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FLESHY TUMOUR OF THE UTERUS, WITH ABSCESS OF THE OVARIUM, RUPTURE, AND FATAL PERITONITIS.

To the Editor of the British American Journal of Medical Science.

SIR,—The following case appears to contain points of interest sufficiently strong to induce me to offer it for insertion in your Journal; and, with your permission, I shall append to the case some observations in the way of clinical remarks.—I am, &c.

A. F. HOLMES, M.D.

Prof. of the Theory and Practice of Medicine, M'Gill College.

CASE.

On 13th June, 1845, I was requested, by her ordinary medical attendant, to visit Mrs. ——, aged 46;—who has had but one child, born upwards of 20 years ago;—who has never miscarried, but has been liable to hæmorrhages, frequently very profuse; and who, for the last ten years, has suffered from an almost constant bloody discharge from the vagina. She has supposed herself labouring under prolapsus, but has never permitted any manual examination—has never complained of much pain in the region of the womb, but occasionally has had pain in her back.

I found her suffering from acute pain coming on at intervals, and extreme tenderness in the right side of the abdomen, towards the ilium, where a hard, somewhat moveable tumour, of the size of a goose's egg, could be easily felt, which was exceedingly tender. This she described as having existed for several years, being, when first perceived, as small as the yolk of an egg, and having gradually increased. She stated that when first noticed, the tumour was on the right side; that till very recently it was quite moveable, falling from one side to the other upon change of position. It frequently interfered with micturition, and required to be raised by the hand pressed above the pubis, to allow of emptying the bladder. No other inconvenience was experienced from its pressure on that organ. There was no pain or difficulty in defecation. There was scarcely any tenderness of the abdomen, except at the spot occupied by the tumour. The pulse was soft, and of natural strength and frequency,—skin not hot,—no nausea nor vomiting,—bowels had been freely opened. She ascribed the increase of size in the tumour, which had taken place within a few days, and the pain, to having gone in a vehicle about 20 miles, over a rough road, during which ride she suffered much pain from the jolting. It is only within two days, however, that the pains have become violent.

Having requested an examination per vaginam, I found, on introducing the finger about an inch, a firm solid tumour projecting from the posterior part, and nearly filling the cavity. It was not painful when pressed, nor was it elastic—the mouth of the womb was felt high up in front near the os pubis, as in a case of retroversion—the lips felt very thin, but smooth, and the orifice admitted the finger a considerable way, and some pain was excited by the introduction. The anterior wall of the uterus felt thin and wasted, while the posterior was greatly enlarged and hardened, and had the same feel as the tumour of the vagina, with which it was evidently continuous. The inner surface of the os pubis was very tender. The conclusions I drew in regard to the case were, that the uterus was organically diseased, and greatly enlarged, and that the tumour on the right side was the ovarium likewise enlarged, and recently become affected with inflammation.

Under this impression we determined, for immediate relief, to apply hot fomentations, and to follow them, as soon as they could be put on, with leeches, and at the same time a strong dose of morphine was prescribed. I subsequently understood from Dr. —— that the fomentations had relieved her so much, that the leeches had not been applied. I did not see her again until the 20th, as she continued to improve, but on that day was informed that the pain had entirely left the right side, and that the tumour had subsided very much, while a similar very painful tumour had suddenly made its appearance in the corresponding portion of the left side.

On examination I found a very painful and tender prominent tumour, with a reddish blush on the skin covering it, on the left side of the linea alba, the pain being constant, but much aggravated by pressure. The hard tumour on the right side was very easily felt, being without tenderness, and rather lower down than previously. On examination per vaginam,—same appearances—no increase of tenderness, but stillicidium of blood had ceased for a day or two past.—the pulse was soft and natural, and there was no heat of skin.

Considering this a similar affection of the left ovary,

though from its extreme tenderness no very precise examination could be made, similar remedial means were suggested, but finding that hot fomentations had already been tried without relief, we ordered a bag of ice to be applied to the tumour, which being done, immediate relief was experienced, and a second time the leeches were rendered unnecessary. The patient continued to improve, and was seen by Dr. —— on Sunday afternoon (22d) very cheerful, without complaint of belly, having only a slight pain in right hip or flank, which was relieved by rubbing with camphor. But on 23d, at 8 A.M., Dr. —— was summoned, as she had been suddenly attacked four hours previously with great pain, followed after some time by weakness and coldness. On visiting her, he found her sinking; he called on me, and I saw her about 11 A.M. Her hands and feet were very cold,—face pale and collapsed,—she had vomited,—belly was very tender in every part, but chiefly on left side,—no tumor was to be felt on that side, but that on the right was easily perceived,—no meteorism,—pulse soft and compressible, but not very frequent.

Conceiving that this sudden accession of Peritonitis arose from rupture of the tumour that had existed on the left side, and consequent effusion into the peritoneal cavity, a large sinapism was directed, and opium, with camphor and carbonated ammonia, ordered every hour—wine to be given freely. Being, however, aware of her danger, and supposing she must die, she would not allow the sinapism, and took but one dose of the pills. She gradually sank with incessant vomiting, increasing coldness, and failure of the circulation, the intellect remaining clear to the last. She died about 8 P.M. The abdomen remained quite flat.

SECTIO CADAVERIS.

Twenty hours after death, the body was examined.—The belly was now tympanitic in some degree, and a large quantity of yellowish frothy liquid escaped from the mouth.

An incision from the pubis to the sternum was made, and as soon as the peritoneum was opened a quantity of offensive gas escaped. The omentum contained much fat, was deep red and injected in patches, and adhered to the inside of the peritoneum by a layer of lymph so thin as scarcely to do more than cause adhesion, the parts separating with the greatest ease. The peritoneum had entirely lost its smooth glossy character, was dull and numerous vessels ramified upon it. This appearance was observed especially towards the lower parts—the adhesion was also more marked on the right side. A considerable quantity of a thin turbid seropurulent liquid occupied the dependent parts of the peritoneal cavity. On endeavouring to raise the omentum it was found to be firmly fixed below to the enlarged uterus; it was therefore divided. The small intestines below it were all found glued together, by a thin soft coating of recent lymph, but were not at all red. They were distended with flatus.

