, therefore, I was induced to believe that the peculiar characters and chemical differences which distinguish black tea from green, were to be attributed to a species of heating or fermentation, accompanied with oxidation by exposure

to the air, and not to its being submitted to a higher temperature in the process of drying, as had been generally concluded. My opinion was partly confirmed by ascertaining from parties conversant with the Chinese manufacture, that the leaves for the black teas were always allowed to remain exposed to the air in mass, for some time before they were roasted. Mr. Ball, in his valuable work (An Account of the Cultivation and Manufacture of Tea in China, by Samuel Ball, Esq.,) on the manufacture of tea, has described in detail the whole routine of these interesting processes, fully confirming my pre-conceived opinions, and of which I cannot do better than give you a summary. Some of the facts, I believe, had been published in Batavia in 1844, by Mr. Jacobson (Handboek v. d. Kult. en Fabrik v. Thee,) in the Dutch language. In the preface to this work, Mr. Ball says:—"It will be seen by dates incidentally adverted to, that the facts and most of the materials of this work, were established and collected thirty years ago." "These facts, as well as other materials, were derived from conversation with growers and manipulators from the tea districts; from written documents furnished by Chinese; from published works in the same language diligently sought out; and also from correspondence with a Spanish missionary long resident in the province of Fokim. These were all put into their present form full twenty years ago, and were read to one or two friends during my residence in China."—"They were not, however, so arranged, with any view to immediate publication."—"They were thus disposed as the best mode of recording and keeping together the facts and materials I had collected."—"But it was not till the year 1844, when I received Mr. Jacobson's Handbook on the cultivation of tea in Java, that I found my own views so far confirmed, and my information such as to justify me in bringing my labors to a close."

The processes peculiar to the preparation of black tea, are styled Leang-Ching, To-Ching and Oc-Ching, and these all consist in carefully-watched and regulated processes of *spontaneous heating* or *slow fermentation* of the leaves until a certain degree of fragrance is developed. The leaves are said to *wither* and *give*, and become soft and placid. The utmost care, practical skill and experience are required in the properly conducting these operations, and as soon as the proper point is arrived at, the leaves are to be immediately removed to the Kuo or roasting-pan. After being roasted and rolled two or three times, they are then to be dried, and this is effected in the Poey-long, which consists of a cylinder of basket-work, open at both ends, and covered on the outside with paper; it is about 2¼ feet in height, and 1½ in diameter, which diameter is diminished in the centre like an ordinary dice-box to one foot and a quarter. This stands over and round a small charcoal fire, and is supplied with cross-bars about fourteen inches above the fire, on which an open sieve containing the tea is placed; and a small aperture about an inch and a half in diameter is made in the centre of the tea with the hand, so that an ascending current of air and the products of the combustion pass through and over the tea contained in the sieve. A circular flat bamboo tray is placed partially over the mouth of this cylinder, and most probably serves to regulate the rapidity of the ascending current, prevent the admission of the cold air to the leaves, and at the same time allow a sufficient outlet for the generated watery vapors and the products of combustion. At the commencement of this operation, the moist leaves are still green and retain their vegetable appearance; after the drying has continued about half an hour, the leaves are turned, and again submitted to the heat for another half hour; they are then taken out, rubbed and twisted, and after sifting away the small dust, again returned to the sieve and drying tube. This operation of sifting is very necessary, to remove any of the small tea or dust which might otherwise fall through the meshes of the sieve on to the fire, and the products of their combustion would deteriorate and spoil the flavor of the tea. The leaves have now begun to assume their black color; the fire is diminished or deadened by ashes; and the operation of rolling, twisting and sifting is repeated once or twice until they have become quite black in color, well twisted, and perfectly dry and crisp. They are then picked, winnowed, and placed in large quantities over a very slow fire for about two hours, the cylinder being closed.

Now, that this black color is not owing to fire is evident for in cases mentioned by Mr. Ball, where the leaves have been dried in the sun, the same color is ob-

raised; and on the other side, if roasted first, without the process of fermentation or *withering*, and then finished in the Poey-long, a kind of green tea is produced.

In the operations for the manufacture of green tea, on the contrary, the freshly-picked leaves are roasted in the Kuo at once, without delay, at a high temperature; rolled and roasted again and again, assisted sometimes with a fanning operation to drive off the moisture; and always with brisk agitation until the drying is completed.

The marked differences in the mode of manufacture of black and green tea, will, I consider, after what has been stated, fully account for all the variation of physical and chemical properties to which I have before alluded.

*Adulteration and Sophistication of Teas.*—Since writing my former paper, several teas have come under my notice which must be classed under this head. The first I shall mention is a sophistication which has been carried on in this country to some extent, and consists in giving the appearance of green tea to an imported black tea. The material used as the bodies for this process of manufacture is a tea called scented caper; it is a small, closely-rolled black tea, about the size of small *gunpowder*, and when colored is vended under this latter denomination, the difference in price between the scented caper and this fictitious gunpowder being about 1s per pound, a margin sufficient to induce the fraud. This manufacture has been carried on, I understand, at Manchester, and was kept as secret as possible; and it was only after considerable trouble that some of my friends succeeded in obtaining two different specimens for me, that could be fully depended on, as originating in this manufactory. It appears that it is generally mixed with other tea, so as to deceive the parties testing it. How this manufactory was conducted I am not prepared to say:—but some preparation of *copper* must have been employed, as the presence of that metal is readily detected in the specimens I received. I believe, however, that this sophistication has ceased.

I have now to call your attention to another adulteration of the most flagrant kind. Two samples of tea, a black and a green, were lately put into my hands by a merchant for examination, the results of which he has allowed me to make public. The black tea was styled *scented caper;* the green, *gunpowder;* and I understand they are usually imported into this country in small chests called catty packages. The appearance of these teas is remarkable; they are *apparently* exceedingly closely rolled, and very heavy; the reasons for which will be clearly demonstrated. They possess a very flagrant odor. The black tea is in compact granules, like shot of varying size, and presenting a fine glossy lustre of a *very black* hue. The green is also granular and compact, presenting a bright pale-bluish aspect, with a shade of green, and so highly glazed and faced, that the facing rises in clouds of dust when it is agitated or poured from one vessel to another; it even coats the vessels or paper on which it may be poured. On examining these samples, in the manner described in my former paper, to remove this facing, I was struck by the tenacity with which it adhered to the surface, and which I had never remarked in any previous sample, requiring it to be soaked for some time in the water before it could be detached; with this precaution, however, the greater part of the facing material was removed. It proved, in the case of the sample of green tea, to be a pale Prussian blue, a yellow vegetable color, which we now know to be turmeric, and a very large proportion of sulphate of lime. The facing from the sample of black tea was *perfectly black* in color, and on examination was found to consist of earthy graphite or black lead. It was observed that during the prolonged soaking operation, to which these teas had been submitted, there was no tendency exhibited in either case to unroll or expand, for a reason which will be presently obvious. One of the samples was therefore treated with hot water, without, however, any portion of a leaf being rendered apparent. It increased in size slightly, was disintegrated, and then it was found that a large quantity of sand and dirt had subsided; this was separated by decantation, and collected; it was found to amount to 1.5 grains from 10 grains of the sample, or 15 in the 100 parts. It was evident, however, that much of the lighter particles must have been lost in the process of decantation; a weighed quantity of the sample was therefore carefully calcined, until the ash was quite white, and the whole of the carbonaceous matter burnt off; it yielded a result equivalent

