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BRITISH AMERICAN JOURNAL.

ORIGINAL COMMUNICATIONS.

ART. XXXIII.—*The Correlation of the Vital and Physical Forces.* A Prize Thesis for the Degree of M.D., C.M. By R. MAURICE BUCKE.

PART I.

I commence by stating it as my belief that generally conversion takes place through the chemical force, that is to say, when any one of the physical forces merges itself into one of the vital, it does so by inducing a chemical change, and so liberating chemical force, which is then in virtue of the form of matter through which it acts, continued as a vital force; the form of this latter which is thus called forth, will depend upon the kind of tissue, that is, the form of cell through which the chemical force passes, in which it is liberated, and in which it merges itself into the vital force which is its resultant; and conversely, when a vital action manifests itself as physical force, it does so in the first place by inducing chemical change, and is then continued in the physical force which is the resultant of this change.

Supposing this to be the case, the following laws will be found of the utmost importance.

Law I. When bodies not already chemically united with others enter into combination, force of some kind is evolved, and the amount of this force will be in the direct ratio of the strength of the affinity existing between the bodies thus uniting.* In the same ratio also will be the intimacy of the union, the divergence of the characters of the resulting body from its constituents,† and the stability of the new compound.‡

* To illustrate this part of the law, I refer to Dr. Wood's experiments "on the heat of chemical combination." Phil. Mag. Vol, II, of the 4th series, p. 208, also Vol. IV, of the 4th series, p. 370.

† This part of the law will not apply to organic chemistry.

‡ Even if solution be regarded as chemical action, as it probably should be, (See "Thoughts on Solution and the Chemical Process," by T. S. Hunt. Amer. Journal of Science and Art, Second series, Vol. XIX, Jany. 1854,) it is no exception to this law, for when cold results, or the opposite of any force, it is due to the change in consistence which one of the bodies concerned has undergone. See Grove on "The correlation of the Physical forces," p. 174.

Law II. When a compound body suffers decomposition, the force required to effect this, will be exactly equal to the force given out in the formation of that body from its elements.

Law III. If now the elements of a compound body enter into more intimate union—which presupposes the decomposition of the already formed body—the resulting force will be in the direct ratio of the strength of the affinity exercised by its elements, &c., as in law one, but minus the force which was required to decompose the pre-existing body.

Law IV. If a body be decomposed and give its elements to the formation of another body whose stability, &c., as in law one, is less than that of the body so decomposed, the force actually expended in effecting such change will be in the ratio of the strength of the affinity which existed between the elements of the preformed body, minus the strength of the affinity existing in the new compound.*

Now the force evolved in composition and required to effect decomposition may be (1) heat, as in ordinary combustion, and indeed in almost, if not in every act of chemical union, even when the main part of the force given out takes some other form. The converse of this is well seen in the case of the decomposition of the carbonate of lime by heat, and also very beautifully in the following experiment by Robertson.† A substance capable of supporting intense heat without fusing, and at the same time incapable of being acted upon by either of its elements, (such as platinum or iridium) raised to a higher point of ignition and then immersed in water will decompose some of it, and bubbles of oxygen and hydrogen will rise to the surface. The heat required to effect this decomposition is, according to the experimenter, equal to 2386°. (2) This force may be electricity as when that is evolved by a galvanic battery, or conversely, when it is made to decompose water, the alkalies, &c. (3) It may be light as when this is given off along with heat in ordinary combustion, and this is better seen in cases of slow combination such as phosphorescence, where light is much the most manifest of the forces evolved, and where heat is developed in such small quantities that for a long time it was doubted if any is liberated at all. Conversely it is well known that light has the power of decomposing several of the salts of silver, hydrocyanic acid, &c., and in contact with the green leaves of plants, carbonic acid and ammonia. So I might go on with the other forms of physical force, but to no purpose, as these examples will be sufficient to illustrate my meaning, and I am not now concerned with the correlation of the *physical* forces.

I shall now attempt to apply in some measure the laws which have been laid down to the manifestations of force presented by the two forms of life on this planet.

And first of plants.

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* It does not, strictly speaking, devolve upon me to explain why, in the union of bodies, force is given out, and the converse. A very ingenious theory on the subject is put forth by Dr. Wood, who also gives his opinion as to why bodies unite, which is one step further back still from my subject. See Phil. Mag. Vol. III of the 4th series. Compare Grove "On the correlation of the Physical forces," pp. 175-8.

† Robertson "On the effect of heat in lessening the affinities of the elements of water." Transactions of the Royal Irish Academy, Vol. XXI, p. 2.

Now the function of the vegetable kingdom in relation to the animal, is this; it takes the substances given out by the latter in its excretions or decay, such as water, ammonia, carbonic acid, &c., and certain salts of potash, soda, lime, &c., and from them it reforms the complex organic molecules from whose decomposition they were derived. This is the material view of the matter.

But these complex bodies are of much looser constitution (so to speak) than are the simple bodies they yield on their disintegration, so that for the change effected by the vegetable kingdom force is required, and by and by we shall see whence it is derived; at present we shall consider the first stage of vegetation, namely, germination, which will be seen to be essentially different from the after-growth of the plant, and closely allied to animal vitality.

The seed, then, is placed in the ground, and subjected to the influence of heat and moisture; soon the organized matter contained in it enters into decomposition; some of the albuminous matter becomes a ferment by means of which the starch is converted first into dextrine, and then into sugar, and dissolved. A part however does not stop here, but receiving oxygen from the air passes downwards by a regular process of oxydation to the lowest and most stable condition it can attain, and remains as water and carbonic acid.* In the meantime in the place of the seed we have a young plant, for roots have struck downwards, and a stem bearing leaves upwards. Up to this time no force but heat has acted upon the young plant, and now without light action will cease, unless it be some slight breaking down of tissue in one place and building up in another.

But now let us see from whence came the force which has from the matter contained in the seed built up a regularly organized fabric. To understand this let us weigh the plant thus formed, and supposing we had weighed the seed we shall find—putting out of account any water that may have been absorbed by the young plant—that some of the matter which it contained has disappeared. It will not be found in the earth in the vicinity. A moment's reflection will show us that it has disappeared, chiefly in the form of carbonic acid; for when germination began oxygen was absorbed by the seed, and carbonic acid and water were formed. But carbonic acid and water are much more intimate and stable compounds than those which were broken down in their formation, therefore force must have been evolved in the act of their composition beyond the force that was required to break up the already existing compounds, (Law III).† This force operating through a pre-existing fecundated germ-cell manifests itself as vital force, and in accordance with, and under the direction of the laws of life, builds up the fabric as far as we have seen.

But now, still supposing light to be excluded, the plant comes to a stand-still, it has no force within itself that is capable of adding the dead matter around it

* Gray's "Structural and Systematic Botany," p. 329. Encyclopædia Britannica, 8th ed., Vol. VI. p. 519.

† Compare with the process I am describing the act of combustion of wood; here also we have ternary compounds—almost identical with those in the seed—breaking up and by the addition of oxygen forming the same simple substances as in the other case, every one knows of the force given out here, and that it is entirely due to the operation of law III there can be no doubt.

to its structure. If some of it, from the operation of physical causes, becomes partially decomposed, some of the matter, by means of the oxydation of the rest, thus liberating the necessary force, may be used by the plant, but beyond these very narrow limits its growth cannot go on, and in these operations it is always necessarily losing weight. There is no force outside of it that can help it, heat has done its utmost in furnishing the requisite conditions for the performance of the chemical changes that have so far provided it with force; chemical affinity can now do nothing for it, for every manifestation of this requires a part of its own substance; unless indeed in such cases as the fungi, where the pabulum for the growth of the plant consists, as in the animal kingdom, of organic compounds; here the oxydation of the complex molecules taken into the plant, furnishes both the material for its growth and the force that is to apply that material, and make it part of the structure of the plant.

But now let a ray of light fall on the cotyledons and we shall find it immediately followed by the formation of chlorophyle, the decomposition of carbonic acid and ammonia in contact with the green leaves; water at the same time is absorbed, with which the free carbon unites, forming lignine, starch, sugar, &c., and with these elements, (C H O) the nitrogen of the decomposed ammonia combining, forms acids, neutral substances, mild or acrid bodies, alkaloids, &c., and finally the protenaceous compounds albumen, fibrine, and caseine.

I shall not stop to inquire into the chemical processes by which these bodies are formed, indeed very little is known for certain on the subject except this, that these bodies are built up from the elements of the more simple ones mentioned above—carbonic acid, water, ammonia, salts, &c.—with the constant evolution of oxygen and absorption of light,* and this is perhaps sufficient for our present purpose, as I have not space to enter into minute details; and whether albumen, fibrine, and caseine are formed directly from the liberated elements of water, carbonic acid, ammonia, &c., or what is considered more likely, are formed from bodies which possess a certain degree of complexity, as starch and sugar, by the addition of nitrogen, sulphur, and phosphorus, derived from ammonia, sulphuric acid, &c., or finally, whether we suppose the nitrogen also to be derived from complex bodies such as malamide, (C^2 H^{10} N^2 O^8) is of little consequence in the consideration of the question I am now concerned with.

However the process be looked upon we have here again the decomposition of one body, and the formation of another, but in an inverse order, as it were, to that observed in the former case; for whereas in that the body which was formed had more stability than that which was decomposed, and there was in consequence a surplus of force; in this case the body formed is in a much lower state of combination than that decomposed, therefore (Law IV) force has been required, and this force we have seen is supplied in the form of light.

There is another question, in connection with this supply of force to plants, of great interest and importance, but which I think may be best considered when I come to speak of the influence of light and heat on growth and development, where they do not seem to act so directly through the chemical force.

If we pass now to the consideration of animal life, we shall find it to be under

* Encyclopædia Britannica, 8th ed., Vol. IV, p. 519.

the influence of the same laws as those which govern the life of vegetables, but to be in one sense diametrically opposed to the latter; for firstly, as to matter, it requires for its maintenance to be supplied with organic compounds, animals not possessing the power of appropriating to themselves mineral matter;* and secondly, as to force; it is supplied with no dynamic agency from any external source, at least not in the same direct manner that plants are.

This difference may be briefly expressed by saying that through plants the other physical forces are converted into chemical force; and in animals this chemical force is reconverted into the ordinary forms of physical force, and so returned to its former state. In each case, by its passage through particular forms of structure, taking on, in some part of its course, the various forms of force called vital. And did this hold good throughout it would afford an exceedingly beautiful and useful line of demarcation between the two kingdoms, but unfortunately as with all other distinctions, the exceptions to it are numerous, though with them we need not now concern ourselves, as they have not the least effect upon the theory for which I am contending.

Now these two facts are easily seen to be intimately connected with one another; for as the food of animals is organic matter, that is, matter in a state of weak union, of highly complex chemical constitution, the elements of which readily, upon the least provocation enter into more intimate combination, at the same time (Law III) evolving force, so animals may be said to appropriate force along with the matter they eat.

Further, plants receiving force from without, do not again while they continue to live, or even perhaps till long after their death, give out that force but hoard it up; whereas animals taking in this force with their food, give it out in the performance of all their functions, such as innervation, muscular action, secretion, &c., and after the animal body has arrived at its full size, so that it requires no force or matter to be used in building it up which is not again given out in its breaking down, it stands in the same relation to force that it does to matter, not retaining any but giving out in some form or other all that it receives. But it will of course be observed that this is not the case as long as any processes of growth or development remain to be accomplished.

Let us now consider the animal organism in the same way as we have done the vegetable, and to do so let us begin with the egg.