The uterus occupied the whole pelvis. On its right superior angle a large tumor was observed, being evidently that which had been mistaken for the ovary before death, but now seen to project from the uterus itself in the form of a globular mass about two inches in diameter, and quite solid, covered by peritoneum, which was smooth and shining. Behind it, but unconnected, was found the right ovary partially converted into a cyst, about two inches long, by three-fourths of an inch wide, filled with fluid. The upper and fore part of the uterus was covered by a thick tough false membrane, which peeled off in thick shreds, evidently of long standing. On the left and upper side of the uterus there was another tumor, but this evidently a sac, partially empty, with thickened walls, to which the omentum adhered strongly, and which were of a reddish colour. To examine this more carefully, the intestines were raised upwards, and the mesentery being exposed, there was seen to be a sac covered anteriorly by a thin membrane perforated with a hole about three-eighths of an inch in diameter. This sac was bounded above by the mesentery, and below by the uterus. On laying it open it was found to contain some yellowish fluid, similar to that in the general cavity, and an orifice was seen, into which (being supposed to communicate with the ovarian cyst) a director was passed, but it entered but a short way. Upon pressing the cyst, however, yellowish fluid with bubbles of air was seen to issue from another opening in he back part of the small sac, and the director introduced here passed readily into the enlarged ovarian cavity. This was between three and four inches in length from top to bottom, closely attached by its anterior and lower border to the body of the uterus, and orming the tumor before spoken of. Its cavity when cut into was found lined with shreddy lymph, and still contained a small quantity of thin yellow puriform fluid.

The sigmoid flexure lay in the iliac region, and the rectum quite white, and without any mark of inflammation passed along the sacrum in close contact with the uterus. The bladder was empty and natural,—liver natural,—gall bladder empty,—stomach somewhat distended, but healthy,—colon natural. The cavity of the pelvis behind the uterus was separated from the peritoneal cavity by adhesions, but the back part of the uterus was covered by peritoneum in its natural state, forming a kind of shut sac between the uterus and rectum. The vagina and other attachments being cut through, the uterus was removed; it weighed three pounds and a quarter, and pre

sented the appearance of a large hard spheroidal mass; on the anterior lower portion of which was seen the os-tincæ, smooth and open, but without ulceration; on cutting into the mass from behind, it was found of a semi-cartilaginous hardness. It consisted of two portions, one about half an inch thick, formed of long fibres of a gray colour, and evidently the developed tissue of the uterus, which encircled the other portion that formed the bulk of the tumor, and which was of a white colour, and made up of indistinct masses or large grains without any intermedium, and cutting like fibro-cartilage, harder in some parts than in others. The small globular tumor above was similarly composed; a thick covering of apparently uterine fibres inclosing the hard granular matter; the cavity of the uterus terminated below this mass.

FIRST OBSERVATION.

The uterine tumor described above, is evidently of the kind denominated by W. Hunter and several more recent writers, *fleshy tubercle of the uterus*: and by Lever, in his recent work, *hard, fleshy, or fibrous tmour of the uterus*, and which he defines "for the most part non-pedunculated; and either non-malignant, or if malignant, possessing that characteristic in a very low degree." European writers of celebrity describe such tumors as of very frequent occurrence in women past the middle period of life:—thus Bayle affirms, "that in twenty out of one hundred women taken indiscriminately after the middle period of life, the fibrous tumor is found imbedded in the walls of the uterus. Dupuytren affirms that there are few women of a certain age who are without tumors of this description about the uterus; and Dr. Lee of London gives his opinion from personal observation, that Bayle's estimate is correct. Now, in this country, though ovarian and uterine organic diseases are by no means infrequent, I should be loth to recognise an approach to that proportion so obtaining here, comparatively few of those, whose bodies I have had an opportunity of examining, who had died without manifest uterine disease, having exhibited changes of organic structure. In this opinion I am happy to be corroborated by so good an authority as Dewees of Philadelphia, who, (Treatise on Diseases of Females), in speaking of organic diseases of the uterus, observes,—"The diseases about to be considered are not very common in this country; at least, they would appear to be less frequent here than in Europe." Dr. Lever (Organic Diseases of Uterus), deriving his knowledge from the Army Medical Reports, states, that in Quebec three women in fifty suffer from carcinoma; in Montreal two women out of fifty suffer from organic disease; that in the country the proportion is nearly the same; in Halifax one in forty suffers.

Now, though the terms "Carcinoma" and "Organic disease" are by no means convertible, yet as "hard tumor" is so frequently accompanied by affections of the pelvic viscera, similar to those which true carcinoma inflicts, it is not unreasonable to suppose, that the former may frequently be included in the latter, or in the more general name of "malignant disease;" and we may therefore be warranted in concluding that organic disease is less common in America than in Europe. Dr. Dewees attempts to account for this circumstance, by asserting it to be "a fact sufficiently well established," that tedious, laborious, or impracticable labours are very much more common in Europe than in this country;" he adds, "it will necessarily follow that the uterus of the European women is, in the same proportion, exposed to injuries from this cause."

I have just said that "carcinoma" and "organic disease of the uterus" are by no means convertible terms; and it is of much importance to be aware of the difference; as the one tends to speedy death with great suffering, while the other may subsist for many years with comparatively little inconvenience.*

The symptoms of the latter are chiefly those arising from the pressure of the tumor; consequently, they are not commonly experienced till the tumor has acquired some size; then, symptoms similar to prolapsus may supervene, or, inconvenience in discharging the bladder, or rectum; or, from pressure on the nerves, cramps or pains, or numbness of the lower extremities may occur; and especially the patient will be liable to frequent hemorrhages from the vagina, producing probably debility and œdema. Moreover on examination per vaginam, if the tumor be distinguished, it will not be painful, and the mouth and neck of the uterus will be commonly intact. In carcinoma again, the part affected is very generally the cervix, which becomes thickened and hard; painful when pressed; and this change is accompanied by shooting pains through the pelvis and neighbouring parts, and sympathetic disturbance of the system; and followed sooner or later by ulceration of the os and cervix uteri.

The agreement of the progress and effects of the tumor in the present case, with those ascribed to fleshy tubercle will be apparent; and the fatal termination seems to have been quite independent of its existence.

* Sir Charles M. Clarke has observed, "all tumors which have the character of *hardness*, have been called scirrhus, and scirrhus has been considered as the forerunner and first stage of cancer. But many tumors which are *scirrhous*, that is to say *hard*, have no disposition to acquire an ulcerating state, or at least have that disposition only in a trifling degree."

SECOND OBSERVATION.

I shall next notice the very venial error of diagnosis, in considering the tumor of the right side to be the enlarged ovary, while dissection proved it to be a portion of the uterus itself,—the former great moveableness of the tumor;—its having been first observed on the right side;—its situation considerably to the right of the median line;—its apparent circumscription towards that line;—all tended to support the opinion of its being ovarian. It was to be sure very hard, but it was then inflamed, and probably had been subject to inflammatory attacks, and therefore might have become thickened. There was indeed evident diseased enlargement of the womb, but that is very compatible, and indeed often connected with ovarian enlargement. From these considerations, therefore, it appears, that the error was almost unavoidable; and the post-mortem is valuable, in showing the ease with which the one disease may be mistaken for the other. Dr. Lever observes "in ovarian tumor there is generally less hardness, the tumor is more moveable, and the constitutional irritation perhaps is greater than in hard tumor, which is for the most part more fixed, harder, and marked by less constitutional sympathy." Dr. Lee (*Med. Chir. Tr. vol.* 19) speaking of these tumors observes, when large "they produce all the injurious consequences, of enlarged ovaria from which, indeed during life, they are distinguished with difficulty."—

THIRD OBSERVATION.