to 37.5 on the 100 parts. During this operation, also, no expansion or uncurling of the leaf, as is generally to be observed when heat is applied to a genuine tea, was seen; in fact, it was quite evident there was *no leaf to uncurl*, the whole of the tea being in the form of dust. The question next presented itself as to how these materials had been held together, and this was readily solved; for, on examining the infusion resulting from the original soaking of the sample, abundant evidence of gum was exhibited.

The sample of green tea was of a precisely similar kind to the black; it yielded 4.55 grains of ash, &c., from 10 grains of the specimen, or 45.5 per cent. A specimen of Java gunpowder yielded 5 per cent. of ash; so that we have in this sample 40.5 per cent. of dirt and sand over and above the weight of ash yielded by the incineration of a genuine tea.

Thus we have then in these samples a mixture of tea dust with dirt and sand, agglutinated into a mass with a gummy matter, most probably manufactured from rice-flour, then formed into granules of the desired size, and lastly dried and colored, according to the kind required by the manufacturer, either with black lead, if for black tea; or with Prussian blue, gypsum, or turmeric, if intended for green.

Since examining these two samples, I have obtained through a friend another specimen of green tea, having a very different appearance; that is, better manufaced, or rather, I should say, more likely to deceive the customer, from its being made to imitate an *unglazed tea*. It is of a yellowish-green color, scented and granulated as the former samples, and not much dusted; it yielded 34 per cent. of ash, sand and dirt.

On inquiry, I have learned that about 750,000 lbs. weight of these teas have been imported into this country within the last eighteen months, their introduction being quite of modern origin; and I understand that attempts have been made to get them passed through the Customs as *manufactured goods*, and not as teas; a title which they certainly richly merit, although it must be evident, from a moment's consideration, that the revenue would doubtless be defrauded, inasmuch as the consumer would have to buy them as teas from the dealer. It is to be feared, however, that a market for them is found elsewhere. The Chinese, it appears, will not sell them except as teas, and have the candor to specify them as *lie* teas; and if they are mixed with other teas of low quality, the Chinese merchant gives a certificate, stating the proportion of the *lie tea* present with the genuine leaf. This manufacture and mixing is evidently practised to meet the price of the English merchant. In the case of the above samples, the black is called by the Chinese, *lie flower caper;* the green, *lie gunpowder;* the average value is from 8d. to 1s. per lb. The brokers have adopted the curious term *gum and dust*, as applied to these lie teas or their mixtures, a cognomen which at first I had some difficulty in understanding, from the rapid manner in which the two first words were run together.

I will subjoin the results obtained from the careful incineration of a variety of teas, as they may be interesting, for the purpose of comparison, and illustrate the point I have mentioned as to these spurious teas being mixed with genuine ones.

Gunpowder tea, made in Java, gave 5.0 grains of ash in the 100 parts:

| | |
|---|---|
| Gunpowder, during the East India Company's Charter | 5 0 |
| Kemaon hyson | 6.5 |
| Assam hyson | 6.0 |
| Lie gunpowder, No. 1 | 45.5 |
| " " No. 2 | 34.0 |
| Scented caper | 5.5 |
| Lie flower caper | 37.5 |
| Mixtures containing these lie teas, No. 1 | 22.5 |
| " " No. 2 | 11.0 |

—*Quarterly Journal of the Chemical Society, July* 1, 1851.

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*Death of Priessnitz.*—Priessnitz, the celebrated founder of hydropathy, died at Graefenberg on the 26th of November, at the age of 52. In the morning of that day Priessnitz was up and stirring at an early hour, but complained of the cold, and had wood brought in to make a large fire. His friends had for some time believed him to be suffering from dropsy of the chest, and at their earnest entreaty he consented to take a little medicine, exclaiming all the while, "It is of no use." He would see no physician, but remained to the last true to his profession. About four o'clock in the afternoon of the 26th he asked to be carried to bed, and upon being laid down he expired.—*London Medical Gazette.*

*On the Preservation of Animal Substances, by* HENRY GOADBY, M. D.—Dr Goadby, who was formerly Dissector of Minute Anatomy to the Royal College of Surgeons of England, has communicated a most interesting paper to the *American Journal of Science and Arts*, (Silliman's) on the above subject. The expense and difficulty of preserving morbid preparations in this country, alcohol being the fluid employed, renders the subject one of extreme moment to us. The substances employed are rock salt, alum, corrosive sublimate, and arsenious acid, and they are never all employed at one time. Their relative qualities are thus detailed by the author, although epitomized: rock salt preserves the characteristics of the tissues unimpaired, better than any other agent, and he uses it more frequently than any other; alum coagulates the albumen in proportion to the quantity employed, and acts chemically on the carbonate of lime; corrosive sublimate is employed mainly to prevent fungus vegetation in the fluids holding animal tissues in suspension; arsenic softens the animal tissues to a remarkable degree, and should not be employed for preparations kept in glass vessels, as it acts chemically upon the lead which they contain. Dr G. employs it, however, for its softening properties, to recover animals that had been hardened and corrugated, or to perform elaborate dissections of nerves.—Goadby's fluids used, are the following:

1.

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|---|---|
| Rock Salt, | 4 ounces, |
| Alum, | 2 ounces, |
| Corrosive Sublimate, | 4 grains, |
| Boiling Water, | 80 ounces. |

A mixture, containing half the corrosive sublimate and water, is occasionally employed, but is considered too astringent.

2.

| | |
|---|---|
| Rock Salt, | 8 ounces, |
| Corrosive Sublimate, | 2 grains, |
| Boiling Water, | 40 ounces. |

The arsenical fluid is prepared by adding to the last 20 grains of arsenious acid. By this admixture, the colors of the animal tissue are preserved.