The egg being subjected to a certain degree of heat, probably required to give mobility to the particles of which it is composed, and not itself meant to be converted into vital force, soon enters into the same sort of decomposition as did the seed in the former case, oxygen is absorbed, and carbonic acid and perhaps water is given out, through the minute pores of the shell or sac as the case may be, in which the egg is enclosed. As a consequence of the formation of these simple and stable bodies from the elements of other complex and unstable bodies, together with free oxygen, force is evolved. (Laws I and III). At the same time

*I do not speak here of the water used by animals, because although they injest and in a sense assimilate it, it evidently can take no active part in the economy, as do the organic articles in their food, and though it is extensively used, it is so as a purely passive agent.

gradually, from a shapeless mass of albumen, a living being is built up. To effect this force is required; on the other hand force is known to be given out. Moreover we know that on the one hand it is *gradually* liberated; and on the other required at *somewhat the same rate.* Surely the conclusion forced upon us is that the force here evolved is applied when force is known to be used—rather than say, here force is annihilated; there created—or here force becomes latent; there it is roused from its dormant state. For is it not unphilosophical to suppose a cause which is more than adequate to produce an observed effect?

Now after the young bird is liberated from the shell, if it be weighed and the shell with it, it will be found to contain considerably less matter than did the egg from which it proceeded; we have seen where that matter has gone. And if the tissues of the young bird be analysed they will be found to contain, at least some of them, molecules such as hemato-fibrine $= C^{298} H^{228} N^{40} S^{2} O^{92}$), more complex, less stable, and held together by a weaker affinity, than were those of the original constituents of the egg, thus displaying (besides the morphological and histological transformations that have taken place,) the results of the expenditure of force. (Law IV.) We have also seen whence that force was derived.

In another place I stated that my idea of the agency of cells, as such, is that they represent the form of matter through which the physical forces pass in their conversion into the vital. Now the form of vital force manifested by cells varies with their structure; and for any one kind of action we must have an appropriate form of cell. But contained in all seeds and eggs capable of life, we have a special form of cell, through which, undoubtedly, the chemical force acts as vital power when it builds up the plant or animal, and which if absent makes the material link incomplete; and the chemical force instead of passing to the vital, is given out in other forms, chiefly as heat. But whether the egg or seed be capable of life or not, still in its decomposition it must result, from the laws laid down, that the same amount of force will be given out by the time that its elements, in either case, have reached the same chemical level.

Now after the young bird or mammal, as the case may be, has used the food laid up for, or supplied to it by the female parent and has to shift for itself, it receives no force from without, as does the plant in a similar situation, and here, and not till we arrive at this point does the difference above mentioned begin, but its food consisting of such matters as being in a state of loose combination readily admit of the evolution of power by entering into greater intimacy of union. (Law III). At the same time, as if this were not sufficient, a free element of pre-eminently strong affinities is taken in by the animal to combine with them, as they run down to form the simple compounds.

But here it may be said that the young animal has not only to furnish energy for the performance of its organic and animal functions—respiration, circulation, locomotion, innervation, &c.,—but also it has to grow; increase in size. Its tissues continually breaking down in the performance of their respective functions, it has to restore them continually, and not only this, has to add steadily to their bulk. Whence comes the supply of force that shall be adequate to these wants? And here we see the purpose of the vegetable kingdom in its relation

to the animal, perhaps more beautifully displayed than from any other point of view. For the vegetable having received force from without, holds it in trust, as it were, for the animal kingdom; and in the use of vegetable food it is known that the animal does not raise the compounds contained therein to any higher state of combination than that in which it receives them—except in the case of hemato-fibrine, and perhaps a few other instances. To build up its nitrogenized tissues it receives albumen, fibrine, and caseine; for its adipose tissue it takes in fat, though it can also form this last from starch or sugar; its gelatinous and cartilaginous tissues are supplied from the albuminous bodies by a process of diminishing complexity, and so on.

But this is not of much importance, after all, for the result would be the same, namely, that on the one hand animals receive compounds of great complexity and of loose chemical construction; and on the other hand their excreta consist of chemical forms of great comparative, and some of great actual simplicity, between the elements of which there exists great strength of affinity, thereby furnishing the conditions (Law III.) for the evolution of vast quantities of force, which being directed into the proper channels by means of the various forms of cells, through which it acts, performs all the functions of the body.

But here, if this be granted, another difficulty will arise in most minds, which at first sight might seem almost insurmountable, for, it will be asked, is it possible that such an immense amount of power of various kinds, put forth by animals, can be derived from the decomposition of what seems to be the comparatively small quantities of food they digest? To illustrate this forcibly, I was once for five days and four nights exposed to a temperature of from zero or below that point to a few degrees above the freezing point: during this time I was supplied with no food, no artificial heat, and travelled every day on foot through deep snow from morning till night. Now, I ask, could the muscular force employed, the heat evolved, and the vis nervosa put forth (without speaking of other forms of force liberated in less amount), have been derived from the decomposition of the tissues lost during that time? I make no doubt that the reply must be in the affirmative.

The answer to this difficulty resolves itself into two distinct parts. 1. The consideration of the quantitative relations of the forces in question; and 2. The economic powers of animals compared to those of a machine of merely human contrivance.

1. In the first place it must be acknowledged that we know little, if anything, of the relations of quantity borne to each other, by the chemical force on the one hand, and the various forms of vital on the other. But if we could get the resultant of any vital force when it merges itself into one of the physical forces, this being better understood, could more easily be compared, and this, fortunately, we can do in the case of the muscular force which as motion we can measure; —and I think it may safely be granted that far more than half the force given off by the body takes this form, thus enabling us to make a fair rough approximation to the result we are seeking. For if the relationship which exists between motion and heat be recollected—that the motor force capable of raising 772 pounds one foot, is only equal to the heat required to raise one pound of

water through one degree Fahr.,—and if we then consider what a small amount of chemical action is necessary for the production of a considerable quantity of heat—how much heat, for instance, a little oil burned in a lamp will yield, while, at the same time it gives off vast quantities of light—I say if these two considerations be put together, surely a great part of our difficulty will be removed—for the direct antecedent of muscular action being chemical force, the disproportion that seemed to exist between them will no longer appear so striking.

2. That the animal body should be far superior to any machine of mere human contrivance as an economist of force, is nothing more than we should expect, and may fairly infer from its origin, being planned and formed by a Mind and Hand so infinitely superior in wisdom and power to those that work among us. And it must be regarded as a result of this economising that so great a proportion of the force given off takes the form of motion, which as we have seen is a much cheaper form of force—so to speak—than any of the rest.

(To be continued.)

ART. XXXIV.—*A cheap Spirometer.* By W. E. Bowman, M.D., Montreal.

A cheap spirometer may readily be made from two tin vessels similar in shape to a length of stove pipe, but closed at one end; the one being 19½ inches long, and 6 inches in diameter, and the other 18 inches, and 5 inches in diameter. The latter may be graduated into spaces of 8 cubic inches with our ordinary gallon measure, which contains 231 cubic inches, and consists of 8 pints of 16 ounces each, the oz. measuring 1.8 c. inches.

Having placed the smaller vessel perfectly upright, measure into it a gallon of water less half an ounce, and with a rule ascertain the precise distance from the surface of the liquid to the brim of the vessel, then placing this measure outside of the tin, mark the height of the water as 230 c. inches. In a similar manner with half a gallon and 10¼ fluid ounces, mark 134 c. in.

Next divide the space between these two points into 12 equal parts which will be measures of 8 c. inches each, and with the compasses continue the graduation upwards and downwards, placing the figures on the inverted vessel as in margin. If its diameter be everywhere alike, the measure must be correct, its accuracy however may be easily tested by the annexed subdivisions of the same measure. The pulleys and counterpoise may now be adjusted for the graduated tin.

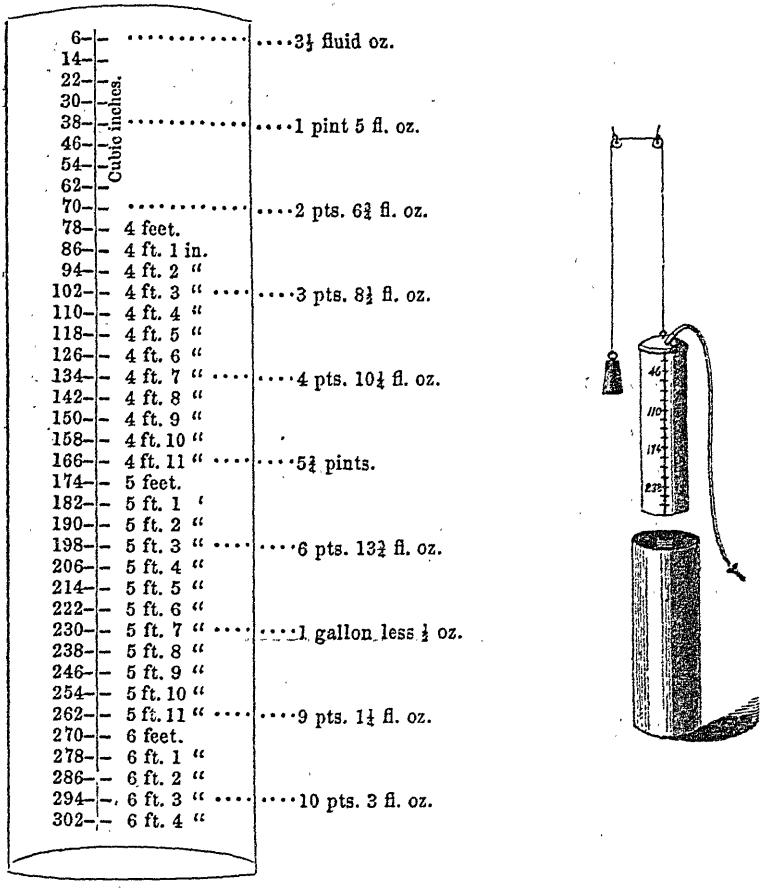
Next fill the larger vessel with water so that the smaller may be just covered when inserted into it, and mark the height of the water on the inside of the larger tin. Then raise the small one gently until the 174 c. in. line appears even with the surface of the water, and make a second mark of its level. Finally put the third graduation in the large tin when the smaller is raised completely out of it.

Lastly affix two or three feet of flexible tubing, and a mouth piece to the top of the small tin, and the spirometer will be ready for use.

The graduation inside of the larger vessel is to detect and obviate any differ-

ence in the height of the water within and outside of the rising vessel, which should be raised or depressed until the water is at its proper level, the tube being closed by the finger during the adjustment and reading off.

Montreal, 15th July, 1862.



ART. XXXV.—*Cases in private practice briefly reported.* By J. D. TROUSDALE, M.D., Melrose, C. W.

Case of Rupture of the Liver from a fall from a Waggon.

On the 12th of May, I had a painfully interesting case. In the morning, a farmer of the neighbourhood sent his servant with his horse and cart, containing two bags of wheat to be prepared for sowing. The servant was told to lead the horse, which he did for a couple of miles. He then got into the cart to ride, but having no reins the horse commenced to run while going down a hill. The young man got out of the cart upon the shafts for the purpose of getting upon the horse's back, with the intention of stopping his progress, but

he unfortunately fell, striking the anterior portion of the abdomen and breast on a stone, or large pine root, both of which were to be seen where he struck the ground.

I was immediately summoned, and when I saw him I found him perfectly pale, with cold, exhausted, and anxious countenance, and an extremely weak pulse.