I shall now, thirdly, allude to the immediate cause of Death, viz., the peritonitis—its cause and its consequences.—

That inflammation had existed in the tumors upon the right and left sides, I presume the symptoms cannot leave a doubt of, but in neither case do I suppose that the peritoneal coverings were affected. I infer this from the very circumscribed pain in both cases, and, in regard to the right, from the surface being found after death free from any of the usual deposit and appearance of inflammation. The peritoneum covering the right tumor was perfectly smooth, and of its natural transparency and glossiness. That the inflammation had subsided in both cases is sufficiently plain. The fatal peritonitis, then, resulted from the application of a new cause, and that unquestionably was the irritation of the fluid evacuated from the ovary, into the peritoneal cavity. This was strongly shewn by the suddenness of the attack, and the description of the symptoms, which exhibited on the one hand the signs of inflammation, and on the other the powerful impression which the application of foreign substances to the peritoneal membrane is known to induce.—Even gaseous substances introduced into the abdominal cavity seem sometimes to have the power of inducing immediate irritation and inflammation. A very distressing example of this kind occurred in my practice a few years ago in the case of a little boy, who, after very slight symptoms of intestinal irritation, was suddenly seized with collapse, and died in a few hours, without betraying the least pain or uneasiness when the belly was pressed, and yet in whom the peritoneal surfaces around the vermiform process were found inflamed almost to the degree of sphacelus, without any foreign matter being discovered, although the process itself was found softened and ruptured, having become obstructed by a small fæcal mass impacted in it. Whether in this case the irritation was caused by the passage of noxious gas (for instance, sulphuretted hydrogen,) into the abdominal cavity, may be doubtful; but it appears to me probable from the absence of foreign of matter, and the sudden and powerful impression made on the general system.

Attributing the peritoneal inflammation to the effusion from the ovary, I am yet not inclined to ascribe the whole of the fluid contained in the general cavity to that source. It is true the fluid in the sac was pretty nearly the same as that in the general cavity, yet the quantity was larger than would have been contained in the ovary. A large part of it may therefore be set down to the usual effusion of an inflamed serous membrane, an opinion corroborated by the fact that the matter which issued from the ovary when pressed upon before it was opened, was thicker than that in the peritoneal cavity.

The autopsic appearances furnish an excellent proof of the rapidity with which effusion ensues after peritoneal inflammation has set in; and even under all the unfavourable circumstances of depressed circulation and nervous energy. In the few hours that elapsed, adhesion had taken place between a large portion of the omentum, and the peripheral peritoneum, and the small intestines were united together throughout their convolutions.

FOURTH OBSERVATION.

I shall, lastly, allude to a point of some practical importance. viz., the absence of meteorism, although *well marked* peritonitis existed. This is by many excellent authors considered almost pathognomonic, and has been employed to distinguish between (to use Armstrong's terms, which are less liable to ambiguity than others,) muco-enteritis and sero-enteritis. That writer says "the state of the abdomen is a very remarkable circumstance. In the progress of muco-enteritis, the abdomen gets flatter and flatter:—in the progress of sero-enteritis, the belly becomes more and more round." Another great authority Dr. Stokes says, "tension and tumefaction of the abdomen are constant and characteristic symptoms of peritonitis: those in the early stages arise from a tympanitic distension of the intestines," &c.

Abercombie also gives as a character of peritonitis "that the belly becomes tympanitic." In this case, however, we see the fallacy of this symptom, the abdomen remaining quite flat until death. It is useful to know therefore that such exceptions do occur. This is not a solitary instance—a similar circumstance ocurrred to me some months ago, in the case of a man who died after two days illness, and whose body I was allowed to inspect.—The abdomen was not in the least distended either before or after death, and yet exhibited one of the most characteristic examples of the effect of (what may rather paradoxically be called *healthy*) inflammation, on serous membranes that I ever beheld. The whole intestines were glued together, and covered by a thick layer of soft yellow lymph which constituted the whole of the effusion, there having been no liquid poured out.

REMARKS ON THE REV. Mr. LEACH'S OBSERVATIONS ON THE PREVIOUS EXISTENCE OF A FRESH WATER INLAND SEA.

BY JOHN RAE ESQ., HAMILTON, C. W.

Sir,—I observe that the Rev. Mr. Leach, has taken advantage of your pages, to advance some doctrines, or rather, if he will allow me to say so, to make some assertions concerning the action of the waters at remote periods on the surface of this great continent, which —equally to those who have made the subject a study, and to those who have learned the result of these studies—have a somewhat heterodox appearance.

As I have been something of an inquirer into these matters—as I have had the happiness of reckoning among my friends, some who have largely inquired into them—I hope you will grant me a little space to show to your readers, and I trust to my friend the Rev. Gentleman himself, that there is not so great a difference between what he believes and we believe—to show him in fact, that though in Geology he is not exactly orthodox, he is yet much more so than he conceives; and indeed that he can only become obstinately heterodox by mingling together two distinct questions, the one of palpably easy solution, the other not to be solved till additional facts have been observed.

I think I shall most shortly, and therefore best, bring before your readers the substance of the matters which the Rev. Gentleman calls into question, by stating first those things which all who have fairly looked at the face of nature, as she shows herself beneath a Canadian sky, agree to hold as facts.

It is then granted on all hands, that the waters have by distinct steps receded from the interior of this continent. Their retiring footsteps are impressed all over it. Farther more it is granted, that those waters, once covering so very large a portion of our continent, were hemmed in by certain bounds—by three mountain chains, forming an irregular triangle;—the Rocky mountains running North and South, the Alleghanies from South West to North East, and the great granitic range which shuts us up to the North, having a course not far diverging from due East and West. It is on these ranges, more especially on the inner sides of the Alleghanies, and the Southern side of our Northern Canadian hills, that those successivly declining terraces, giving such evident tokens of the action of the retiring waters, are best seen, or at least, have been most exactly noted.

Thus far we all agree—all including Mr. Leach himself:—but, just at this point, a stain of heterodoxy appears in the observations of the Rev. Gentleman. He considers, that there is no evidence of the existence of a barrier of mountains at the mouth of the great rivers St. Lawrence and Mississippi, and that the chain of the Alleghanies must have formed a range of islands admitting a tolerably free communication between the inner sea and the great outer ocean.

According to those who have examined this continent, and made themselves familiar with the appearances its surface exhibits at points most interesting to the geologist, there are only four openings by which, were it tomorow depressed a thousand feet, the waters of the Atlantic could find admittance to the bed for an interior sea thus created. These are the vallies of the Mississippi, the Susquehana, the Hudson, and the St. Lawrence. I do not think Mr. Leach can dispute this fact. If he does he will have to show the other points through which such communication could take place. It is to be borne in mind that this is a subject which admits not of fanciful conjecture; that it has been a matter of careful and scientific investigation, and accurate measurement, carried on for a series of years by the Geologists employed by the several States for ascertaining all the facts connected with the science which their respective territories present, and embodied in copious reports laid before their respective Legislatures.