*Mode of Using the Fluids.*—When either of the foregoing fluids is required for the display of preparations in a public or private collection, they should be *well filtered.* If the filtration be properly performed, these fluids are remarkably bright, white, and brilliant, far exceeding in this respect any alcoholic fluids.

The best, neatest, and readiest mode, in my experience is the plan of my invention, namely: first place in the upper vessel of a small copper glue pot some marine glue cut small; in the lower vessel, where the carpenter would put water for the careful dissolution of animal glue, put linseed oil, and then apply heat; the temperature of the boiling oil will dissolve the glue the first, second, and even a third time, with care; after this it becomes altered in its properties, and refractory.

The dissolved glue should be rapidly applied to the rim of the glass jar (which must be quite dry and free from grease,) with a brush, and the only brush that will stand, I make in this way. I take a piece of rattan cane as long as a cedar drawing pencil, and cut off the cortex carefully from one end of it to the length I desire the brush to be, being particular not to let the knife go into the substance of the cane any more than I can help. I macerate the prepared end of the cane for a short time in water, and then, while yet wet, I pound it with a hammer upon some hard substance (iron or stone) constantly turning it with my hand until all the fibres of the cane be liberated, and my brush is then complete. A disc of glass should be cut to fit the top of the jar, made clean, and the part that is to be in contact with the jar also thinly coated with the hot glue. The disc should previously have had a small hole drilled through the centre, (about one-eigth of an inch diameter) for a reason that will presently appear.

The two surfaces of glass being *apparently* coated with marine glue, but *really without contact*, the latter must be insured by means of a hot iron which should be carefully passed over the surface of the glue several times till it and the glass become hot, care being taken to keep the

iron constantly in motion, and always on the edge of the jar, or of the disc, as in that case the expansion will be equal, and no danger occur even if the iron be *red hot;* but, it will instantly break if the iron be allowed to linger in one place, or touch any but the outer portion of the disc, or the rim of the jar.

By means of a syringe, to which a small pipe is affixed, fill up the jar with the preserving fluid, not quite full, however, as the great expansion of the fluid (the B especially) in sudden increase of temperature, may cause the breakage of the top glass; then cut a cork to fit the small hole tightly, insert it, pare it off level with the surface, place upon it a piece of solid marine glue made to adhere to the cork by means of the point of the hot iron, and cover it with another disc of glass of about the size of a ten cent piece, and the preparation is finished.

It is a good practice to prepare the portion of thread that is to come outside of the jar, the cork, and even the surfaces of glass to be coated, with a liquid solution of the marine glue, which may be made by dissolving a piece of glue in an excess of whitewood Naphtha.

Should a stopper become fixed in the neck of a bottle by the crystallization of the salt, it may be easily removed by dissolving the salt by water, and gently tapping the cross piece of the stopper at its extreme ends, (*never across its shortest diameter,*) with a door key. If the cross piece come off, make it, and the remainder of the stopper that is in the neck of the bottle *hot* with the iron, apply marine glue, and cement them together,—when cold, renew your operations,—the stopper is stronger now than before, will easily come out, and last longer than one not broken. To keep the fluids in stoppered bottles and to prevent the possibility of the salt crystallizing on the outside of the stopper, the marine glue may be advantageously employed; or a cement, proposed by Prof. Olmsted, of Yale College, made by melting resin and lard together by the application of heat, and intimately mixing them. The respective quantities of the materials will depend on whether the cement is required to become hard, or not. If the former, the resin must be in excess; if the latter, use more lard. For the purpose that I indicate above, it should be *stiff,* and *ropy;* remaining just soft enough in hot weather, to spread with a palette knife.

British American Journal.

MONTREAL, JANUARY 1, 1852.

## THE PROVINCIAL LUNATIC ASYLUM, AND THE U. C. JOURNAL.

One of the most striking benefits conferred upon a people by the press, is the exposure of improper conduct and practice in the body politic, and, by a vigorous denunciation of them, to prohibit their repetition, and thus preserve the morale of the community. The press is mighty for good or evil in this way; and the moral tone of a community can be always safely inferred by the character of its publications, which are ephemeral precisely in accordance with that tone. As it is with the general mass of the people, so is it also with particular sections, or with those devoted to particular pursuits. The press, if such the latter possesses, must be taken as the mirror of its moral and intellectual constitution; and as, in all communities, and sections of communities, there are to be found men erring in their ways, over whose faults the veil of oblivion may be occasionally appropriately thrown, yet, when gross violations of the moral rules are perpetrated, if circumstances preclude exposure, the press should, at least, not attempt a justification of the fault, or throw its protecting Ægis over the offender. This savors, to us, of a prostitution of its prerogative. In struggling for the observance of the ethics of the Profession in their highest state of purity, as the certain means of making that profession what it should be, —respected on all sides,—it should treat, in this matter, all alike. The interests of one are nothing compared with those of the many; and while it "nothing extenuates nor sets down aught in malice," its own position should be clear and defined, guided by but one rule—a full appreciation of its own duty and responsibility, as representing the interests of an enlightened profession, whose cause it has taken up and professes to advocate.

These reflections were painfully forced upon us, when perusing the leading editorial in the last number of our Upper Canada contemporary, upon the recent inquest in connection with the Provincial Lunatic Asylum, in Toronto, the details of which we chronicled in our own last issue; and, while we refer our readers to that report, we shall, at present, merely advert to some of its leading particulars.

A patient in the Provincial Lunatic Asylum, named Andrews, died on the 11th November. An inquest was held on the body on Sunday the 12th, and the remains in their supposed integrity were sent to the grave-yard for interment on Monday the 13th. In assisting the grave-digger to remove the coffin, a gentleman remarked its lightness, which led to investigation, and the disclosure that the body was minus its head and neck, and right superior and inferior extremities. On the following Wednesday, doubtless in consequence of the rumors afloat, and popular excitement, the missing members were sent to the grave-yard in a deal box, and at a second inquest held on the following Saturday, they were identified as parts of the same body, and, in Dr Lyons' language, presented the following appearances: "the head had been sawn in two, and put together again—the sinews of the neck were gone—the arm, head, and leg had been partially dissected, and the leg had been taken off, apparently for the purpose of practising amputation at the thigh bone."

Such are the simple facts of the case; and that the citizens of Toronto should have felt indignant at such wanton mutilation of the remains of an unfortunate inmate of their Asylum, is not in the least surprising to us; and, in our opinion, it was deserving of much graver condemnation at the hands of the Commissioners of the Asylum, than that which it really received, who merely passed a vote of censure on their medical superintendent, for "indiscretion and a want of judgment."