We were forced to take him home, (a distance of nearly two miles,) during which he complained very much of an excessive pain in his back. He talked the whole time and was perfectly conscious. After having examined him carefully, I could detect no fracture nor any other external sign of injury, except a small ecchymosed spot on the back, and which was also slightly swollen. There was every evidence, however, of abdominal effusion. He was most closely watched, and although stimulants were freely given, he succumbed in twelve hours from the reception of the injury.

Having obtained the consent of his father, and with the kind assistance of Mr. Osborne, a medical student of Buffalo, U. S., I performed a post-mortem examination, when we found the right lobe of the liver as completely cut in two as if the wheel had run over it outside the body. Its pieces were held together by mere threads of arteries, veins, and nerves. A small portion of the right lobe was crushed to pieces, so much so that pieces from the size of a pea to that of a hen's egg were found floating in the blood among the intestines. The peritoneal cavity was distended with blood.

This case is interesting as shewing a very grave accident from comparatively slight causes.

Melrose, 30th May, 1862.

HOSPITAL REPORT DEPARTMENT.

Edited by FRANCIS W. CAMPBELL, M.D., L.R.C.P., London.

Cancer of the Eyeball. Under the care of Dr. Hingston. Reported by Mr. Kenneth Reid.

James Duggan, aged 61, a native of Ireland was admitted to the St. Patrick's Ward of the Hotel Dieu, on the 7th of March, 1862.

About four months previous to his admission, the patient noticed a small speck or wart growing upon the upper surface of his right eye ball. Soon after the appearance of this growth, he consulted a physician in the country, who pronounced it to be a warty excrescence, and gave him a wash to apply to it. After using this lotion for some weeks he gave it up as it appeared to do him no good. He suffered very much during this time from severe pain in the head, and, as the diseased part had increased very much in size, he decided upon coming to Montreal for further medical advice. When the patient left home he was able to see a little with the affected eye, but owing to exposure to cold during his journey to this city, the eye became so very much inflamed that vision was completely lost.

On a careful examination, the disease was found to be confined to the ante-

rior part of the eye ball, the whole of the cornea conjunctiva and anterior margin of the sclerotic being involved.

It was at once pronounced to be cancer by the attending physician, Dr. Hingston, and on the 10th he extirpated the eye with a pair of curved scissors, cutting from above downwards, and dividing the different structures in succession, beginning with the lachrymal gland. The only point to be noticed in reference to the operation was the removal of the lachrymal gland. Dr. Hingston stating that in adopting this method he had followed the advice of Mr. Butcher of Dublin, although the extirpation of the globe was generally followed at no great interval by the cessation of lachrymation, as there was no eye, no tears were required to moisten it.

PARIS CORRESPONDENCE.

M. M. Pouchet and Verrier, sen., have published a curious article on the migrations of entozoa or parasites, especially the tape-worm and similar genera. As you are aware, various doubtful theories have been propounded, and even admitted on this difficult subject. Thus, a Naturalist has affirmed that tænias may be produced in a dog by feeding it with the cœnures found in sheep; whence he concludes that the two creatures are the same. But the chief object of our authors has been to subject to a new verification the opinions held concerning *Tœnia serrata*, a tape-worm, which is frequent in dogs, and the *Cœnurus cerebralis*, a vesicular and polycephalous worm, very common in sheep, on which it produces the symptoms of the turnsick, a disease in which the animal turns round and round till it falls exhausted on the ground. According to Naturalists, dogs eat the heads of sheep afflicted with this cœnurus which thus enters their intestines. Each of the heads of the cœnurus then seperates from the trunk, grows to an enormous length, and becomes a tænia. The rings of this tænia being from time to time expelled by the dog, fall on the grass which is nibbled by the sheep. The eggs contained in these rings are hatched in the intestines of the ruminant producing microscopic larvæ which travel up to the head, perforating all the tissues they find on their route, and even the base of the cranium. Having thus reached the brain, they are transformed into the cœnures which are to cause the animal's death by turnsick. The cycle of transformations and peregrinations is evidently too complicated to be accepted without confirmation, and M. M. Pouchet and Verrier have by a new series of experiments dealt a heavy, and it would seem a fatal blow, to this theory. First, they quote cases in which they administered the cœnures in question to dogs, and after 16 days found the latter afflicted with tænias varying in length from 2 to 80 millmetres; after 23 days, the length varied from 4 millimetres to 40 centimetres (13 inches)! How could such an enormous difference in growth be accounted for on the principle that the coenures produce the tænia? In another series of experiments 60 heads of cœnures were administered to a dog, and 78 tænias were discovered; again, 100 heads of cœnures produced 237 tænias. These results can hardly be reconciled with the supposition that the cœnures produce tœnia; and other experiments have proved that tænias introduced into the

intestine of sheep do not cause any cœnures to migrate to the brain. This is an interesting question for physiologists and pathologists. Our authors are still continuing their experiments.

Dr. Lunel has published ten observations on small pox, from which he concludes: 1. That vaccination is not a permanent preservative against varioliform eruptions; 2. That, contrary to received opinions varioloids are eminently contagious; 3. That these eruptions are mild in the case of persons who have had the small pox; 4. That, according to the predispositions of subjects the form of the eruption varies from that of the varioloid type to that of the varicella or chicken pox, with vesicular globules; 5. That it is absolutely necessary to insulate varioloid eruptions, because the latter may communicate the small-pox to those who have not had it, or in whom the preservative power of vaccination is exhausted.

A report published by Drs. Bourdon, Leconte, and Reveil on the pulverisation of liquids, that is their artificial transformation into a kind of dew, confirms the fact that waters in that state will penetrate into the respiratory organs. Sulpherous soda-calcarious waters, it adds, like those of the Eaux-Bonnes, lose a large proportion of their sulphureous principle by pulverisation; and pulverised waters in general lose part of their temperature, but they adopt that of the ambient medium.

Dr. Quadri, an Italian physician, has for several years past been treating cataract with ammonia, and in many cases with remarkable success. The following instance is reported by him in an Italian paper:—A woman of 22, perceived a diminution in her visual powers, and consulted Dr. Quadri, informing him at the same time that her mother, two of her brothers, and her sister, had all been afflicted with cataract. Her eyes presented a cortical opacity—which appeared greater at the circumference than towards the centre. Dr. Quadri prescribed the daily application of liquid ammonia in a watch glass to the temple, and a few centigrams of hydrochlorate of ammonia administered internally. After following this treatment for two months, her eyes had so far improved as to enable her to resume her needle-work. The opthalmoscope revealed at the same time a diminution in the extent and density of the opacity. The patient persevered in this treatment for five years, during which the affection continued to diminish; she left it off for a month, but was obliged to resume it at the end of that time, the infirmity having again gained ground; her return to the old treatment was again attended with success.

Wens, as you are aware, constitute a disease known to be endemical in certain regions which are generally mountainous. Switzerland, Bohemia, the Pyrenees are notorious in Europe: in America the chain of the Andes possesses this disagreeable privilege. Dr. Guyon has just published a curious communication, showing the efficacy of a change of climate as a cure for wens. He states that in 1858 a Belgian consul, who had been staying some time at Lima, went to Santiago in Chili, with his wife and two daughters, one of the age of ten, the other twelve. They had not been there more than fifteen months when incipent wens were discovered on the children, while neither of the parents, owing probably to their mature age, had any symptoms of the kind. Alarmed at this, the father consulted the physicians of the country, who unanimously advised a change of climate.

The mother accordingly embarked with her two daughters on board the first vessel bound for Europe. The voyage which was predicted to last 60 to 70 days, was protracted to 110. The passengers suffered much, both from the sea sickness and the change of temperature they had to undergo, in passing from the latitude of Cape Horn to that of the Equator. During the passage, the children would often mechanically pass their hands over their necks, and thus soon perceived that their tumours were visibly decreasing; so that on their arrival at Cherbourg, the wens were half-gone. From Cherbourg the ladies went to Brussels, where the last vestiges of the affection disappeared. The physicians of Santiago, in proposing this remedy, must have had numerous proofs of its efficacy. Dr. Guyon also mentions the case of a considerable number of Swiss emigrants from Valais, who in 1853 settled in Algeria, most of whom, the women especially, had wens; but they had not been a year in the country, before they became aware of a considerable decrease in the size of the wens, and by the end of 1856 they had all dissappeared.

The Academy of Medicine has received a communication on the congelation of water from Dr. Robinet. It is well known that the blocks of ice formed in the sea yield fresh water by liquefaction. When sea water or any saline dissolution is congealed, the pure water is separated under the form of ice and there remains a concentrated watery solution of the saline liquid. It is thus salt is economically obtained in the North of Europe. To increase the alcoholic strength of wine, it may be subjected to artificial cold, whereby the water alone which it contains is congealed, and the wine becomes richer in alcohol. By operating in a similar manner on potable water, Dr. Robinet has found that it loses nearly all its salts, whether soluble or not. The waters of the lake of the Bois de Boulogne having been subjected to the operation, the small quantity of calcareous and magnesian salts they contained were eliminated. The purity of the water obtained by this method is such, that it may, in many cases, be used instead of distilled water.

Many of your readers are perhaps not aware that ever since they have been in the world, they have been daily consuming a quantity of *rubidium* in the shape of tea, coffee, tobacco and grapes. This singular abundance of an element the existence of which was not so much as suspected a twelve months ago, has just been announced to the Academy of Science by M. L. Grandeau, whose researches on rubidium and cæsium are already known. About three months ago, M. Grandeau ascertained the existence of the former in the beet-root, and in the mother liquid resulting from their treatment for the extraction of chloride of potassium. This induced him to try whether any other plants, as rich in potash as the beet-root, would yield rubidium also. Tobacco was the first he subjected to analysis, limiting his researches to the Kentucky and Havannah leaves. A certain quantity of water which had been used in the tobacco manufactory of Paris for the maceration of Kentucky leaf, was evaporated to dryness; the residue, being calcined, yielded a white saline mass, of a spongy texture, and containing much potash. This mass subjected to spectrum analysis, presented the characteristic bands of lime, lithium, potassium and rubidium—the proportion of lithium was small, that of rubidium considerable. The Havannah

leaf presented the same characteristics. Tea and coffee, carefully reduced to ashes, prove very rich in potash; on further investigation a considerable quantity of rubidium is revealed, but no trace of lithium. Coffee is much richer in rubidium than tobacco. As to grapes the bitartrate of potash proceeding from, and which is deposited in wine casks under a crusty form, was subject to analysis, and yielded a small quantity of rubidium. Nevertheless there are certain vegetable productions which, though rich in potash contain no rubidium: such as cocoa, the sugar-cane, rape seed, and some kinds of fucus. The abundance of this new metal being now proved, M. Grandeau points to the importance of investigating its action as a fertilizer of the soil, a study which he has already commenced.