The next question is: How have these several communications or vallies been formed? If we refer this question to the Geologists who have examined it, we find that they all agree in ascribing their existence, or at least their existence in the form they actually present to us, to the agency of water bursting out from an inland reservoir. Geologists indeed of all degrees are singularly unanimous on this head. Upwards I think of forty years since—the evidences of it are so clear and strong—it struck the then comparatively unskilled and unscientific observers as a thing, the proofs of

which were too palpable to be disputed. At all events I well know, that when I arrived in this country twenty three years ago, the bursting through of the interior waters by the valley of the Hudson, was reckoned a well established fact by the savants of New York and Canada. Since that time Geology has risen to be a science—a real science exercising a positive rule over both the speculative and the practical man, and requiring from them a zealous attention. The fact of this particular region possessing great mineral riches, dividing the Atlantic from the Western States, and being the great bar to the progress of Canals and Rail roads, has called for a very accurate and scientific examination of it at every point, and yet, up to the present moment, there has not been a whisper against the original hypothesis. All observers concur in admitting that these vallies exhibit very evident traces of water having at some anticedent time burst a passage through them. Mr. Leach's assertion therefore, that there is no proof of this, comes upon one as a thing rather unexpected and strange.

I have not the materials by me to give the proof of the interior waters having burst through at all these points, and if I had them, it would extend my paper to an intolerable length were I to set about putting them to use. It will be sufficient for me to show, that there are good reasons for believing, that the immediate agent, in the formation of one of these vallies, was water forcing its way from the interior, for, if we are satisfied that it had to force its way at one point, we must of necessity conclude that there could then have been no free passage for it at the others. I shall take for my ground of proof Quebec and its vicinity. Many of your readers are familiar, or can easily make themselves familiar, with the localities I am to describe.

I would then beg any one who may be in doubt as to these matters, to take a tour towards that city, or, if this be not convenient, to accompany me in imagination on such a town.

We pursue our route by land, and on the Southern bank. We have now left Montreal behind us some fifty leagues, and are approaching the ancient City. We have got to the summit of a rising ground: let us stop the progress of our calêche and look around. First then turn your eyes northward. You see there those dark, rounded, granitic mountains, six leagues off, that shut out our farther view, and evidently present an insuperable barrier in that quarter. You see them stretching their massive bulk downwards to the sea. I know them well. They reach the salt water twelve leagues below Quebec. Just about where the river may be said to end, and the gulph begin: the first of them that touches it, Cape Tourment, (mariners must have given him his name,) raises his bald head and shaggy sides, in seeming perpendicular altitude, more than twelve hundred feet over the eddying tide which sweeps his base. He gives the beginning to the mountainous coast, which forms the northern shore down to Labrador. We may then leave that view.

But turn your eyes Eastward, to the low blue ridge, which, seemingly about thirty miles off, bounds our prospect in that direction. Its course is apparent. It runs right onward towards Quebec, as if to meet thereabout, the Northren chain we have just been looking at. Does it accomplish this juncture, or does it not? At this distance we can only say, that it aims well, and must come near it. Let us strike right across the country, and see what it is made off, and what becomes of it. Our Canadian poney, bears us rapidly over the intervening space. Much is there that we might stop to mark, but we have no time to linger; only I beg of you, take note of one or two things. Observe how level the surface is. Does it not look, as if sometime it had formed the bottom of a lake? Look at the streams and rivers which we cross, on whose banks we skirt. Have they not a strange air of newness about them? At first sight, you would say nothing had been done by them, but the cutting out, through the slaty clay which lies immediately under the soil, little ditches to be channels for the passage of their waters. Looking more closely however, you will observe, that these channels are traversed at distant intervals, by masses of graywacke, or slate, or both together, and that the stream has had some hard work to force its way through these natural dams. Compared with the doings of such rivers or rivulets, as we see in England, or Scotland, the progress made by these streams, is certainly inconsiderable. Still you see, that each has cut through, at every point where it has been at work, some ten, or twenty, or thirty feet, of solid rock, and is still going on vigorously with its task. You will observe too, as we move, that we mount first one natural terrace, and then another. These are the steps made by the descending waters. We have now got to the very sides of the hills we came to look at. The summers breath gently stirs their foliage, and wafts various odours to you. The cedar and tamarac (the Canadian larch,) rise out of the level and marshy bases; overhead flourishes the maple, and its accompanying hard woods. But our business is with the rocks; look narrowly at them. The strata are evidently those which Geologists class, between the primary and secondary; we have not come here, to examine into and report, even a summary of the vast mass of facts, which they present to the scientific inquirer. Some prominent circumstances deserve however, to be noted.

(*To be Continued.*)

PRACTICE OF MEDICINE AND PATHOLOGY.

CONTRIBUTIONS TO THE DIAGNOSIS AND PATHOLOGY OF THORACIC DISEASES.

By Robt. L. Mac Donnell, *Lecturer on the Institutes of Medicine, University of M'Gill College, Montreal; Licentiate of the King and Queen's College of Physicians, and of the Royal College of Surgeons, Ireland; Member of the Pathological and Surgical Societies of Dublin: Corresponding Member of the Medical Society of Geneva.*

In the March number (1844) of the *Dublin Journal of Medical Science,* I published some observations on the Diagnosis of Empyema, (see Page 14 of this Journal) and alluded, amongst other subjects, to *purulent expectoration* in that disease. The views advanced in that essay were based upon the results of three cases that came under my own observation, two, the particulars of which were detailed to me by Dr. Stokes, and four already published by Dr. Greene, three of which I had seen in his wards in the Whitworth Hospital. I have therefore considered it my duty to lay before the Profession the following example of the affection, which, besides the bearing it has upon the statements contained in my former paper, presents some features of peculiar interest.

As the following observations have reference only to pathology and diagnosis, I have purposely omitted minute details of the treatment employed by Dr. Lees, to whose kindness I am indebted for permission to lay them before the profession.

EMPYEMA WITH COPIOUS PURULENT EXPECTORATION; NO SIGNS OF ABSCESS; DISAPPEARANCE OF THE EFFUSION; LOUD BRUIT DE SOUFFLET IN THE DESCENDING AORTA; RECOVERY.