Now, no one who reads the description which the dismembered parts presented will credit the assertion so speciously advanced by the *Upper Canada Journal*, that they were abstracted for the purpose of pathological investigation, or to detect some "structural peculiarity." The existence of such a peculiarity is, in all cases, questionable. It is rare that a *priore* reasoning will indicate it. That they were retained for the purposes of dissection, and were, in accordance with that intention, literally so used, there can be no manner of doubt. We object not to the medical Superintendent's maintaining his knowledge of anatomy in the only proper way by which he could do so, viz: by dissection; but there are legitimate, as well as illegitimate modes of effecting that object; and in this instance, he emphatically selected the latter, with concomitants,—as regards his position in the Asylum,—which expose him to the heavy censure of every right-minded member of the Profession.

But our contemporary further declares that "he was justified by the law of the land, in making a post mortem examination of the body." And so he was. And let us ask, why did he not do it at the proper time and place, viz: at Mr Coroner Duggan's inquest at the Asylum? * It was *not* done at the very time the law directs, the consequence of which laxity resulted in the remarkably indefinite verdict that "the deceased died of disease of the

* The *U. C. Journal* alleges that "it was proved that Dr Scott had made a *post mortem* examination of the body *prior* to giving his evidence before Mr Coroner, Duggan." We ask where the proof exists? On the contrary, Mr Burns, the door-keeper and apothecary at the Asylum, deposed, at the second inquest, "that no *post mortem* examination took place either before or after the inquest, that a *post mortem* examination did take place on Monday morning," (twenty-four hours after the inquest.—*Ed.*) "and that Dr Scott cut off the head and limbs for anatomical purposes, &c."—*See page* 362.

lungs and stomach!" Had Andrews no disease of the *brain*? Had he no disease of the liver? And what disease of the lungs, and what of the stomach, were those which he had? And were these primary or secondary affections? If the Toronto Asylum, which has cost the Province so large a sum, is to be managed in this manner, its fertile sources of knowledge closed by the wilful blindness of those who should be keenly alive to their importance, then we say that but little real benefit from it will be conferred upon the community. It will be as it has been—a mere lazar house, existing for the day, and exerting no possible influence on the future.

But the climax of our contemporary's special pleading is capped by the following, which, lest we should be considered as doing violence to the original language, or perverting its meaning, we give entire, "Dr. Scott has in our opinion displayed 'indiscretion and want of judgment' not in removing and retaining the portions of the body which he considered worthy of particular and careful examination, but in not directing his subordinate officers to see the body of his patient properly and decently interred, and in allowing it to be left to the custody of an unscrupulous sexton, who for some consideration, or the gratification of his own idle curiosity, would subject the corpse to the gaze of inquisitive and officious bystanders. Again we think Dr. Scott to have been in error, in sending at the time he did, the portions of the body he had retained, to the sexton for interment; it was a concession to public sensitiveness; a tacit acknowledgment, as it were, of impropriety on his part, which really did not exist." Such then, we presume, is the standard of morality advocated by the *Upper Canada Journal*, the self-constituted organ of the Upper Canada Profession. *Oh, tempora! Oh, mores!* The thief who robs you of your purse, would exhibit both sound judgment and discretion in not returning it, except at his convenience; and the offence would cease to be one, if he kept it for ever, *provided it was never missed*. Such is a legitimate application of the sentiment conveyed in the above quotation; and differing, *toto cælo*, from our contemporary, we think that Dr. Scott exhibited both sound judgment and discretion in returning "when he did," what clearly was not his, no matter for what purposes soever retained, although these are too patent, while our contemporary has exhibited both "indiscretion and want of judgment" in inditing such nonsense as that quoted, and in pledging *ex cathedra* the Profession to its accuracy and support.

We certainly did not intend to have alluded to this Toronto Asylum business, or to have expressed any opinion upon it, beyond that contained in the four lines of editorial comment when we published the Report in our last number; but the singular defence of the medical superintendent, adopted by the *U. C. Journal*, has forced us to declare our opinions on the point more unreservedly than we purposed. Our contemporary will not give us the credit for being influenced by any of the private cliques, political or otherwise, of Toronto. We have taken the subject up on its mere merits. And while the medical superintendent has little cause of rejoicing, in the mode in which the *Upper Canada Journal* has advocated his cause, the *Journal* itself must learn, that its opinions and judgments should be guided neither by fear, favor, nor affection, and that, holding in its hands the integrity of the Profession, it should be cautious, lest that integrity should be impeached.

But before we conclude, we must take the opportunity of correcting our contemporary on a misapprehension under which it labors. The *U. C. Journal* observes "on the broad question of the necessity for minute anatomical study, little, it may be

supposed, would require to be said at the present day. In Great Britain, and elsewhere, legislative provision has long since been made for its efficient prosecution.—Our contemporary then alludes to the abuses of "a grave* character," which existed antecedently to the enactment of a law, by which bodies of persons dying under certain circumstances were delivered over to the schools of medicine, and finally winds up by remarking that "such a measure is required in this country," and directs Dr Rolph's earnest attention to the subject, to obtain this "needful concession." We apprehend that Dr Rolph will act in this matter as we now do, viz: by directing the attention of the *U. C. Journal* to the provisions of the 7 Vic., Cap. 5, known under the title of "an Act to regulate and facilitate the study of Anatomy," which was sanctioned on the 9th December, 1843, therefore a tolerably old act, in which every "*needful concession*" has been made, and of the existence and operation of which, we are astonished that our Upper Canada contemporary should appear to have no knowledge.