Your readers may recollect the interest excited among professional men when Dr. Demeaux discovered the antiseptic qualities of coal-tar, a mixture of which with plaster being applied to the most fetid sores, will at once dispel the offensive smell, and at the same time contribute to the speedy cure of the part affected. The Academy of Sciences has now received a paper from Dr. Desmartis, announcing that logwood or campeachy (*Hœmatoxylon campechianum*) possesses the same valuable property and in a much higher degree. This fact was discovered by accident: Dr. Desmartis had several cancerous patients under his care, all presenting large ulcerous sores, emitting a most nauseous smell. An astringent being considered expedient, a pomatum composed of equal parts of logwood and hog's lard was applied to these sores; whereupon, to the doctor's surprise, the fetor disappeared completely, and the emission of pus was considerably attenuated. To complete the evidence, he suspended the use of the pomatum for a few hours only, when the offensive emanations immediately recommenced, and the purulent secretion became again abundant. Logwood, as he has now ascertained, causes gangrene, especially that of hospitals, to disappear as if by enchantment. Dr. Desmartis has also found it efficacious in preventing or stopping the erysipelas which often occurs after amputation, or the infliction of other wounds, and is a source of constant anxiety to the surgeon. It entirely removes the putridity of ulcerous cancers emitting characteristic effluvia, and, in short, of the most fetid sores. This substance also possesses the advantage of being capable of mixture with hæmostatic remedies, such as ergotine, perchloride of iron, persulphate of iron, etc., it may also be used as a powder and a lotion. The extract of hæmatoxylon, which is much used in dyeing, and is very cheap, is soluble only in warm water.

At the last sitting of the Academy of Sciences, a letter was read from M Van Beneden, relating to MM. Pouchet and Verrier's communication sometime back, which, as you will see in the beginning of this letter, tended to show that the alleged transformation of the *Tœnia serrata* into the *cœnurus cerebralis*, which causes the turnsick in sheep, was not confirmed by facts. M. Van Beneden does not impugn this conclusion, but suggests that MM. Pouchet and Verrier most probably did not make a distinction between the *Tœnia cœnurus* and the *Tœnia serrata*. He then quotes experiments made at Zittan, Toulouse, Louvain, Giessen and Copenhagen, from which it distinctly appears that sheep, to which the eggs of the *Tœnia cœnurus* had been administered, were seized with

the turnsick after the lapse of about a fortnight, with the exception of one. Had MM. Pouchet and Verrier, he concludes, administered the eggs of that tœnia, instead of those of the *T. serrata*, they would have obtained similar results. M. Van Beneden concludes with an important experiment made at Giessen by Professor Leuckart, showing that the new tape-worm, discovered a few years ago, the *Tœnia mediocanellata*, may be introduced into the human body by the eating of veal and beef, just as the *Tœnia solium* may be caught by eating pork. It is known, however, that well-cooked meat, whatever its nature, will cause nothing of the kind. In Switzerland, Russia and Poland, the *Botrio-cephalus* is introduced into the body by the drinking of river water, the embryo of this tape-worm existing therein as an animalcule:

W. N. Cote.

Paris, June 17th, 1862.

REVIEW DEPARTMENT.

ART. XXXVI.—*Anatomy, Descriptive, and Surgical.* By Henry Gray, M.D., F.R.C.S., and Lecturer on Anatomy at St. George's Hospital Medical School. The drawings by H. V. Carter, M.D., &c. The dissections jointly by the author and Dr. Carter. Second American from the revised and enlarged London edition, with 395 engravings on wood. Philadelphia: Blanchard & Lea. Royal 8vo., pp. 816.

The present edition of this truly valuable work has, in the words of the American publisher, "been passed through the press under the supervision of Dr. R. J. Dunglison," whose authority is fully sufficient in reference to the present value of this edition, as he has carefully "corrected such errors as had escaped the attention of the author, and made such changes in the typographical arrangement as seemed calculated to render the volume more convenient for consultation and reference."

All this with the efforts of the author in the same direction has been most successfully accomplished, and we may look in vain among all our anatomical works, however well they may be exemplified by wood cuts, &c., for a volume which can present an equal value to the surgeon, who requires to be always reminded of his surgical, or in other words, relative anatomy, than which there can be nothing more important to him.

In this point of view, Gray's anatomy, as it is familiarly termed, stands pre-eminent at the present day, supplementing a want to the practitioner or surgeon of some years standing, (and for this very reason not the less valuable to the student,) which he will scarcely find in other works on anatomy. We therefore most cordially commend it to the profession of this Province, as a volume, complete and finished as a treatise of this kind can possibly be, and one, which as regards surgical anatomy, may be consulted at any moment with every confidence—the highest estimation which we can attach to a publication of this kind.

ART. XXXVII.—*A Clinical Treatise on Diseases of the Liver.* By Dr. FRIED. THEOD. FRERICHS, Prof. of Clinical Medicine in the University of Berlin, &c. Vol. 2. Translated by Charles Murchison, M.D., F.R.C.P., &c., &c. The New Sydenham Society. London, 1861.

This volume of 584 pages, completes the extremely valuable work of Frerichs on diseases of the liver, into which it has entered with a discrimination and a minuteness of observation previously but little known. Dr. Murchison by his translation of this truly valuable work, has achieved a task for which the profession should be grateful to him as well as to the Society which, recognizing its value, has directed it. Wood cuts of an excellent and generally finished character, represent the peculiar hepatic affections dwelt upon, but if our readers desire to witness the delineations of the original, they should consult the beautiful atlas of the pathological anatomy of the diseases of the liver, in coloured plates, as published by the English translator, Dr. Murchison, of which two parts are now before the profession, and which are copies of the original drawings.

We know of no work upon the diseases of the liver so copious as the one before us, which is now completed. The two volumes constitute a high tribute to Dr. Frerichs' severe industry and his pathological acumen. It is one which whether dependent upon its originality, or the severity of its critical analysis, will remain for a long time *sui generis*, a work of much valuable reference to the student of these peculiar pathological affections. The New Sydenham Society has done well in publishing these volumes, and the members of the Society must admit the careful industry which the publishing Committee has devoted to their especial duty. The work is a high credit to the author and translator, as well as to the discrimination of the Society.

ART. XXXVIII.—*The Handbook of Surgical Operations.* By STEPHEN SMITH, M.D., Surgeon to the Bellevue Hospital, New York. Balliere Brothers, New York. Dawson Brothers, Montreal. 1862, 12mo., pp. 279.

The object in publishing this little volume was to present to the surgeon on active duty with the volunteer regiments of the United States army, a convenient compendium of all the important surgical operations, which in the discharge of duty, he may be compelled to perform on an emergency, and "to obviate the necessity of his transporting with him the usual large treatises on general and operative surgery, or rely upon his unaided memory in the exigencies of the service." The object is therefore excellent, but the author appears at once to have experienced the difficulty of condensation, and hence the work has been "confined to those branches of operative surgery, which are of the most importance to the military surgeon, and in carrying out this design, "his effort has been to embrace the greatest number of subjects, to arrange them in the best form for reference, and to give the largest amount of practical details, anatomical and operative," the whole illustrated by well executed engravings.

The author has divided his subject into six chapters, and when we specify the

titles of these chapters, our readers will at once entertain a clear conception of the nature and scope of the work. Thus, chapter 1 is exclusively devoted to details connected with minor surgery, such as instruments, union of wounds, dressing, hæmorrhage, blood letting, counter irritants, vaccination, and the employment of anæsthetics. The second chapter is devoted to the consideration of wounds of the arteries and their ligation. Chapter 3 to wounds of the veins and varicose veins. Chapter 4 to amputations in general, and afterwards to those of the upper and lower extremities. Chapter 5 to resections. After general remarks upon this subject, the author then specifies the various resections of the upper extremity, those of the lower extremity, then those of the trunk, afterwards those of the bones of the face, and concludes with the bones of the cranium; and the last chapter is devoted to gunshot wounds.

A careful examination of this little volume enables us to say, that the various subjects treated of are judiciously and concisely handled, and we cannot but consider that it would constitue a truly valuable treatise for short reference to any surgeon in active practice, although specially intended for the army surgeon. In a few minutes a surgeon can have a doubt resolved, or some peculiarity in an operation rendered clear by reference to this work, which it might take him hours to search for in some more ponderous volume, and in this consists its chief excellence. In fact, the portability of the volume, the copiousness of its details, conjoined with the clear, concise, yet sufficiently comprehensive manner in which each subject has been treated, constitute, in our opinion, this work as one of the most valuable upon its peculiar branch which has emanated from the press for some time past.

It issues from the press of a firm whose name is a guarantee of the excellence of the style in which it makes its appearance.

PERISCOPIC DEPARTMENT.

MISCELLANEOUS.

THE WATER BAROMETER.

The following account of the water barometer has been communicated by Mr. Glaisher to the *Times*:—

"On removal of the Royal Society from Somerset House, to Burlington House, the council at my request, placed the water barometer at my disposal, which had been erected in the hall, at the foot of the staircase, by the late J. F. Daniel, Esq., D. C. L. in the year 1832.

"The directors of the Crystal Palace Company had previously agreed to receive it, and to assign some convenient place in the Palace for its erection, where its indications could be seen by everybody. Since then in consequence of the practical difficulties, both in its removal from London to Sydenham, and then in reboiling the water in the tube and refilling it, being so great, a longer time has elapsed than I intended. The first step taken, and the most important to insure success, was to induce opticians of sufficient skill to undertake the task both of removal and refilling, and I am glad to say that this was very obligingly and very readily undertaken by Messrs. Negretti and Zambra, of Hatton Garden. The first operation—viz., the removal of the barometer from Somerset House, was, after much difficulty, effected by them some months since, all arriving in safety at the Palace, with the exception of the breakage of about 1½ foot from the lower end of the barometer tube. Originally the tube was filled by means of a

copper steam boiler set in brick work over a fireplace immediately under the barometer itself, so that the tube could be dropped into the boiler, which has since formed in cistern.

"Upon frequent consultations with Messrs. Negretti and Zambra this plan did not seem to be the best possible, or, indeed available at the Palace; in the first place, there was no doubt as to the boiler being sufficiently strong to bear the necessary pressure, so that the water might be boiled almost throughout the tube and kept in a state of ebullition for some time, and, secondly, no fire can be allowed in the Palace. Under these circumstances, it was at last suggested to Mr. Negretti to use an auxiliary boiler outside the building. The object in view was first to boil the water in the cistern, suffering the steam to escape by a cock for some time, and then, by closing the cock, to drive steam through the tube till it escaped in a strong jet from its upper extremity, and then to boil the water in the tube till it issued from the top. By this means all air would be removed from the sides of the tube, and expelled from the tube itself. When this operation had continued long enough, to temporarily seal the top while the water was still flowing out, and ultimately, by means of a judicious use of the blowpipe, to hermetically seal the top of the tube. During Monday, Tuesday, and Wednesday, August 26, 27, and 28, Mr. Negretti was engaged at the Palace preparing everything, and with great dexterity, joined a piece of glass on the broken end of the tube, of the same diameter as itself, and also joined another piece of glass on the upper extremity, terminating in a small aperture.

"On Thursday, August the 29, everything was ready for the experiment, an auxiliary boiler was planted outside the building for generating steam, a pipe from which led to the boiler under the barometer itself into which distilled water of sufficient quantity had been placed, precautions having been taken to connect the pipe from the outer boiler with that in the inner boiler, with a portion of flexible tubing which would first yield if anything went wrong. After the connexion was made in about half an hour a current of steam issued from the cock. When this had continued for some time the cock was closed, and the steam ascended into the tube, being at first condensed by the upper part of the tube, and ultimately rushing out at the top with considerable velocity. Water then ascended into the tube; and it was an anxious moment to watch the boiling water reach and pass where the tube had been joined, which, however, had been so admirably performed that all anxiety on this head soon ceased. After a time the upper extremity, while steam was rushing out, was closed, when the water ascended the tube and soon reached a point 32 feet from the surface of water in the boiler below. After this it was driven up by steam to very nearly the top of the continuation of the tube, but it did not reach quite up to the sealing point. A consultation now took place, it was almost resolved to let well alone, but it was ultimately determined to go through the same process again, as some practical points had been suggested which promised to make the experiment yet more successful.