Anne M'Cullagh, aged 15, a delicate-looking girl, was admitted into the Meath Hospital under Dr. Lees, March 5th, 1844. She had always enjoyed good health till she attained the age of 13, when she was attacked with fever, from which she slowly recovered, but remained well till about three months before admission, when, after exposure to wet and cold, she was seized with pain in the left side, increased during inspiration, and extending from beneath the nipple, outwards, under the axilla and left scapula; she also suffered from great difficulty of breathing, a dry, harassing cough, and inability to lie in any position but on the left side. The cough was, at first, attended with a scanty, frothy, expectoration, but for some days before entering the hospital, she began to spit up a quantity of purulent matter, of a very offensive odour. On admission, she complained of pain in the left side, and stitch on drawing in a deep breath; she lay on this side, and when obliged to resort to any other position dyspnœa was induced. She had cough, with copious purulent expectoration of a fœtid odour, and her breath, after each fit of coughing, was very offensive. She did not appear to suffer much from dyspnœa when lying on the left side, although the respirations amounted to 40 in the minute; the alæ nasi were not dilated, nor did the countenance betray much anxiety. Her pulse was 112, small and weak; the action and sounds of the heart were quite normal, and *this organ occupied its natural position.* She had night sweats, loss of sleep, and, according to her statement, had lost much flesh; her appetite was pretty good, but she suffered from nausea after each act of expectoration, excited by the unpleasant nature and smell of the sputa. The chest was well formed; no atrophy of either infra-clavicular region; the intercostal spaces on both sides were equally well marked, and natural in every respect, there was no appreciable difference in the vocal vibration of the two sides, for in both, it was nearly absent. By measurement, the left side was *one quarter of an inch larger than the right.* All over the right lung, both before and behind, the sound on percussion was clear, and the respiratory murmur was loud, puerile, and free from rale; the upper portion of the left lung, both before and behind, was likewise perfectly clear, and the respiratory murmur was loud and pure, except immediately under the clavicle and in the supra-spinous region, where it was accompanied by a loose mucous rale, without the least approach to cavernous breathing, or pectoriloquy, and in no part could we detect either feeble respiration, or crepitation. From the spine of the scapula downwards, there was *complete* dulness, with total absence of respiratory sound; in no part could the least rale, or bronchial breathing, be heard. The dulness also extended round under the axilla, and here the same absence of respiration was noticed, but as we proceeded more anteriorly, the sound on percussion became clearer, and the respiratory murmur could be heard distinctly, and though feeble, yet without rale; there was no very manifest vocal resonance, nor was there any enlargement of the liver, but she complained of pain when pressure was made along the margin of the ribs of the left side, and in the epigastrium. The physical signs did not undergo the least change by alteration of position. She was ordered to be cupped and blistered on the affected side, and to take a combination of digitalis and muriate of ammonia.* When we examined her the next day all traces of the large mucous rale had left the apex of the lung, which now presented a clear sound on percussion, with puerile breathing.

March 9th. The physical signs had, in some important respects, changed their characters; the phenomena of the right lung and of the apex and anterior part of the left, remained as stated at last report; but though the dulness behind was quite as intense as on the former occasion, we could now hear distinct bronchial respiration, particularly at the root of the lung, and bronchophony was very evident in the neighbourhood of the larger bronchial tubes, but in no part, either before or behind, could we detect the least crepitation or rale of any kind. The respiration in the top of this lung, both before and behind, was intensely puerile. On placing the patient on her face, the same immutability of the signs was observed as on the former occasion, but we were now struck with one remarkable phenomenon, to which I directed the attention of Dr. Lees, viz., *a loud bruit de soufflet, extending from the last rib upwards along the left side of the spine, for about five inches. It was perfectly synchronous with the pulse, and was quite inaudible at the right side of the spine, being confined solely to the left.* In no other part of the circulating system could we detect any trace whatever of a soufflet. The pulse continued quick (112), feeble and irregular; respiration 40; sweating as before; the pain and stitch in the side somewhat less, though still very distressing; decubitus on the affected side; the cough and purulent sputa of the same character. The quantity of pus expectorated amounted to about six ounces in the twenty-four hours; it was homogeneous and unmixed with mucus; its odour varied, at one time being very fœtid, at another it was nearly without any; its colour was usually yellow, with a shade of light green.

March 11th. The pain in the side had nearly gone; she could now lie on the right side, for the first time since the disease set in, without dyspnœa being induced. The sharp stitch, on taking in a deep breath, still continued, yet she expressed herself as greatly relieved, but she still suffered from sweating, quick pulse, and accelerated breathing.—The physical signs remained as before, *with the exception of the soufflet, which had completely disappeared.* She had been for some time taking small doses of blue pill and hydriodate of potash.

On March 14th, an evident improvement had taken place in the physical signs; the dulness was greatly diminished, and the *bronchial respiration was now superseded by vesicu-*

* Dr. Lees has been trying the effect of Muriate of Ammonia in various diseases, and will, no doubt, lay before the Profession the results of his experience.

lar murmur,* except in the lower part of the lung, where it still retained the bronchial character; it was very feeble, but without the least rale; in the remaining parts of the lung the respiration was loud and puerile; there was no friction in any part; the cough was still present, and accompanied by the purulent expectoration; pulse 112, soft and regular; respiration 48; night sweats diminished.—The side was again accurately measured, and was found to be *half an inch less in circumference than the right side*, whereas, on admission it was a quarter of an inch greater, shewing a contraction to the extent of three-quarters of an inch.

For the next fortnight the improvement in her condition advanced steadily; the dulness gradually diminished, and the respiratory murmur became louder, and was never accompanied by any rale, except on two occasions, when we heard a large muco-crepitating ronchus (almost a gurgling), at the root of the lung, and in the infra-clavicular region, exactly like the sounds heard in the latter situation on her admission, This rale, like that already noticed as having occurred at the apex of the lung, *was not preceded by any dulness, feebleness of respiration, or crepitus, and disappeared in less than forty-eight hours, leaving the part free from any abnormal sound.* The expectoration continued to present the purulent and fœtid characters, but was not excreted in such large quantities, and was mixed with more mucus than before; the pulse, however, still remained quick, and the sweating continued. On the 24th, salivation was established.

March 30th, she was greatly improved, though the sweating continued, and the pulse remained quick. The expectoration was on one day intensely fœtid and of a dark colour, apparently owing to an admixture of pus and grumous blood; this peculiarity, however, only lasted for one day, and then again it became purulent. It was at this time that a new phenomenon made its apnearance, viz., a loud friction sound, having all the character of the *leather creak*. It commenced about the root of the lung, and advanced downwards; it was remarkably perceptible to the ear and to the hand, and lasted for two or three days, when it gradually disappeared It was not attended with any acceleration of the pulse or other febrile symptom, nor did the patient experience the least pain in the side, or stitch, so that we could not ascribe it to any new attack of pleurisy, and its occurrence was extrmely satisfactory, as confirming the diagnosis we had formed.

The dulness had not entirely disappeared, though greatly diminished, and the respiratory murmur could be heard throughout the lung, loud and uncomplicated with rale. She remained in the hospital for some weeks after the above note was taken, during which time the pulse was always tranquil and the respiration easy. She had no return of sweating, cough, or pain in the side; her strength increased, and she put up flesh. Though examined almost daily, not the least evidence of the deposition of tubercles could be detected, and she was discharged cured.