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*The Canadian Schools of Medicine.*—The following is, we believe, a tolerably correct return of the matriculated students in each Medical school in the Province :—

| | | |
|---|---|---|
| Toronto | University of Toronto..... | 45 |
| | Trinity College..... | 12 |
| | Toronto School of Medicine.... | 31 |
| Montreal | University of M'Gill College... | 64 |
| | St Lawrence School of Medicine | 24 |
| | Montreal School of Medicine | 24 |
| Quebec School of Medicine..... | | 16 |

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*St. Patrick's Hospital.*—This hospital is now established. Its medical staff is composed as follows :—

R. L. Macdonnell, M.D., Surgeon and Lecturer on Clinical Surgery.

A. H. David, M.D., Physician and Lecturer on Clinical Medicine.

H. Howard; M.R.C.S.L., Opthalmic and Aural Surgeon, and Lecturer on Opthalmic and Aural Surgery.

S. B. Schmidt, M.D. } Assistant Physici-
Thos. M'Grath, M.D. } ans and Surgeons.

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*To Subscribers.*—We issued during the month, after an examination of the financial affairs of the Journal, a circular to all subscribers in arrears, specifying to each the amount due, and the volumes for which payments have not been made. Nearly £500 are due the Journal, composed of small sums, individually owing, of trifling moment to each subscriber, but the non-payment of which is productive of serious inconvenience to ourselves, and if much further prolonged will necessitate the discontinuance of the Journal. If the Journal is to be continued after the present volume, it must be by strict adherence to its terms—advance payment of the subscription; to which we will be forced to add the usual alternative, common to every American periodical, of an increased subscription price, if delay in payment takes place. We return thanks to those of our subscribers who have replied to our circular.

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*Circular.*—We have received during the month, from Prof. Gross, the subjoined circular, with a request for its publication. We earnestly recommend it to the attention of our surgical friends, under the full expectation that they will co-operate in the work in which their assistance is requested :—

*To the Medical Profession of the United States and Canada—*

The undersigned having been appointed,

* We hope our contemporary was not punning, but was soberly serious. The *subject* is unquestionably of too *grave* a character to be treated *lightly*.

at the last meeting of the American Medican Association, Chairman of the committee on the "Results of Surgical Operations in Malignant Diseases" respectfully solicits contributions to the subject, founded upon personal observation. To place the subject in as tangible a form as possible, he begs leave to direct attention to the following points:

1. The difference between cancerous and cancroid diseases, or those affections which are truly malignant, and those which are only partially so. In the former category are comprised scirrhus, encephaloid, and melanosis; in the latter, certain maladies of the skin and mucous tissues, as lupus, cheloid, eiloid, and cancer of the lip.

2. The precise seat of the disease, as the skin and subcutaneous cellular tissue; the eye, ears, nose, face, lips, tongue, salivary glands, jaws, and gums; the lymphatic ganglions of the neck, axilla, groin, and other regions; the mammary gland, uterus, ovary, vulva and vagina, penis and testis; the anus and rectum; and, finally, the extremities.

3. The age, sex, temperament, residence, and occupation of the patient.

4. The cause of the disease, its progress, and the state of the part and of the system at the time of the operation.

5. Mode of operation; whether by the knife, caustic or ligature.

6. Time of death, or relapse, after operation.

7. Examination of the morbid product; how conducted— whether by the unassisted eye alone, or by means of the microscope, and chemical tests.

The undersigned hopes that the importance of the subject confided to him, as chairman of the committee above referred to, will be sufficiently appreciated by his professional brethren to induce them to aid him in carrying out the wishes of the American Medical Association. The subject is one of absorbing interest, and cannot fail, if properly treated, to elicit matter of the greatest benefit. It is very necessary that all communications upon the subject should be sent to the chairman of the committee by the 1st of January, 1852.

Medical journals, and newspapers friendly to the interests of medical science, will confer a favor upon the undersigned by by inserting the above notice.

S. D. GROSS, M.D.

University of Louisville,
*June* 29, 1851.

*Errata.*—Our readers are requested to correct the following errors in the review of Walker on Intermarriage. In page 329, col. 2, line 27, for "*wicked*," read "*naked*;" page 330, col. 1, line 6, for "*some*," read "*fewer*."

## OBITUARY.

December 2.—Dr Alexander Wylie, of Matilda.

December 6.—At Ascot, Eastern Townships, William Wilson, M.D., aged 67 years.

## TO CORRESPONDENTS.

*Letters are acknowledged from the following gentlemen:—Dr Wight, St. Johns; Messrs Stringer & Townsend, New-York; Dr Gauvreau, Rivière-du-Loup; Dr Douglas, Quebec; Dr M'Donald, Cornwall; Dr Sewell, Sorel; Dr Evans, Richmond; Prof Croft, Toronto; Dr Hill, Bytown; Dr M'Cargow, York; Dr Beaupre, Drummondville; Capt Lefroy, Toronto; Dr Foster, Froste Village; Mr Willard, Albany, N.Y.; Dr Low, Darlington; Dr Vancourtlandt, Bytown; Dr Gilbert, Hatley; Mr Watts, Wellington Square; Dr Orr, Bondhead; Dr Harvey, Kingston; Dr Howard, St Andrews.*

## BOOKS &c., RECEIVED.

Operative Surgery, by J. F. Malgaigne. Philadelphia: Blanchard & Lea. 1851.

Annual Report of the Normal, Model, and Common Schools in Upper Canada; with an Appendix: Lovell & Gibson. 1851.

The Spinal Nerves, their disposition and distribution, arranged for the use of students, by W. Wright, M.D., Demonstrator of Anatomy, M'Gill College.

The Cranial Nerves, their leading points arranged for the use of students, by the same.

MONTHLY METEOROLOGICAL REGISTER AT ST. MARTIN, ISLE JESUS, by C. SMALLWOOD, M.D., NOVEMBER, 1851.

*Latitude 45° .32 N. Longitude 73° .36 W. Nine miles due west of Montreal.—Elevation same as Montreal.—For the Brit. Amer. Jour.*