"The top of the tube was therefore opened, the water fell, and the operation was repeated. It would be tedious to detail all the steps taken in the reboiling; the operation was eminently successful, the tube was finally closed by the blowpipe, and the column of water reached nearly 33 feet, without the slightest speck of air bubble being perceptible.

"On Friday afternoon Mr. Negretti and I found the column of water 32 feet 9 inches in length, as measured from the surface in the cistern. This is equivalent to a column of 28.84 inches of mercury, considering the specific gravity of mercury, 13.634. The reading of a mercurial barometer at the same time was 22.86 inches; the difference between these two readings is 0.98 inch, and this difference should indicate elastic force of aqueous vapor at the temperature at the time–viz., 78 deg. if both instruments be correct. The elastic force of aqueous vapour at the temperatnre of 78 deg. is 0.96 inch, differing two hundreths of an inch. only from that indicated by the water barometer, and completely satisfied me as to the accuracy of the operations thus proving that the space above the water was free from air.

"I cannot close without expressing my sense of the ready resource of Mr. Negretti in overcoming every difficulty as it arose, and of the facility with which he performed and conducted every process connected with the operation.

"My thanks are also due to Mr. Grove and Mr. Rose, of the Crystal Palace, for affording every facility. The instrument is fixed in an angle in the Tropical Department, and near the great tree. The top of the column of water can be seen from the first gallery, and as that which causes a variation of an inch of mercury will cause a variation of more than a foot in the column of water, so the changes in the latter will be more than twelve times as great as those in the former. Many oscillations, therefore, may be seen by the water which cannot be seen by the mercurial barometer, and in gales of wind or heavy storms it will be highly interesting to watch its action."—*Pharmaceutical Journal.*

THE

British American Journal.

MONTREAL, JULY, 1862.

THE MARINE AND EMIGRANT HOSPITAL, QUEBEC.

On another page our readers will find, from the pen of Dr. Landry, what purports to be an explanation of the recent occurrence at the above Hospital, and a justification of his own course of procedure. We would have liked the letter better, had it shewn more candour in at least one instance which we will shortly specify.

Although a desire to engage in a discussion with Dr. Landry is the furthest possible from our wish, for we have thought his conduct right in some particulars, or to justify that of the students which we have considered wrong also in some particulars, we cannot plead ignorance of the fact that a tedious controversy both *pro* and *con* took place in certain of the Quebec newspapers, and as we saw no disavowal of any of the statements made by the party who took up the line of defence, we had a right to assume that the case had been fairly stated. Dr. Landry's excuse for his silence while all this was transpiring seems to us remarkably strange, however ill disposed he may have been to write in the columns of a newspaper; nor do we consider his reasoning when explaining his duties as a visiting physician of the Hospital and the privileges secured to the students after feeing the Hospital at all fairly put, and upon this part of his letter we wish to make a few remarks.

An Hospital ticket, according to our experience, never expresses on its face any other announcement than that the party holding it has secured the right of attending it during the period of time which it specifies; and if, with regard to the M. and E. Hospital, its rules and regulations were silent with respect to the privileges accorded to parties taking out its ticket of attendance, we should consider Dr. Landry's position unassailable. But it unfortunably happens for that position, that these rules and regulations are not silent, as one of them, in specifying the privileges of students thus feeing it, distinctly declares that the bearer is entitled "to witness any operation or dissection or *to attend the clinical lectures.*" Now, the inference which we draw from this distinctly expressed regulation is, that although the visiting physicians, as Dr. Landry says, receive

their appointments from the Government, yet that immediately after accepting the trust, they at once become bound by the regulations of the Hospital as made by the trustees appointed also by the Government; and as these last have made the enactment in question, we cannot but regard it a part of the visiting physician's duty towards the students, who paid the money for the privilege, to deliver "clinical lectures" on the cases, at which they have a right to be present, as this rule was evidently made for their especial benefit. Why does Dr. Landry ignore this regulation of the Hospital, and with what justice can he declare "that no where in the duties ascribed to the visiting physicians, can you find a single word conveying the obligation to give a course of instruction, or indeed any instruction whatever, to the students who attend the Hospital." The extract from the rules of the Hospital which we have given, in our opinion upsets all his reasoning.

But now arises the question, what is meant by the term "clinical lectures?" If we may judge from what we have understood has been the practice at the hospital for nearly twenty years past, these "lectures" have consisted in what we should call "bedside remarks," and not what is technically, in all schools, known by the name of a "clinical lecture," which is generally delivered in a room detached from the sick wards, by a professed teacher attached to a school or college for the benefit of his clinical class, to which none but those who especially fee it are entitled to access, attendance on such a class constituting a most important part of the student's curriculum. Every hospital to which we have had access has its clinical teachings in both forms. Every student who fees the hospital has a perfect right to listen to the bedside remarks, but none but those who take out the clinical class ticket are permitted to attend the clinical lectures, which should enter far more minutely into the cases, than can for obvious reasons be done at the bedside.

Now we cannot suppose for one moment that the trustees imagined that their hospital ticket contemplated an attendance upon such a course of lectures, and for two reasons, because 1stly, such a course at the time these rules, so we are informed, were drawn up, was not delivered at all, the remarks having been all "bedside," and 2ndly, because such a course constitutes a part of a college curriculum, with which the hospital is in no way connected whatever, the Marine Hospital bearing towards the Laval University the same relationship that the Montreal General Hospital does towards the McGill University, i. e. none; but that the Trustees contemplated the delivery of "bedside remarks," we entertain not the least doubt, otherwise why the introduction of the words. Such the students attending the Hospital are entitled to listen to, and such, (Dr. Landry's opinion to the contrary notwithstanding,) we think the visiting physicians bound to make, provided there are students present to benefit by the instruction. But we repeat what we stated in our last number, that Dr. Landry's "clinical lectures" should be considered as perfectly distinct from his "bedside observations," and the students in forcing an admittance to the former, completely forgot what was due to themselves and to Dr. Landry, who "announced to them that the visit was over, requesting his clinical class to follow him into an adjoining ward," for the purpose of delivering his "clinical lecture."

We regret much the occurrence of this affair, and especially the attempt to give a partizan character to it, for which we can see no shadow of a pretext whatever. We have endeavoured to express our views fairly and impartially. We have and can have no motive for doing otherwise, and although we cheerfully give place to Dr. Landry's communication, we cannot see in what particular respect he has altered the material aspects of the case.

COLLEGE OF PHYSICIANS AND SURGEONS OF LOWER CANADA—TRIENNIAL MEETING.

The Triennial meeting of the College of Physicians and Surgeons of Lower Canada, was held at Melbourne, on Wednesday the 9th instant, for the transaction of general business and the election of a new Board of Governors to succeed those whose term of office on that day expired. The ballot afforded the following result as reported by the scrutineers:—

Governors elect for the City of Montreal.

Drs. Howard, Boyer, Jones, Sutherland, Peltier, Scott, Munro, and Robillard.

For the District of Montreal.

Drs. Weilbrenner, Smallwood, Chamberlin, Turcotte, Brigham, Tassé, and Foster.

For the City of Quebec.

Drs. Landry, Fremont, Marsden, Russell, Jackson, Robitaille, Blanchet, and Tessier.

For the District of Quebec.

Drs. Von Iffland, Boudreau, Michaud, Marmette, Tetu, Charest, and Forest.

For the Districts of Three Rivers and St. Francis.

Drs. Johnston, Glines, Gilbert, Smith, Fenwick, and Chevrefils.

The Board then retired for the election of Officers, when the following gentlemen were returned for the respective offices:—

President, Wm. Marsden, M.D.

Vice-President, District of Montreal, W. E. Scott, M.D.

" " " Quebec, A. Von Iffland, M.D.

Secretary for the District of Montreal, H. Peltier, M.D.

" " " Quebec, R. H. Russell, M.D.

Registrar, T. W. Jones, M.D.

After the meeting adjourned, the members sat down to an excellent dinner, prepared by "mine hostess" of the Melbourne Hotel, Madame Gouin, a house which for neatness and every comfort which a traveller can require, we cordially commend. Nor should we omit returning to Dr. Hamilton of Melbourne, and Dr. Gilbert of Hatley, the thanks of the members of the College, for their kindness in looking after all the necessary preparations.

It was our intention to have given a resumée of the proceedings at the meeting in this number, and have delayed the Journal for that purpose, but at the last moment we find ourselves, very much to our regret, compelled to postpone it, in consequence of the absence from Quebec of the late secretary for that District.

AN UNPARALLELED OUTRAGE.—The Hamilton *Times* gives the particulars of a most extraordinary case as follows:—It appears that a quack doctor of the name of E. Querner, while attending the wife of a person of the name of Lay, administered drugs to his patient, and, while the woman was in a state of insensibility, committed a rape. When Lay, became aware of the facts he threatened criminal proceedings, whereupon the "doctor" became penitent and confessed, but offered to do anything to prevent exposure; upon which an understanding was arrived at by which Lay was to receive a consideration, viz., $50 in cash, and nine notes, each for a like sum. A lawyer named Barr now appears, and the notes are drawn up and signed, and the transaction supposed to be completed. It turns out that the notes were all dated on a Sunday, and are therefore illegal. In this case there appear two scoundrels and a miserable spiritless wretch. In a later issue of the *Times*, Querner denies the charge, but admits paying Lay money, and Barr puts on airs of virtuous indignation.

We cut the foregoing from our contemporary the *Woodstock Times* of July 16. The wonder to us is that now when so atrocious a crime has been committed and fully talked of, the authorities have not interfered and arrested all the parties concerned, Querner for the rape, and Barr and Lay for compounding the felony. Surely such a case as this ought not to be permitted to pass unnoticed. (*Ed. B. A. J.*)

CORRESPONDENCE.

THE MARINE AND EMIGRANT HOSPITAL, QUEBEC.

To the Editor of the British American Journal.

SIR,—An incident of very slight significance in itself, but to which some persons have, during the last month, endeavoured to attach high importance, took place some time ago at the Marine Hospital of this city. The correspondence, to which this incident has given rise, has been throughout conducted with such little regard to truth of the accusing parties who nevertheless play the victim; the contradictions therein contained are so palpable, that I have hitherto preferred to remain silent. But the remarks published on the subject in your last issue and founded on assertions such as those brought forward in the correspondence in question may have a much more important bearing. The moderation portrayed in these remarks, as well as the fact of their emanating from a member of the profession, who being a stranger to the contest cannot be taxed with partiality, may make a profound impression on otherwise well disposed and well thinking persons. It therefore becomes almost a duty for me to lay the case before the public in its true light, in order to rectify facts which have been misunderstood, because a wrong explanation has been given to them.

The Government, in naming my colleagues and myself to the office of visiting physicians to the Marine Hospital, imposed on us no other obligations than those of prescribing for the patients who might be placed under our care, and of giving them all the relief that their state might require or that would be in our power. Mention is nowhere made either of the students or of clinical lectures; for the chief object of the government was to provide for the wants of the patients admitted to the Hospital, and not to organise an establishment for the instruction of medical students. When, therefore, I have visited the wards and taken cognisance

of the state of the patients therein confined, and when I have prescribed the treatment which I think suitable to each individual case, I can look on my duties as being fulfilled, the government neither commanding nor requesting more from me. Can such of my colleagues who are not accompanied by the pupils in their daily visits round the wards, be accused of not performing their duty as visiting physicians? Certainly not. The clinical lectures are not thus necessary in the treatment of diseases; they are no doubt useful and instructive to the students, but these latter must seek the required knowledge in Universities, Colleges or Schools which *use* hospitals in the furtherance of this object.