After M'Cullagh left the hospital she endured much hardship, and was at last induced to enter the South Dublin Union, under the care of Dr. Lees, where she has remained up to the present. Since her admission into that institution she has gained flesh and strength, and is able to act as laundry-maid in the establishment. This day (August 27th, 1844) I made an examination of the chest, which both by measurement and from appearance, was perfectly healthy. There was no atrophy of either infra-clavicular region, no tilting outwards of the angle of the scapula; no distortion whatever of the chest; over every part of both lungs the sound, on percussion, was clear, and the respiratory murmur was every where loud and pure. The heart's action was tranquil, the pulse 70, regular, full, and soft. She has had no cough since she left the hospital, no fœtor of breath, pain, or difficulty of breathing, and, except that her hair has fallen off, she appears in robust health. Both Dr. Lees and I examined the chest with the greatest care, without being able to detect the slightest trace of tubercle.

The foregoing case has been reported rather fully in consequence of the important bearing it has upon the views advanced in my paper on Empyema.

There cannot, I conceive, be any doubt that it was a genuine example of empyema. The history of the disease, the pain in the side, the stitch on deep inspiration, the cough, at first dry and harassing, the inability to lie in any position but on the affected side,—all indicate that the first attack was seated in the left pleura. The symptoms on admission also pointed to the same diagnosis, for in addition to those already noted, the *extensive and intense dulness, with total absence of respiratory sound* (both vesicular and bronchial), *and dilation of the side*, simplified the diagnosis, and left us but two affections to decide between, viz., chronic pleuritic effusion, or cancer of the lung, or mediastinum; and with the supposition of the presence of the latter affection, the *want* of some of its most characteristic and significant symptoms, together with the existing phenomena, was totally irreconcileable, whilst the only sign of empyema of real value that was absent, was the displacement of the heart; and this may be explained, either, by supposing that it was bound down in its normal situation by strong adhesion, or, on the other hand, it might have been displaced in the early period of the disease, and have returned to its usual site shortly before admission, for there can be no doubt that the efforts of nature had been set to work to remove the effusion before we had an opportunity of examining the patient, an opinion confirmed by the fact, that *purulent expectoration* had been established before she entered the hospital. But the absence of this sign of effusion into the left pleura is of too frequent occurrence to warrant us in allowing it to weigh against the evidence furnished by the other signs and symptoms of a chronic effusion which this case presented,* and the same observation applies to the absence of vocal vibration and protrusion of the intercostal spaces, for the former could not be distinctly perceived even on the sound side, and the latter may not be present in empyema, so extensive, as to produce very general dilation of the side, or even where the matter has worked its way outwards, as was seen in one of the cases detailed in my former essay. Notwithstanding that these signs were absent, we never doubted that the patient laboured solely under empyema, and the result proved that our opinion was correct. The mucous rales heard at the apex of the left lung on admission, taken in conjunction with the purulent expectoration and hectic symptoms, might have led to the belief that a tubercular excavation was also present, but in the absence of dulness, atrophy, cavernous respiration, and other signs of tubercular cavern we determined to wait a few days, in hopes that the progress of the disease would throw some light upon this af-

* The succession of respiratory murmur, without crepitus, to bronchial respiration, is in favour of there having been no solidification from pneumonia, or we should have had the crepitus redux of resolution; though this succession of signs is not invariably

* In the bed opposite to M'Cullagh's lay a fine healthy girl, named Rosanna Thackberry, aged eighteen, who presented all the symptoms and physical signs of extensive acute effusion into the left pleura, and in whom there was no displacement whatever of the heart, from the beginning to the end of her illness. And soon after a man was admitted into the chronic ward, under Dr. Lees, who had also an extensive effusion, extending from the last rib to the spine of the scapula, in whom there was no displacement of the heart, *although the side was dilated to the extent of three quarters of an inch.*

parent complication, and having, on the 10th, failed in detecting the least trace of gurgling, the part being clear on percussion, with puerile respiration and no rale, we concluded that the sounds alluded to proceeded from an accumulation in the bronchial tubes of the purulent fluid so abundantly expectorated, and which we considered *as the result of vicarious secretion from the bronchial membrane.* The circumstances which led us to make this diagnosis have been discussed pretty fully in my former paper; I shall now merely quote the rule of diagnosis deduced from the cases of empyema with purulent expectoration, published in that essay, which was found a correct guide in the present instance. It is this:—"*That purulent expectoration in empyema, though attended by quick pulse, sweating, emaciation, and other hectic symptoms, is not indicative of tubercular or pneumonic abscess, unless accompanied by unequivocal physical signs of these lesions; but on the contrary, it is to be regarded as the consequence of an effort of the constitution to get rid of a large collection of matter by one of the ordinary emunctories.*"

This proposition was based on the details of eight cases of empyema with purulent expectoration, and that now described forms the ninth, and as it is the first of the kind I have met with, since the above proposition was announced, I have thought it my duty to publish it, inasmuch as any fact bearing on such an important matter is of great practical value, for by recognizing the true nature of the phenomena in these cases, we are not deterred from the employment of measures which we would not adopt, if copious purulent expectoration was supposed to depend on a tubercular complication, even leaving out of consideration the important question of prognosis.

It is also worthy of notice, that in this instance, and in two of my former cases, in which loud loose rales were heard during the progress of the disease, they were, in all, *confined to the lung of the affected side;* can we hence infer that it is only from the bronchial membrane of the affected lung that the vicarious secretion takes place? It is curious, also, that, notwithstanding the amount of pus expectorated in this and other cases, there was in some of them no physical signs whatever indicating an accumulation of fluid in the bronchial tubes, and in the present one, mucous rales were heard only three times during the progress of the disease. From these facts it is clear, that whatever be the steps by which these large collections of pus are eliminated from the pleuræ by secretion from the bronchial membrane, *inflammation* of that structure is not only not a necessary element in the process, but it is not even present during any part of it, for in none of my cases were there any of the usual symptoms or physical signs of that affection, and this is the more remarkable, as in some of them the matter was not only profuse, but of bad quality and extremely fœtid.*