| Date. | Barom. corrected & reduced to 32° | | | Temperature of Air. | | | Force of Aqueous Vapour. | | | Humidity of Atmosphere. | | | Direction of Wind. | | | Average Miles per hour. | | | Rain in Inch. | Weather. A cloudy sky is represented by 10, a cloudless sky by 0. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6 a.m. | 2 p.m. | 10 p.m. | 6 a.m. | 2 p.m. | 10 p.m. | 6 a.m. | 2 p.m. | 10pm | 6 a.m. | 2 p.m. | 10 pm | 6 a.m. | 2 p.m. | 10 p.m | 6 a.m. | 2 p.m. | 10 pm | | 6 a.m. | 2 p.m. | 10 p.m. |
| 1 | 29.605 | 29.59 | 29.529 | 39.2 | 40. | 33. | .223 | .212 | .185 | .871 | .803 | .899 | W by N | W by N | N N W | 1.45 | 5.35 | 2,40 | — | Cloudy 2 | Cloudy 6 | Cloudy 3 |
| 2 | 228 | 01 | 030 | 31.5 | 36.1 | 37. | 188 | 227 | 231 | 866 | 987 | 970 | NE byE | N N E | N | 3.42 | 18.37 | 0.05 | 0.346 | Do 10 | Do 10 | Do 10 |
| 3 | 178 | 14 | 167 | 33.5 | 40. | 34.2 | 221 | 205 | 186 | 896 | 776 | 868 | W by S | W | W | 2.83 | 8.38 | 7.91 | — | Do 9 | Do 10 | Do 8 |
| 4 | 165 | 19 | 283 | 32. | 53. | 31.5 | 174 | 185 | 161 | 971 | 899 | 835 | W by N | W by N | W by N | 1.19 | 9.40 | 11.00 | — | Do 10 | Do 10 | Slight snow |
| 5 | 400 | 501 | 513 | 28.5 | 32. | 28.3 | 134 | 174 | 151 | 798 | 974 | 872 | W by N | W by N | W by N | 13.88 | 9.24 | 8.26 | — | Do 1 | Do 3 | Clear |
| 6 | 672 | 759 | 784 | 21.3 | 32. | 29. | 115 | 174 | 159 | 762 | 974 | 833 | W by N | W by N | NWbW | 3.15 | 3.10 | 2.03 | — | Clear | Do 2 | Cloudy 8 |
| 7 | 832 | 759 | 700 | 21.5 | 39. | 35.5 | 112 | 230 | 181 | 737 | 941 | 831 | NE byN | S | S by E | Calm. | Calm. | 1.22 | — | Do | Do 2 | Do 9 |
| 8 | 838 | 65) | 539 | 31.5 | 45. | 39.5 | 188 | 228 | 225 | 866 | 723 | 868 | S W | SW | S W | 1.30 | 2.56 | 0.84 | Inapp | Cloudy 2 | Do 8 | Do 8 |
| 9 | 819 | 840 | 904 | 28.4 | 32. | 24. | 142 | 174 | 120 | 821 | 974 | 800 | W | W | N | 12.54 | 5.44 | 3.16 | — | Clear | Do 3 | Clear |
| 10 | 938 | 941 | 30. 18 | 22. | 28.3 | 22.9 | 113 | 133 | 118 | 813 | 769 | 825 | N N E | N N E | N E | 1.75 | 6.52 | 3.44 | Total | Cloudy 10 | Do 2 | Cloudy 9 |
| 11 | 30.198 | 30.240 | 323 | 15.5 | 31. | 17. | 092 | 162 | 089 | 844 | 843 | 741 | N | W | W | 0.08 | 3.31 | 3.37 | Rain | Clear | Clear | Clear |
| 12 | 297 | 149 | 013 | 14.6 | 36.4 | 26. | 060 | 207 | 130 | 566 | 895 | 813 | S W | W | S W | 0.05 | 3.75 | 6.25 | 0.316 | Do | Do | Do |
| 13 | 29.989 | 29.911 | 29.910 | 22.6 | 31. | 19. | 114 | 129 | 098 | 808 | 672 | 780 | N W | W by N | W by N | 7.78 | 5.00 | 3.87 | —— | Do | Do | Do |
| 14 | 820 | 69[illegible] | 675 | 14.5 | 35. | 23. | 080 | 197 | 116 | 746 | 837 | 820 | W | S W | E | 0.98 | 0.06 | 2.01 | Snow | Do | Cloudy 6 | Snow inapp |
| 15 | 320 | 267 | 305 | 21.2 | 27. | 26.5 | 104 | 151 | 118 | 770 | 906 | 730 | E N E | E N E | W | 12.94 | 9.64 | 9.80 | 1.50 | Cloudy 10 | Snow | Cloudy 10 |
| 16 | 641 | 721 | 777 | 22.6 | 30.9 | 22.3 | 109 | 165 | 110 | 767 | 865 | 799 | W | S S W | S | 9.88 | 3.20 | 2,13 | — | Do 9 | Cloudy 8 | Do 10 |
| 17 | 736 | 699 | 761 | 20.8 | 37.0 | 25.7 | 092 | 231 | 112 | 790 | 970 | 704 | S | N E | N E | 1.24 | 1.02 | Calm. | — | Do 10 | Do 6 | Do 2 |
| 18 | 815 | 853 | 831 | 25. | 40. | 27. | 125 | 205 | 135 | 807 | 776 | 808 | NWbW | S S E | S S E | 0.37 | Calm. | 0.68 | — | Do 10 | Do 4 | Do 10 |
| 19 | 851 | 870 | 910 | 27. | 39.5 | 27.6 | 135 | 205 | 157 | 808 | 738 | 929 | E by N | E by N | N W | Calm. | Calm. | 0,10 | — | Do 10 | Do 9 | Do 3 |
| 20 | 924 | 837 | 809 | 21. | 36. | 29.2 | 120 | 187 | 173 | 800 | 815 | 965 | N N E | NE byE | NE byE | Calm. | 1.20 | 0.84 | — | Do 10 | Do 8 | Do 10 |
| 21 | 579 | 259 | 021 | 29.2 | 29.5 | 27, | 172 | 169 | 151 | 965 | 934 | 936 | E N E | E N E | E N E | 5.00 | 10.25 | 12.10 | 8.50 | Snow | Snow | Snow |
| 22 | 175 | 232 | 378 | 28. | 36.2 | 27. | 146 | 197 | 116 | 843 | 852 | 700 | W S W | W S W | W S W | 2.51 | 3.95 | 7.41 | 0.75 | Cloudy 10 | Cloudy 8 | Cloudy 10 |
| 23 | 510 | 533 | 553 | 22.3 | 30.3 | 26. | 110 | 165 | 138 | 799 | 865 | 813 | W S W | W | W | 11.29 | 10.20 | 4.85 | — | Do 5 | Do 9 | Clear |
| 24 | 631 | 635 | 799 | 19. | 29,6 | 25.7 | 098 | 169 | 112 | 780 | 931 | 704 | W | W | W | 1.89 | 3.75 | 7.71 | — | Clear | Do 9 | Do |
| 25 | 785 | 672 | 506 | 21.2 | 31.5 | 20.5 | 104 | 161 | 118 | 770 | 835 | 900 | W | S W | N E | 11.08 | Calm. | 6.22 | — | Cloudy 10 | Do 10 | Cloudy 10 |
| 26 | 335 | 547 | 782 | 21. | 31.5 | 19, | 112 | 188 | 098 | 837 | 866 | 780 | N by E | W S W | W | 3,08 | 2,39 | 7.30 | 3.10 | Snow | Do 4 | Clear |
| 27 | 913 | 814 | 731 | 3 . | 36. | 26.5 | 060 | 187 | 118 | 904 | 815 | 730 | W S W | S S W | S W | Calm. | Calm. | Calm. | — | Clear | Do 4 | Snow |
| 28 | 433 | 165 | 035 | 26. | 30.9 | 28. | 138 | 165 | 146 | 813 | 865 | 843 | N N E | N E | W by N | 0.23 | 9.37 | 7.15 | 5.00 | Snow | Snow | Snow |
| 29 | 401 | 499 | 668 | 25. | 33. | 22, | 125 | 185 | 110 | 807 | 899 | 799 | W | W by N | W by N | 2,88 | 7.60 | 3.41 | — | Cloudy 8 | Cloudy 4 | Clear |
| 30 | 746 | 744 | 827 | 16.3 | 32.2 | 13.3 | 104 | 164 | 064 | 867 | 820 | 600 | W by N | W by N | W byN | 1,17 | 2,22 | 1.88 | — | Do 3 | Do 1 | Do |