It has been said that the tickets which admit the students to follow the medical and surgical practice of the institution give them the right of assisting at the clinical lectures. This statement is a *voluntary error* on the part of those who have made it. The ticket reads thus: "Mr.———has entered as a pupil to attend the Medical and Surgical practice of the hospital for the period of——months;" and costs three dollars for the season. The proceeds of these tickets have been hitherto employed in forming a library for the use of students attending the Hospital. Nowhere in the duties ascribed to the visiting physicians, can you find a single word conveying the obligation for them to give a course of instruction, or indeed any instruction whatever, to the students who attend the Hospital. The student obtains through the ticket of admission the right of accompanying the visiting physician during his visit; or witnessing anything that may take place in the course of his visit; and of assisting at all the operations and post-mortem examinations. The regulations of the Hospital concerning the students even *limit* their stay in the wards *to the time of the visit*, unless permission to the contrary has been granted to them by the visiting physician, or, in his absence, by the house surgeon.

The Laval University being fully convinced of the advantages which might accrue from the Marine Hospital, and having at heart the advancement of the young gentlemen whose professional education has been confided to its care, was authorized, at its request, by the Trustees of the establishment, to cause a course of clinical lectures to be given by two of its professors, who were at the same time visiting physicians appointed by Government.

These lectures are given, as I have said, in the interest of the pupils of Laval University, but so far from betraying any spirit of exclusion, the University left them perfectly open to medical students without exception. The only proviso made was that those belonging to other institutions, or not studying in the University, should pay a certain sum so as to establish an equal footing between them and its own students.

These clinical lectures, as may be presumed from the term, were delivered at the bedside of the patient, and in the following manner:—One of the students, according to the choice of the professor, examines the case before them, and in the examination he is directed by the professor who sees that he proceeds in a methodical manner. The student suggests the treatment, justifying his own prescriptions. He is then placed in charge of the patient, and every day he must note the changes which take place, and suggest such alterations of the prescriptions as the case may require. Subsequently he gives in writing the history

of the case, and his remarks are submitted to the professor at one of his following visits. The paper is examined, remarks made upon it, returned sometimes to the student to be corrected, after which it is inserted in the Register held open for that purpose. This method is not, in my opinion, inferior to any. It has been adopted in many hospitals in Europe, and has been everywhere attended with the most happy results. Moreover, are we held to do things after such or such a manner for the simple reason that in such a town or in such an establishment the same custom is followed? Must we then ever be condemned to act the part of servile copyists? Does the fact of their being given over the sick bed in anyway affect the clinical character of these lectures or lessons? Is it not the nature of the instruction rather than the plan of their delivery that gives these lectures their peculiar character? Above all, I would recommend these instructions given over the sick bed: for many reasons they appear to me to be most profitable to the students.

It will be seen that by adopting this method, all the students who attend the hospital also assist at the clinical lectures, and, on the other hand, it will be admitted, that it was by no means just, that those who refused to provide themselves with the tickets required, should profit *gratuitously* by the instructions given entirely at the expense of the University. Messrs. Bender and Bligh, were the *only two* whom I knew not to belong to Laval University, and they had neglected to provide themselves with the ticket required. They were at first informed in a general way of the necessity for students not belonging to Laval, to provide themselves with a ticket to attend the clinical instructions if it was their desire to follow them, and they were told that by applying to the chairman of the Trust they would secure one. On a subsequent day, I spoke to them privately. They replied that they did not feel the want of the clinical lectures; they had no wish to follow them, and would content themselves with the practice of the Hospital. I then informed them that for the future I would pay my visit at first and reserve my clinical observations until after the visit. They acquiesced in this arrangement, and though it might cause me some additional labour, I freely submitted to it, in order to avoid all subject of complaint. On the day fixed for my lecture, the two gentlemen in question presented themselves. I visited with them all my patients, and prescribed. I even made several observations in the interest of Messrs. Bender and Bligh, who, I thought, would not assist at my lecture. I *then announced that the visit was over*, and requested my clinical class to follow me, as I wished to make some *clinical observations*. Messrs. Bender and Bligh followed also, and introduced themselves into the ward to which the other students had repaired. I observed to them that the visit was at an end, and requested them to retire. They refused to do so. and maintained that they had the right to be present.

Now, Sir, all this on their part was preconcerted. *I had been previously* informed that they intended to force their entry into the wards if they were opposed, and it was for this reason that I did not use the right, I most certainly had, of having them expelled from the room. But recognising in their conduct an act of premeditated and deliberate insubordination, I found it better to cite them before the Board, which examined and condemned them.

Had you been behind the scenes, had you known the "wire-pullers," you

would have easily understood the *maliciousness* of the impression conveyed in the correspondence above alluded to, of persecution *because* these gentlemen had been students of the University of McGill College; why they should have stated that I had selected them from amongst other students who were attached to no particular college, *simply*, because they came from McGill College. They would have had truth on their side, had they frankly avowed that their classical education did not permit them to aspire to the honour of a degree of M.D. in Laval University. With a little less charity I could detail a long history, while on this subject; but as this article is destined to go before the public, I forbear from so doing. The place occupied by these two gentlemen in the University was not so conspicuous as to cause their absence to be remarked, nor regretted, and there is a sad lack of modesty in the desire evidently entertained, of making the public believe that their departure from the Laval University has brought down its hatred on them, and on the institution which admitted them. You are aware of the fact, Sir, that the professors here are *pecuniarily disinterested* as to whether the number of students be great or small; their salary is invariably the same, and paid by the University, consequently they cannot be much affected on this head, by the loss of one or more pupils.

You say that as long as the visiting physician acts as such, all students who follow the practice has the right to accompany him and profit by his remarks. Nothing can be more in accordance with my own ideas and no one denies them that right. On the other hand, you admit that when the visit is over, and when he enters on the functions of professor, he has the right to expel all who do not wish to conform themselves to the regulations respecting his lectures. This is again *precisely* my manner of viewing things, and this has been *exactly* my manner of acting.

I have reason to expect from your impartiality, that you will give to this rectification a place in the columns of your interesting Journal, in which I have also been condemned "without a hearing." Nevertheless I do not complain, as it has furnished me with an occasion of rectifying certain errors which might have had some weight with those who have studied the question through the medium of the press only.

The individuals who, for some time back, have *caused* my name to be brought before the public; who have exhausted their utmost powers in endeavouring to pick a quarrel with the Laval University, or with some of its professors, for purposes of their own, will most probably profit of this occasion to return to the charge *with their ordinary weapons*. I have, however, neither time nor inclination for these epistolary combats, and leave them free scope. Moreover, I have narrated the facts simply; those who witnessed them can certify to their veracity. No well disposed and disinterested persons will think it necessary for me to repeat what I have already said, and I care very little for the opinion or impressions of the rest, as it would be almost absurd to endeavour to convince them or disturb their preconceived ideas.

I have the honor to be, with great regard,

Your obedient and humble servant

J. E. J. LANDRY, M.D.

Quebec, July 6th, 1862.

THE RIGHTS OF THE PROFESSION.

To the Editor of the B. A. Journal.

SIR,—Now that a reform government has come into power, it is to be hoped that further attempts may be made by the medical gentlemen of Upper Canada to demand from it the lawful rights so long withheld from us. It is most deplorable to think that for party prejudices and electioneering purposes, bills authorizing the institution of charlatanical systems should have been pushed through the House to the exclusion of one demanding common rights granted in all other civilized countries to the orthodox system of over two thousand years standing. The medical profession, especially in the rural districts of Canada, is being more and more encroached upon by empiricism every year. Uneducated, illiterate men, on the strength of this new eclectic bill, have opened offices and hung out their shingles as qualified practitioners. Of the saccharine system, scientifically termed Homœopathy, which has also been legally instituted, we will say but little and think less; the eyes of the most unsophisticated are fast being opened to its fallacy, and the patience of its infatuated adherents is being sorely tried by the ridicule which is now being cast upon their tiny globules. The Hygienic, the Electro-magnetic, and other systems, we can find no great fault with: they do but individualize our own plans of treatment of many diseases. We can but request the promulgators of them, as they value their souls, to adhere to the truths in their advertisements, and not expose themselves by making out too small a mortality among their cases. A year's practice on one of our South American stations would be a pretty good test for their capabilities, especially for that infallible gentleman who lectured lately in Ottawa.

It is not so much at the institution of these comparatively novel systems that we complain,—their own ropes will hang them in time,—but it is at the inconsistencies which are permitted to creep into our own profession. We would ask, is it fair that young uneducated men should be allowed to pass a merely nominal examination more for the sake of their fees and party spite than anything else, and be permitted to enter upon their professional careers, backed by numerous friends and connections, who feel of course bound to help them by their patronage. At least thirty young men are thus annually launched upon the country from one of our *Medical?* schools. It is unfair towards those of us who have spent an enormous sum of money upon our professional education at the hospitals and schools of medicine in England, &c., have studied long and assiduously at one of the orthodox schools of medicine in Canada, and obtained the lawful diploma.

To prove how little the authorities are awake to our interests, I could point out many who are practising without any license from the government whatever, and many more who have settled in business having been absent at their studies scarcely two years. A young man who lived in my service for a little over a year, taking care of my horses, &c., has now had the audacity to go off into a distant part of the country and open an office on his own account, where he is now practising with impunity. He has never studied a day, and can scarcely write his name.

We would ask again, ought those Yankee druggists to be allowed to make periodical tours through our country, and with their well known sophistry and

cunning impose upon our own credulous inhabitants, taking away with them their hard earned dollars in lieu of medicines, as they term them, most of which grow at their own doors, but which have been metamorphosed and palmed off on them with some grand technical term which the venders themselves do not know the English of. Of course *we* cannot be expected to prosecute such impostors; our philanthropy would be at once put down to jealousy, and the public would of course side with the weaker party. Why should not the county attorney have the power given him to look into the matter, and see that every practitioner has his license, and have defaulters punished; such would be the just protection we claim. These are the men who are crowding into the profession every year without education or anything else; who bring such discredit upon it. I have frequently heard people remark, "I have *doctored* with so and so, naming one of the class of constellations above alluded to, and he has not helped me any, but drenched me with medicines and run up a bill; I shall try some other plan of treatment." They do so in their ignorance, and find they have steered clear of Scilla to be swamped in Charybdis. It is indeed fearful to think that the lives of a large community should be thus pandered with. What can be the feelings of those men while standing by the bedside of a dying fellow-creature, when they see the human soul taking wings amid the anguish of weeping friends and bereaved children. They cannot but feel that a valuable life has been sacrificed to their own injudiciousness, if not worse.

It is a crying shame to a civilized country like Canada that such abominations should be encouraged by those in power. We are fast becoming like our neighbours as far as charlatanism is concerned. Our papers teem with quack advertisements and endless nostrums, most of them the grossest forgeries, as our medical journals can and have proved. The stomachs of our population are fast becoming perfect cesspools from the filth which is daily being poured into them by those, whose wrought-on minds have led them to believe themselves to be the victims of one or another of the diseases, mentioned in the eagerly perused advertisements, an agreeable, though rather morbid mental recreation which in the present day many seem to indulge in.

We profess in our loyalty to follow in the steps of the mother country and to emulate her noble institutions. Then why not let us have an incorporated college of surgeons like her, and let all students pass their examinations at it, and receive from it alone their diplomas of course, taking what other degrees they see fit from other colleges.