These characters of the expectoration were very striking in the first case detailed in my former essay, and yet at the post mortem examination there was not found the least trace of inflammation of either lung. The same thing was noticed in a case under the care of Mr. Rumley, to which allusion is made in Dr. Greene's paper on empyema, and it disappeared as soon as an opening was made into the chest, by which the matter got a free outlet. The presence of this extreme fœtor of the expectoration might possibly lead to the opinion that gangrene of the lung complicated some of these cases. In two of them the post mortem appearances negatived such an opinion, and in that under consideration there was no symptom whatever of gangrene, except fœtor of the expectoration, and occasionally of the breath after coughing, to which may be added the blackish looking matter spat up on one occasion, whilst the countenance of the patient never exhibited the features so peculiar to pulmonary gangrene, and the fœtor, though at all times highly oppressive, did not come on with the rapidity noticed in gangrene of the lungs, nor was it preceded or followed by the copious hæmoptysis so constantly the precursor or accompaniment of gangrene of that organ; and still more important, there were not, at any time, the physical signs of a gangrenous cavity or diffuse sloughing of the lung. This character of the expectoration (and its occasionally bad quality) have been so frequently observed in cases of empyema cured by the vicarious elimination of the pus from the bronchial tubes, that we are naturally led to inquire into the cause of the phomenon. To me it appears explicable by the fact, that in such cases we have a quantity of pus and air occupying the minute tubes and air cells, *and having but an imperfect communication with the external atmosphere, owing to the larger tubes being nearly obliterated by the compression to which the lung is subjected by the fluid of the empyema,* and in this way they act chemically on each other, and produce a decomposition, giving rise to the intolerable odour, which both the pus and expired air soon acquire. In fact, the same phenomena are observed in these cases as in an ordinary abscess, the matter of which may be healthy and odourless on its being opened, but soon becomes altered in these respects when air enters the sac and acts upon its contents, which then become bad in quality and offensive in odour. This view is borne out by what was noticed in M'Cullagh's case, viz., that the breath was not fœtid during ordinary expiration, but became so immediately after coughing, by which the air *pent up in the remote tubes was expelled,* whilst that taken in, during ordinary inspiration, was exhaled devoid of odour.

Another very interesting feature in this case was the occurrence of the *loud bruit de soufflet extending from the last rib upwards along the left side of the spine for about five inches.* This is, as far as I am aware, the first time that a bruit de soufflet has been heard in the thoracic aorta in pleuritic effusion, and it will require further observation to ascertain if it be of frequent occurrence in this disease. We cannot say how long it lasted, for it was only detected accidentally, and disappeared as soon as the fluid began to diminish, as evinced by decrease in the extent of dulness. It was not heard on the *right* side, and this is exactly what we should expect from the anatomical relations of the aorta in this situation, as it lies to the left of the spine, and in close apposition with the left pleura, whilst it has no connexion with the right pleura in any part of its course, being separated from it by many important organs; hence we can readily comprehend, how the sound generated on the left side of the spine (either by the *pressure* of the fluid against the aorta, or by extension of the inflammation from the pleura to its coats,) though quite loud and distinct in this situation, was completely inaudible at the right side of the spinal column. But even supposing the amount of pressure exercised on the artery inadequate to produce the conditions necessary for the formation of a bruit de soufflet, we

* The same absence of inflammation has been noticed in the situation of these purulent depots called *metastatic abscesses*, occurring in cases where the matter of a large abscess has been transferred from its original site to other parts of the body. This fact is alluded to by many writers on the subject:—"Les depots, dit il (PETIT)—se forment en tres peu de temps et avant qu'on ait aucun indice de suppuration, *ce qui vient peut être de ce que le pus qui est dans le sang est déjà tout formé, et qu'il ne change presque point de nature.* Il les a vus se développer d'une jour à l'autre sans que le malade s'en fût aperçu, que par quelques légères douleurs. Ce n'est pas que le doulours ne soient quelquefois très vives, ajoute-t-il, mais souvent elles ne sont point inflammatoires, ou du moins ne paraissent point de l'être puis qu'il n'y a point d'enflure, que le partie ou fait le dépôt n'est point rougue, et que le malade n'y sent point le chaleur (Traité des Malad. Chirurg. t. i. p. 10.) Cette insensibité et cette absence des phénomènes ordinaires, à l'inflammation sont communes aux abcès metastatiques profonds comme aux superficiels, et plus encore aux premiers qu'aux derniers."—DANCE *Dict. de Medicine ou Repertoire Géneralé des Sciences Medicales*, tome i. p. 97.

can well conceive that the vessel may have been affected with the same *increased activity* of pulsation so constantly observed in arteries situated in the neighbourhood of inflamed parts (as is so often seen in the throbbing of the radial artery in whitlow, and of the abdominal aorta in enteritis,) and thus become the seat of a bruit de soufflet In the case of M'Cullagh, the sound was probably produced by a combination of these causes. From the course the descending aorta takes, it is evident that it is only in effusions into the left side of the chest we can expect to find any abnormal signs resulting from pressure on this vessel, and from what I have observed in some cases of effusion into the left side since M'Cullagh came under my observation, I am disposed to think that it is *only when the effusion is circumscribed and confined by adhesions* that we shall meet with a bruit in the thoracic aorta, for I have not since heard it, though I have met with six or seven examples of effusion into this side of the chest, but they were capable of changing their situation by the alteration of the patient's position. Dr. Stokes has shewn that in some cases of phthisis a bruit de soufflet is heard in the subclavian artery, and Dr. Graves has published some examples of pneumonia, with violent throbbing of the chest, and loud bellows murmur: in cancer of the lung, bruit de soufflet and pulsation have been noticed; and in the case just detailed, we have an instance of a loud soufflet in the descending aorta in empyema, thus completing the circle of pulmonary diseases attended by signs referrible to the circulating system.*

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* Since the above was written, I have perused the details of a case in M. Grisolle's elaborate work on Pneumonia, which appears to throw some light on the subject. In the case quoted by him the apex of the right lung being pushed against the commencement of the descending aorta by an effusion into the left pleura, and an extensive one into the pericardium, produced such compression on the vessel, as gave rise to the formation of a coagulum in its interior, in all probability attended with a soufflet. The particulars of the case I shall give in his own words:—

"Il semble également résulter d'une observation trés curieuse, publiée par M. Dalmas, et communiquée à l'Académie Royale de Medicine, que le compression exercée par un poumon enflammée sur l'aorte, peut favoriser la formation d'un caillot dans la portion correspondente de ce vaisseau. Voici le fait rapporté par M. Dalmas (L'Experience, t. i.) Une veille femme de l'hospice de la Salpétrière mourut avec un commencement de gangrene sénile. A l'autopsie on trouva une obliteration avec épaissement et freabilité des artères du membre malade, en outre, à la partie supérieure de la portion descendante de l'aorte, au niveau du point où s'insére le canal artériel, on trouva on caillot long de sex centimétrès remplissant tout le calibre du vaisseau et y adhérant assez fortement, ces adhérences interrompues en dehors et en arriére, point ou il existait un passage libre pour le sang, n'offraient aucune trace d'organization. Le pèricardc etait rempli d'une quantité considérable de sérosité albumineuse, la pléure gauche était aussi le siége d'une enorme épanchement. Le lobe superieure de ce poumon infiltré de pus, avais acquis une densité extrême—et un volume au moins égal à celui des deux poings. Il remplissait tout le sommet de la poitrine, déja si pleine, et devait nécessairement comprimer tout ce qui l'avoisinait. Or, l'aorte, aprés son passage de droit à gauche pour descendre le long des vertébres dorsales—devait trouver dans la résistance et la densité du tissu pulmonaire un grand obstacle, à sa dilatation et cela d'autant que le poumon était, refoulé en haut par le double épanchement qui existait. La circulation devait donc y être tres difficile; de la, la formation d'un caillot. Il n'y avait aucun vestige d'arterite. Je pense avec M. Dalmas que la formation du caillot dépendait d'une cause tout à fait méchanique—il faut pourtant tenir compte aussi de la plasticité et de l'etat inflammatoire du sang que rendait ce fluide plus facilement concrescible. Si la malade oût vecu, il est probable que le caillot eût produit une obliteration on un rétrécissement considérable de l'aorte thoracique.