**Barom.** Highest, 11th day . 30°.323; Lowest, 2nd day . 29 .030; Month'y Mean . 29 .287; Monthy Range . 1 .293

**Therm.** Highest, 8th day . 45°.0; Lowest, 27th day . 3 .0; Monthly Mean . 28 .40; Monthly Range . 42 .0

Mean Temperature of Evaporation 27°.29

Mean Temperature of Dew point 24 .07

Am'nt of Rain, 0.346 in

— of Snow 18.850 in

Rain fell on two days.

Snow fell on 8 days.

Most prevalent Wind, W.

Least do do E.

Most Windy Day, 5th day.

Least Windy Day, 27th day.

## MONTHLY METEOROLOGICAL REGISTER AT H.M. MAGNETICAL OBSERVATORY, TORONTO, C.W.—NOVEMBER, 1851.

*Latitude* 43°. 39'.4 *N.* *Longitude*, 79°. 21'.5 *W.* *Elevation above Lake Ontario*, 108 *feet.—For the British American Medical and Physical Journal.*

| Day. | Barometer at Temp. of 32° | | | | Temperature of the Air. | | | | Tension of Vapour. | | | | Humidity of Air. | | | | Wind. | | | Ins. of Snow or Rain | Weather. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6 a.m. | 2 p.m. | 10 p.m. | Mean. | 6 a.m. | 2 p.m. | 10 p.m | Mean. | 6 a.m. | 2 p.m. | 10 p.m | Mean. | 6 a.m. | 2 p.m. | 10 p.m | Mean. | 6 a.m. | 2 p.m. | 10 p.m. | | |
| 1 | 29.595 | 29.459 | 29.216 | 29.399 | 40,4 | 45,0 | 47,2 | 44,42 | 0.221 | 0.270 | 0.300 | 0.263 | .89 | .91 | .93 | .90 | Calm | E N N | E N E | 0.415 | Den o'st; lt'g&th8pm; rg fr9pm |
| 2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | S W | W S W | W by S | Inapp | C'sed r'ng 10 am; mostly cl'd |
| 3 | .159 | .254 | .378 | .277 | 36,6 | 37,8 | 33,4 | 35,82 | .196 | .173 | .180 | .182 | .91 | .77 | .95 | .87 | W by N | NW | W N W | * | Cl'd; Snow at 10 pm & dur n't |
| 4 | 422 | 429 | 482 | 452 | 30,4 | 34,7 | 31,6 | 31,82 | 152 | 150 | 162 | 149 | 90 | 74 | 92 | 84 | N W | N W | W | — | O'rc till 2 pm; rem most cl'r |
| 5 | 511 | 563 | 700 | 598 | 24,0 | 34,1 | 27,3 | 28,72 | 111 | 160 | 133 | 139 | 84 | 80 | 87 | 87 | Calm | NWbyN | N W | — | Dense cl'ds disp; mostly cl'r |
| 6 | 338 | 782 | 801 | 799 | 26,4 | 35,4 | 33,6 | 31,50 | 133 | 155 | 166 | 155 | 94 | 74 | 86 | 87 | Calm | S by W | Calm | — | Gen clear; detach pass cl'ds |
| 7 | 721 | 615 | 741 | 700 | 35,2 | 47,0 | 35,6 | 38,52 | 169 | 184 | 178 | 188 | 83 | 58 | 86 | 81 | Calm | W by S | NWbW | — | Cl'd till 2 pm; rem most cl'r |
| 8 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Calm | E by S | N E | * | Gen o'erc; slight snow dur n't |
| 9 | .789 | .928 | 30.080 | .955 | 31,2 | 33,8 | 31,0 | 31,73 | .158 | .167 | .140 | .160 | .91 | .87 | .81 | .85 | N by E | E | N N W | — | Mostly cl'd; dense det masses |
| 10 | 30.291 | 30.382 | 393 | 30.368 | 20,8 | 29,4 | 22,6 | 24,08 | 108 | 151 | 094 | 111 | 91 | 95 | 76 | 83 | N by E | E by S | Calm | — | Clear, save a few light clouds |
| 11 | 357 | 201 | 063 | 191 | 23,2 | 34,8 | 32,8 | 30,70 | 109 | 149 | 163 | 141 | 85 | 73 | 88 | 81 | Calm | E N E | N by W | — | Densely overcast all day |
| 12 | 020 | 29.951 | 29.860 | 29.934 | 32.4 | 31,6 | 31,0 | 31,67 | 161 | 177 | 105 | 149 | 90 | 1.00 | 60 | 84 | N E | E by N | NE byE | — | Densely overcast; dull |
| 13 | 29.643 | 398 | 282 | 431 | 32,4 | 30,2 | 32,6 | 31,98 | 159 | 158 | 180 | 165 | 87 | 94 | 93 | 92 | E | E N E | NE byN | 0,320 | R'n & sl't 9 am, ceas 10.40 pm |
| 14 | 183 | 209 | 529 | 333 | 31,9 | 36,6 | 31,2 | 32,73 | 166 | 189 | 165 | 171 | 93 | 83 | 95 | 93 | Calm | N W | NWbW | — | Gen cl'd, ft aur light fr 8 pm |
| 15 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Calm | E | S EbyE | * | Densely o'erc, snow from4 pm |
| 16 | .620 | .712 | .800 | .720 | 31,6 | 37,3 | 27,9 | 31,88 | .156 | .199 | .152 | .161 | .88 | .90 | .99 | .91 | Calm | N WbW | Calm | * | O'erc, faint aur l't 9 pm, snow |
| 17 | 821 | 777 | 802 | 800 | 29,0 | 36,1 | 27,4 | 30,50 | 135 | 153 | 116 | 139 | 84 | 73 | 78 | 81 | W | W S W | Calm | — | Am clouded, aftern most clear |
| 18 | 799 | 819 | 828 | 817 | 29,0 | 35,6 | 31,9 | 32,05 | 145 | 164 | 143 | 151 | 91 | 79 | 82 | 84 | Calm | Calm | E by N | — | Light det cl'ds gen dispersed |
| 19 | 735 | 519 | 306 | 500 | 34,0 | 36,4 | 37,0 | 36,25 | 171 | 192 | 201 | 191 | 88 | 96 | 92 | 89 | N E | E by S | E | 2,770 | Constant rain from 1 pm |
| 20 | 093 | 28.965 | 28.991 | 022 | 39,8 | 40,8 | 35,2 | 38,37 | 219 | 227 | 199 | 211 | 90 | 90 | 97 | 91 | E | S by W | W S W | 0,030 | Sl't rain till noon, o'rc all day |
| 21 | 206 | 29.352 | 29.520 | 379 | 34,4 | 31,4 | 29,7 | 31,83 | 181 | 146 | 142 | 151 | 92 | 82 | 87 | 89 | W by S | W by S | W S W | * | Overcast, slight snow fr 3 pm |
| 22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | W N W | W by S | N WbW | * | Dens o'rc, slight snow dur n't |
| 23 | .665 | .737 | .762 | .736 | 23,8 | 32,2 | 30,0 | 28,38 | .115 | .143 | .146 | .135 | .87 | .79 | .87 | .86 | Calm | W | W S W | — | Dense det clouds dispersed |
| 24 | 763 | 487 | 291 | 487 | 29,4 | 32,4 | 27,8 | 29,63 | 160 | 169 | 139 | 149 | 93 | 92 | 89 | 90 | Calm | E S E | N EbyN | * | Snowing const from 3.30 pm |
| 25 | 445 | 671 | 842 | 669 | 20,8 | 35,7 | 26,2 | 26,62 | 101 | 140 | 120 | 117 | 87 | 68 | 83 | 78 | Calm | W S W | Calm | — | Ceas snow 1 am, day most cl'r |
| 26 | 879 | 697 | 504 | 675 | 29,4 | 37,8 | 35,2 | 34,05 | 165 | 179 | 194 | 177 | 1.00 | 79 | 95 | 91 | Calm | S E b S | E by S | 0,350 | O'rc, dull & gloomy, r'ng 8 pm |
| 27 | 264 | 171 | 295 | 260 | 37,8 | 36,2 | 32,6 | 35,27 | 199 | 136 | 145 | 167 | 83 | 61 | 73 | 81 | Calm | W by S | S W bW | * | Dens o'rc, slight snow at 4 pm |
| 28 | 531 | 589 | 691 | 619 | 34,0 | 37,0 | 33,0 | 34,97 | 161 | 181 | 149 | 169 | 82 | 80 | 79 | 78 | W S W | W S W | W S W | — | Overcast, hazy, very dull |
| 29 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | W by N | NW | N by W | — | Clear, save a few light clouds |
| 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | | | |
| M | 29,643 | 29.611 | 29.633 | 296320 | 31.17 | 35.66 | 32.03 | 32,80 | 0.156 | 0 174 | 0.160 | 0.168 | .89 | .82 | .87 | .86 | 2.66 | 7.38 | 4.38 | 3.885 | 14th, The Rain frose as it fell: 26th, Sleighing, first of season |