If the authorities of University College, Toronto, or McGill College, Montreal, were to call together the licentiates from various parts of the country, or delegates from the various districts, some method of organization might be determined upon, and our case be prepared for laying before the House when next it meets. It is high time something was done for the protection of the rights belonging to our noble and almost divine profession. Of course many of the senior members of it may not feel the same amount of enthusiasm in the cause, as some of us who are but commencing to climb the tree, but still it is to be hoped that they will come forward and assist us all they can in our honest endeavours.

I beg to remain, Sir, yours obediently,

Toronto, June 10, 1863. LICENTIATE.

(To the Editor of the British American Journal.)

Sir,—I propose addressing you on a subject of importance because it relates to the future of the medical profession of this city; I allude to the qualifications at present deemed essential by the board to fit physicians for the responsible post of medical attendants at our General Hospital. In this city it has become a matter of notoriety that some of our brethren in their anxiety to be appointed on the medical staff of the Hospital have not hesitated to stoop submissively and cheerfully to the conditition attached by authority to the post—that of becoming political partizans. I confess in shame and sorrow that some medical men have not scrupled to take advantage of this standard of qualification, instead of frowning it down as degrading to their body, and injurious to those institutions in which they have a particular interest. It used not to be the rule, but it has become so recently, that men are chosen to high offices of trust in the Hospital by any other test than that of ability. It was thus that the last two medical appointments (the announcement of which you have already doubtless seen) were made. I never was directly or indirectly an applicant for the post, but I know of two who were; who have almost grown gray in the honest pursuit of medi cine; who are above soliciting as a favour from a Parliamentary candidate what they have every right to expect on the score of merit, and who were as a matter of course rejected. In their stead the board selected two, whose only recommendation was the certificate of the successful election candidates.

This is only one of the results of this system of Hospital management. I might mention several others, did your space or my time permit just now. What I have given you is an example of the spirit that pervades the whole of this misdirected institution. Instead of being liberal as the sun, it is filled with narrow prejudices. Its directors—two of whom are physicians—have not the discretion to leave their party politics behind them when they enter the hallowed precincts of an institution dedicated to the suffering of all politics, of all creeds and of every country. Its superior servants are chosen for their political bias, and most humiliating of all—the same test is now applied to the election of its medical officers.

It has been so long the habit in medical circles here to pass over the abuses inherent in our Hospital system in the hope that a more liberal spirit would in the end prevail, that, from commencing passive, many of us have at length become disheartened and disgusted. It is high time that attention should be drawn to it. The tendency is to set at nought the personal and professional qualifications which, in every other country, are recommendations to responsible posts. It is to deprive the Hospital of the services of well educated men who under any other system of management would apply. It is to undermine the respectability of our rising medical institutions and give the people an indirect power in their management which they know not how to turn to good account. It is to tempt the physician to shape his conduct after any other model than that presented in the character of the fathers of our profession, whose ambition it was to do their duty courageously and honestly, without regard to popular applause or censure, reward or neglect.

I have the honor to be, Sir, your obliged Servant,

Toronto, May 13th, 1862. *Spectator.*

FORMULA FOR THE TINCT. BOLETI LARICIS CANAD.

We have received from Dr. Grant of Ottawa, the formula for the preparation of this tincture, and we publish it for the benefit of those practitioners who wish to employ it.

℞. Boleti Lar. Canaden (bene contusi),...	℥ x.
Spirit. Rectificati.....	℔ iij.
Aquæ Fontanæ.....	℔ ij. M.

Digest with frequent agitation for fourteen days, and filter.

EDITORIAL SUMMARY.

Enucleation of the Tonsils by the Fingers.—In December, 1861, Dr. Larghi, surgeon to the Vercelli Hospital, Sardinia, published a successful case of this mode of operating on a woman 24 years of age, on the 22nd April, 1858. The case was reported to the Royal Medico-Chirurgical Society of Turin, on the 23rd August, 1861, and Dr. Borelli, repeated the operation, one well known to ancient surgery, by removing from a young scrofulous girl, both tonsils in the same manner. Two cases of this reintroduced operation are reported in the "*Gazette Medicale*" of Turin. We abbreviate the following from the "*Journal de Médecine de Bourdeaux.*" Case 1. Félicite Ossola, aged 14 years, having never menstruated, of lymphatic temperament, and evidently scrofulous, suffered under chronic amygdalitis. The tonsils became immensely enlarged, and almost touched each other, presenting a serious obstacle to eating, and even drinking. After having premised a purgative, Dr. Borelli commenced on the 28th November, 1861, the operation in the following way: Having placed the patient opposite a window, with her jaws separated by a cork, he endeavoured by his index finger to detach and forcibly rupture the tonsil from its seat of attachment. This was effected after two or three trials, suspending the operation occasionally to permit the patient to breathe. Still attached by its peduncle, he seized it by a pair of forceps at its middle, and by the exertion of considerable force removed it. A like operation was performed on the opposite side. Very little hæmorrhage followed, and the wound rapidly cicatrized. Dr. Borelli observes that the operation is a very old one and well known to the ancient surgeons. Celsus thus describes it, (See Celsus, book VII, chap. XII, §11,) "*Tonsillas quæ post inflammationem induruerunt oportet digito circumrodere et evellere,*" adding however, "*Ne sic quidem resolvuntur, hamulo excipere et scalpello excidere.*" Borelli states that the operation is a difficult one, if attempted by fingers alone. A forceps renders it far more easy, and recommends this by preference.

Case 2. This was a woman of 32 years of age, whose tonsils had been indurated and enlarged from infancy. In this case without entering into the details, he found the attempt on removal of the fingers perfectly futile, but he succeeded again by the employment of the forceps, but not until after the most powerful tractive and evulsive efforts. The conclusion come to by Dr. Borelli is the following: that the old operation is a practicable and possibly preferable one in young subjects, yet in old ones the amygdalitome should have the preference.—(*Abridged from Journal de Médecine de Bordeaux*).

Chloride of Lime an Insecticide.—In scattering chloride of lime on a plank in a stable, all kinds of flies, but more especially biting flies, were quickly got rid of. Sprinkling beds of vegetables with even a diluted solution of this salt, effectually preserves them from the attacks of caterpillars, &c. It has the same effect when sprinkled upon the foliage of fruit trees. A paste of one part of chloride of lime, and one half part of some fatty matter, placed in a narrow band

round the trunk of a tree, prevents insects creeping up it. It has been even noticed that rats and mice quit places in which a certain quantity of chloride of lime has been spread.—*Chem. News from Dingler's Polytech. Jour.*

Prof. Schroeder Van du Kolk.—This estimable physician, Professor of Medicine in the University of Utrecht, died at his house on the 1st May last, at the age of 65. The correspondent of the Dublin *Medical Press* observes that "Utrecht has thereby lost one of its most estimable citizens, the University one of her ornaments, society one of her greatest benefactors, science one of her most devoted cultivators, his numerous household a loving father, their main-stay and hope."

Van der Kolk was certainly one of the most distinguished physiologists and pathologists of modern times.

The Turkish Bath in Insanity.—This innovation of British usages is becoming now singularly applied. An Irish physician, Dr. Powers, of Cork, is advancing it as a sovereign and most potent remedy in insanity. It has its uses—but where are its abuses to stop. Like everything novel, it has to run, we presume, the gauntlet, until it settles down to the position to which common sense would assign it.

Londoners.—The medical officer of the London Post Office, states that the candidates who presented themselves to him for examination, are as a whole much below the medium of height, strength and *physique* generally. Of 367 candidates in 1861, for the situation of letter carrier, messenger, porter and labourer, he found the average circumference of the chest after expiration 31½ inches,—the lowest requirement for the army is 35. In a considerable number the expansion of the chest on inspiration was but 1 inch. The average strength was 289 lbs.—the strongest raised 450 lbs. They varied in age between 19 and 37. The average in height was 5 ft. 6½ inches, and the average weight 9 st. 6 lbs.—*London Times.*

The British General Post Office.—Five hundred and seventeen million letters passed through the British Post Office last year, and seventy-two million three hundred thousand newspapers, besides twelve million three hundred thousand book packages. The gross revenue of the Department was over three million and a half sterling, and the expenditure nearly two millions and a half, leaving a profit in its working of over a million sterling.

The munificence of Mr. Peabody of London.—This American gentleman who has made a princely fortune in mercantile pursuits in London, has given £150,000 to be disposed of by Mr. Adams, the American Minister, Lord Stanley, Sir E. Tenant, and Messrs. Lampson and Meryan as trustees for the amelioration of the poor of London.

Death of the Prince Consort.—The councils or governing bodies of the different Colleges of Physicians and Surgeons in England, Ireland, and Scotland, have adopted resolutions expressive of deep sympathy with the severe loss which the Queen has lately experienced, and of regret at the loss sustained by science and letters in the early demise of His Royal Highness the Prince Consort. The College of Physicians and Surgeons of Lower Canada has exhibited the same expression of sincere sympathy which every member individually feels.

Local Anæsthesia.—Mr. Fournie recommends for the induction of local anæsthesia, a mixture of equal parts of glacial acetic acid and chloroform. He states that complete insensibility of the part may be obtained in five minutes. He therefore recommends the local application of the mixture in all the minor operations of surgery. The author calls the process chloracetization, and says that it is the most certain, easy, and economic means of producing local anæsthesia yet introduced.—(*Abbrev. from Phar. Jour.*)

BOOKS, &c., RECEIVED.

AN ESSAY ON THE TREATMENT OF CATARACT, by MARK STEPHENSON, M.D., Surgeon to the New York Ophthalmic Hospital, &c. Read before the American Medical Association in the city of Washington, 1862. Philadelphia: Collins, pplt., pp. 26, with two coloured plates.

RESEARCHES AND OBSERVATIONS ON PELVIC HŒMATOCELE, by G. BYRNE, M.D., M.R.C.S.E., Resident fellow of the New York Academy of Medicine, New York. William Wood, 1862, pplt., pp. 44.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON, Vol. 3, for the year 1861, with a list of Officers, Fellows, &c., London. Longman, Green, Longman & Roberts, 1862, 8vo., pp. 480.

HANDBOOK OF SURGICAL OPERATIONS, by STEPHEN SMITH, M.D., Surgeon to the Bellevue Hospital, New York. Balliere Brothers, 1862, 12mo. pp. 279.

A CLINICAL TREATISE ON DISEASES OF THE LIVER, by DR. F. T. FRERICHS, &c., &c. In two volumes, translated by Charles Murchison, M.D., F.R.C.P. Vol 2, New Sydenham Society, London, 1861, 8vo., pp. 584.

THE STATUTES OF CANADA PASSED DURING THE SESSION TERMINATING IN 1862. Quebec: Derbishire & Desbarats, 8vo., pp. 290.

BIRTHS, MARRIAGES, DEATHS.

BIRTHS.

In Montreal, on July 2nd, the wife of G. E. Fenwick, M.D., of a son.
At Berlin, on the 3rd instant, the wife of Dr. Mylins, of a daughter.
At Sarnia, C. W., on the 10th July, the wife of A. C. Poussette, M. D., of a daughter.
In Toronto, on the 13th instant, the wife of Dr. Lawlor, of a son.
In Beachville, on the 6th instant, the wife of Dr. J. W. Tripp, of a son.
In Durham, on the 30th ult., the wife of James Gunn, M.D., of a daughter.

MARRIAGES.

At St. Gustin, on the 15th June, A. A. Duhamel, M.D., to Miss Victoria Sevigny.