Highest obs. Barometer, 30,416, at midn't on 11th } Monthly
Lowest " 28,965, at 2 p.m. on 21st } Range 1.451
Highest obs. Temperature, 50.2, at 3 p.m. on 2nd } Monthly
Lowest do. do 13.8, at 7 a.m. on 26th } Range, 36,4
Mean high. obs. Tem. 36,75 } Mean Daily
Mean Min. Ther. 27.17 } Range 9.58
Greatest Daily range 22,8 from 2 p.m. of 8th to a.m. of 9th
Warmest Day, 1st.—Mean Temperature, 44,42 } Differ. 20.34
Coldest Day, 11th.—Mean Temperature, 24,08

* Snow on 3d, 0.3; 9th, inapp.; 16th, 1.2; 17th, 0.1; 22d, 0.1: 23d, 0.3; 25th, 4.7; 28th, inapp.—Total, 6.7.

Sum of the Atmospheric Current, in Miles resolved into the four Cardinal directions.

| North | West | South | East |
|---|---|---|---|
| 1077.87 | 1687,45 | 503,05 | 991.18 |

Mean velocity of the wind, 4.70 miles per hour.
Max. vel. 18.2 miles per hour, 9m noon to 1 p.m. on 7th
Most windy day, 2nd, mean velocity per hour, 9.57
Least do 26th, do do 1.00
Most windy hour, 3 p.m. do do 8.11
Least do 8 a.m. do do 2.55
Mean Diurnal Variation, 5.56 miles.

| Year | Temperature. Mean | Max. | Min. | Range | Rain. Days | Ins | Snow. Days | Ins |
|---|---|---|---|---|---|---|---|---|
| 1840 | 36.00 | 66.3 | 19.0 | 37.8 | 5 | 1.220 | 8 | — |
| 1841 | 35.40 | 63.8 | 8.5 | 55.3 | 8 | 2.450 | 6 | — |
| 1842 | 33.20 | 56.8 | 8.1 | 48.7 | 9 | 6.310 | 10 | — |
| 1843 | 33.25 | 62.6 | 14.1 | 48.5 | 10 | 4.765 | 7 | 1.2 |
| 1844 | 31.92 | 56.0 | 12.1 | 43.9 | 8 | imp | 14 | 8.0 |
| 1845 | 36.45 | 69.5 | 7.6 | 61.9 | 7 | 1.105 | 4 | 5.0 |
| 1846 | 40.82 | 55.7 | 18.0 | 37.7 | 12 | 5.805 | 2 | 0.4 |
| 1847 | 33.04 | 57.9 | 8.4 | 49.5 | 14 | 3.155 | 3 | Inapp |
| 1848 | 33.61 | 49.0 | 16 9 | 33.1 | 9 | 2.020 | 3 | 1.4 |
| 1849 | 41.87 | 66.4 | 24.2 | 42.2 | 10 | 2.815 | 2 | 1.0 |
| 1850 | 35.77 | 62.8 | 11.0 | 51.8 | 7 | 2.955 | 1 | Inapp |
| 1851 | 32.80 | 50.2 | 13.8 | 36.4 | 5 | 3.885 | 6 | 6.7 |