At St. Peter's Church, Cobourg, on Thursday, July 3rd, by the Venerable the Archdeacon of York, assisted by the Rev. Charles Bethune, B. A., Robert W. Stanley, Esq., of Grafton, to Marion Frances, third daughter of Dr. Pringle, Cobourg, late of H. M. Indian army.

By the Rev. S. D. Rice, on the 2nd July, inst., at the Wesleyan Female College, Dr. S. W. Davidson of Newcastle, to Maria Jane, daughter of the Rev. R. Jones, Chairman of the London District.

On Tuesday, the 8th instant, at Trinity Church, Thornhill, by the Rev. E. H. Dewar, Thomas C. Scholfield, M.D., Bond Head, to Mary, daughter of John Brunskill, Esq., Pomona Mills, Thornhill.

DEATHS.

At Industrie Village, on the 27th ultimo, Aimée H. A. Partenais, wife of Dr. S. Boulet.

At Dunham, on the 27th ultimo, Duff George, infant son of Alexander Duff Stevens, M.D.

On the 6th inst., at the residence of her father, of typhoid fever, Jane Gibbings, only daughter of R. P. Lewis, M. B., of Beaverton, aged one year and eleven months.

On the 11th instant, in the Parish of Leeds, County of Megantic, aged 30 years, Mrs. Eléonore Gendron, wife of James McFarlane, M.D.

On May 1st, aged 65, after a protracted illness, G. L. C. Screoder Van der Kolk, Professor of Medicine in the University of Utrecht. One of the most devotedcultivators of Medical Science and illustrious physicians of Holland.

On May 7th, G. R. Favre, M.D., consulting physician to the London Ophthalmic Hospital.

At Madeira, of Phthisis Pulmonalis, on the 16th May, Thomas Wakley, Esq., founder and editor of the London Lancet, in the 67th year of his age.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT *MONTREAL* IN JUNE, 1862.

By Archibald Hall, M.D.

Day.	DAILY MEANS OF THE: Barometer corrected and red'd to F. 32°	Temper'ture of the Air.	Dew Point.	Relative Humidity.	Ozone.	CLOUDS: Amount.	CLOUDS: General description	THERMOMETER: Maximum read at 9, P.M.	THERMOMETER: Minimum read at 7, A.M.	WIND: Its general Direction and Mean Force from 0 Calm to 10 Violent Hurricane.	RAIN AND SNOW: Rain in 24 h'rs read at 10, A.M.	RAIN AND SNOW: Snow in 24 h'rs read at 10 A.M.	RAIN AND SNOW: Total rain and melted snow.	GENERAL OBSERVATIONS.
	Inc's.	°	°	0.100	0.10	0.10		°	°		Inch.	Inch.		
1	29.718	67.8	46.9	.50	1.5	5.6	Cu. St.	78.7	53.2	S.	0.10			
2	29.733	70.3	52.4	.56	2.5	7.0	Cu. St.	77.4	61.2	S.W.	2.3			Solar Halo a.m.
3	30.026	64.9	46.7	.53	2.5	8.3	Cu. St.	71.2	58.5	N.E.	1.3			
4	30.120	61.2	42.3	.53	3.5	9.6	Cu. St.	67.2	52.6	N.N.E.	1.6			
5	30.060	68.8	48.4	.50	4.0	1.3	Cu. St.	76.8	50.7	S.	2.3			
6	29.866	65.1	48.3	.58	2.0	5.6	Cu. St.	79.0	57.5	S.W.	1.6			
7	29.867	58.6	47.2	.64	4.5	7.0	Strat.	62.2	52.2	N.N.E.	3.6			
8	30.054	61.2	42.6	.52	3.5	2.6	Cu.	67.3	49.5	N.N.E.	2.3	Inap.	Inap.	
9	30.044	67.5	47.2	.50	1.5	0.0	00	75.0	48.2	W.S.W.	3.6			
10	29.963	70.7	48.3	.46	1.0	0.0	00	78.2	48.0	S.W.	2.3			
11	29.677	72.1	51.8	.51	1.0	3.6	Cir. St.	83.2	47.4	S.W.	2.3			
12	29.481	68.9	57.7	.72	5.5	10.0	Cu. St.	82.2	58.6	W.S.W.	3.0			Lunar eclipse.
13	29.656	71.3	57.5	.63	4.0	1.6	Strat.	78.3	61.2	W.	4.1			Thunderstorm from S.S.W.
14	29.806	64.4	53.1	.68	5.5	2.6	Cu.	78.4	55.0	N.W.	1.3	0.31	0.31	at 7 p.m.
15	30.097	53.6	33.8	.49	4.0	2.6	Cu.	58.4	46.0	N.W.	3.0			
16	30.274	61.0	37.7	.49	3.2	0.0	00	68.3	55.7	N.W.	2.3			Slight Frost.
17	29.793	69.6	52.8	.56	5.5	7.3	Cir. Cu.	79.6	54.8	W.	2.0			
18	29.472	68.0	58.2	.72	6.5	9.0	Cu. St.	76.0	59.6	S.	1.6			
19	29.650	60.7	55.0	.84	9.0	10.0	Nimb.	63.7	55.0	S.W.	3.0	0.05	0.05	
20	29.804	64.9	46.8	.54	7.5	1.0	Cu.	73.0	52.5	N.N.E.	1.6	0.17	0.17	
21	29.901	62.3	50.7	.71	9.0	7.0	Nimb.	72.0	52.8	W.S.W.	2.3	0.14	0.14	
22	30.053	62.1	49.4	.64	6.5	4.0	Cu. St.	73.5	52.5	S.W.	2.0	0.07	0.07	
23	30.070	65.0	52.5	.61	8.0	5.3	Cu.	76.8	52.5	N.N.W.	2.6	0.32	0.32	
24	29.976	63.8	54.1	.72	9.5	10.0	Cu. St.	71.2	57.0	W.N.W.	2.0			
25	29.881	67.0	51.4	.60	8.0	2.6	Cir. St.	76.7	55.3	S.S.W.	1.0			
26	29.853	70.1	56.7	.66	8.0	4.3	Cir. St.	76.9	60.6	N.N.W.	2.3	0.09	0.09	
27	29.757	75.3	53.3	.47	4.5	1.3	Cir. Cu.	87.3	62.2	N.	1.3			Distant lightning.
28	29.792	76.2	56.1	.51	5.0	6.3	Cu.	83.6	66.7	W.	2.6			
29	29.734	72.9	57.3	.62	7.0	7.6	Cu. St.	84.7	60.0	S.E.	1.3			
30	29.536	67.2	57.2	.72	8.5	9.6	Cu. St.	72.8	60.5	S.	3.0			
										S.	2.0	0.40	0.40	
S's														
M's	298572	67.79	51.60	.585				74.99	55.28			1.55	1.55	

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT *TORONTO* IN JUNE, 1862.

Compiled from the Records of the Magnetic Observatory.

Day.	DAILY MEANS OF THE: Barometer reduced to 32° Fah.	Temperature of the Air.	Relative Humidity.	Amount of Cloudiness.	THERMOMETER: Max'm read at 6, A.M. of next day.	THERMOMETER: Min'm read at 2 P.M. of same day.	Dew Point at 3, P.M.	WIND: General Direction.	WIND: Mean Velocity in Miles per hour.	RAIN AND SNOW in 24 hours, ending at 6 A.M. next day: Rain.	Snow.	Total rain and melted Snow.	Ozone in 24 hours ending 6 A.M. of next day.	GENERAL REMARKS.
	Inches.	°	0—100	0—10	°	°	°				Inch.	Inch.	0.10	
1	.....	Sunday			63.0	49.6	.....	N. 82 E.	3.10					
2	20.4335	56.28	77	9	63.0	46.0	57.0	N. N.	3.29	.....	.....	.....	.....	
3	.6795	56.33	76	10	62.5	53.0	46.9	N. 35 E.	4.81	.....	.....	.....	.....	
4	.7722	56.15	55	6	64.5	54.4	45.0	N. 56 E.	7.00	.....	.....	.....	.....	
5	.7548	60.95	53	2	70.0	48.8	45.5	S. 86 E.	1.80	.....	.....	.....	.....	
6	.5495	60.92	62	8	71.4	44.0	54.0	S. 81 E.	2.16	.....	.....	.....	.....	
7	.5558	57 47	67	6	63.0	53.8	51.0	N. 16 E.	5.52	.005	.....	.005	.....	Moderate Thun. Storm a.m.
8	.....	Sunday			64.8	51.2	.....	N. 7 W.	3.93	.....	.....	.....	.....	
9	.7780	59.18	52	2	68.4	39.4	40.0	S. 34 W.	3.14	.....	.....	.....	.....	
10	.6523	61.58	58	9	76.0	47.0	48.0	S. 1 E.	1.66	.....	.....	.....	.....	
11	.3948	61.17	71	8	71.0	50.8	55.0	S. 34 W.	2.87	.....	.....	.....	.....	
12	.3138	68.25	67	9	80.8	53.4	61.0	N. 72 W.	8.75	.010	.....	.010	.....	
13	.4577	61.58	64	7	69.0	57.4	58.0	N. 54 W.	6.42	.....	.....	.....	.....	Faint Aurora.
14	.5765	58.33	63	9	67.0	53.2	49.0	N. 41 E.	5.40	.025	.....	.025	.....	
15	.....	Sunday			65.0	50.8	.....	N. 6 E.	9.82	.....	.....	.....	.....	
16	.9813	53.28	58	3	60.6	43.8	36.0	S. 88 E.	5.04	.....	.....	.....	.....	
17	.4627	62.85	73	6	73.0	41.2	58.5	S. 25 W.	9.20	.037	.....	.037	.....	Solar Halo.
18	.2142	59.90	88	10	67.2	56.0	62.0	N. 79 W.	8.78	.650	.....	.650	.....	Moderate Thunder Storm.
19	.3938	52.10	72	6	60.4	47.3	46.0	N. 38 W.	7.10	.025	.....	.025	.....	Faint Aurora.
20	.5123	54.57	74	6	63.5	41.6	54.0	S. 25 W.	5.33	.112	.....	.112	.....	
21	.6587	58.05	62	2	71.0	46.8	41.5	N. 55 W	10.69	.....	.....	.....	.....	
22	.....	Sunday			65.2	42.0	.....	S. 35 W.	4.83	.....	.....	.....	.....	
23	.6880	57.13	83	10	61.8	52.4	55.0	N. 68 E.	7.07	.105	.....	.105	.....	
24	.5877	56.70	84	7	61.6	55.4	55.0	N. 37 E.	5.56	.013	.....	.013	.....	
25	.6455	64.05	63	2	74.0	51.2	54.0	N. 46 W.	9.17	.....	.....	.....	.....	
26	.6232	73.32	38	6	85.4	64.0	47.0	N. 38 W.	7.86	.....	.....	.....	.....	
27	.5670	70.52	53	3	79.6	55.2	56.5	S. 53 W.	6.57	.....	.....	.....	.....	
28	.5060	69.57	58	5	81.0	58.0	55.0	S. 71 E.	3.21	.....	.....	.....	.....	
29	.....	Sunday			77.0	58.5	.....	N. 19 W.	3.99	.025	.....	.025	.....	
30	.3473	62.85	67	1	72.4	61.0	50.0	N. 34 W.	15.29	....	.....	.....	.....	
S's	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.007	.....	1.007	.....	
M's.	29.5642	60.52	66	6	70 10	50 9	5[illegible]	[illegible] W.	5.98					