OBSERVATIONS ON HYDROPHOBIA;

WITH A CASE OF SUCCESSFUL TREATMENT

By John Hooper, M.D., M.R.C.S., &c.

At a very early period after the commencement of my professional studies, I had the good fortune to see a very interesting case of this disease, which occurred at Chatham. Never shall I forget my first entrance into the chamber of the afflicted little girl. All was silence until the door was opened, when her watchful and suspicious eyes were directed towards me with an expression of horror and a loud exclamation; the admission of a current of air produced her distress. She soon recovered and talked most coherently, complaining of pain in the stomach, excessive thirst, frequently putting her hands to her throat, and begging for drink, which her attendants feared to give her, on account of the distress it invariably produced on being presented. She had made numerous efforts to swallow fluid without avail; now, in consequence of her vehement entreaties, they gave her some water, the sight of which produced so severe an attack of spasm, that it required the combined efforts of her mother and friends to keep her in bed. I well remember the contorted countenance and foaming mouth; in a few minutes she appeared to recover her senses, and had much trouble in spitting out the cohesive saliva. She was very solicitous to be held fast when the fits occurred, lest she should bite, and communicate the disease to others, crying out in a peculiar croaking voice, "I am sure I shall bite you if you do not hold me." Everything was done that skill and the united experience of the most renowned medical gentlemen of the place could devise to alleviate the dreadful sufferings of the poor patient, without success. Opium, mercury, antispasmodics, and bleeding were tried; she died about fifty hours after the attack. The wound which had cicatrized, became painful a few hours after the seizure; before her death the wound discharged freely. This case made a strong impression on my mind, and was the cause of my selecting hydrophobia as the subject of the required inaugural thesis at my graduation. The whole subject of treatment does not appear less difficult and afflictive now than then. Long was the catalogue of medicines, many, in their day of great repute (some accounted specifics). With what confidence have the following been recommended by men standing high in the profession:—Radix mundo, eau de luce, cantharides, lichen terrestris, cinereus Raii, in consequence of its supposed specific properties named by Linnæus, Caninus, 1721, admitted into the London Pharmacopœia, combined with black pepper, under the title of pulv. antilyssus: musk, opium, belladonna, nux vomica, tobacco, stramonium, arsenical preparations, alysma plantago (madwort plantain), genista tinctoria (butcher's broom), and mercury. Of all these remedies, the latter *a priori*, appeared the most efficient antidote; it was first brought into repute by M. Dessault, a Frenchman, who, in the early part of the seventeenth century published four cases of persons who had been bitten on the same day by the same mad wolf; two had all the symptoms of hydrophobia. These were successfully treated by the free use of mercury, until salivation had taken place. Many years subsequently seventeen persons were bitten by a mad wolf: these cases were under the care of Dr. Wolf, of Warsaw; two only were treated with mercury; ung. hyd. ℥i, was rubbed over the cicatrices daily, and they were purged with calomel; no antispasmodics given; ptyalism was not effected; they died. Dr. Wolf after such inefficacious treatment, ventured to discard mercury, and therefore again brought it most undeservedly into disrepute; in every case in which it has been tried since, wherein the patient was really labouring under entasia lyssa, or hydrophobia, the consequence of a bite from some rabid animal, the sufferer has been carried off by the nervous symptoms before ptyalism had taken place; I therefore re-

solved that if a case should ever come under my care, to give it a fair trial; removing the spasms by stronger antispasmodics than had heretofore been given. During the existence of this disease, there is every indication of an inflamed state of the mucous membranes of the trachea, bronchiæ, and of the stomach; and the like indication of meningitis. *Post-mortem* examinations evince an inflamed appearance of these membranes. For arresting inflammation of this kind we have not a more powerful remedy than mercury, assisted by topical and general blood-letting. Independent of its supposed specific properties, a virus is certainly introduced into the system. Infection is communicated through the medium of saliva, and the recipient has fresh virus again poured forth by the salivary glands; no medicine, certainly, has so powerful an effect upon the glandular system as mercury, therefore if it has the power of destroying the virus, it must here be brought into conjunction.

I had not been in practice many years ere an opportunity occurred for adopting my plan. One Friday, about eleven o'clock, P.M., in the month of September, 1825, I was requested to visit Reuben Piper, aged seventeen, groom to Mr. Holbrook, of Aspeden Hall; on my arrival the latter described the state of his servant, who, he informed me, had been bitten by a mad dog, about three weeks since. The said dog had bitten a man in the leg, who immediately went to a surgeon, and he extirpated the part: no ill consequences ensued—a cow, pig, and another dog had been bitten—all were killed as soon as rabies was manifest. The offending dog, immediately on its showing ferocity, was chained up in the stable. Reuben Piper, the groom, who with his arms bare had been rubbing down the horses, unfortunately approached too near the dog. It seized his arm and inflicted a severe wound. Mr. Holbrook and family were then at Tottenham. Reuben, without consulting his master, rode to Puckeridge to obtain some drink from an old veterinarian of that place, who long had the reputation of preventing ill consequences accruing from the bite of rabid animals; the wound shortly healed; and he continued to take most copious potations of the said drink until the day before I was summoned. I was now introduced to the poor fellow; for some days antecedently he had laboured under great nervous agitation, and considerable depression of spirits; he was now in a violent paroxysm, requiring four persons to hold him, struggling from side to side. The spasms were most severe, with the most horrid and terrific distortion of countenance. He foamed at the mouth, an abundance of viscid saliva flowing thence; he made a noise, which the attendants compared to the howling of a dog; he attempted to bite those who were holding him; the attack continued about six minutes, during which the pulse was so quick that it could not be counted; as soon as he ceased struggling and the spasm subsided, he was perfectly conscious and his ideas collected; was very watchful, urging us to be careful lest he should bite; he would be very sorry to do so, but had a great inclination when, to use his own expression, "he was very bad." Occasionally he complained of great thirst, and pain in the stomach, tightness across the chest; one of the servants poured some water into a vessel behind him; the sound of the fluid brought on a spasm; between the attacks, his nerves became exceedingly sensitive; the least noise in the room, walking by him, moving any article, the slightest current of air, the door being opened, increase or diminution of light, moving of a shadow on the wall, appeared to distress him. The sight of a glass tumbler brought on a paroxysm; the fits would cease for a quarter of an hour. He had pain in the pit of the stomach, which would be discontinued, then he had pain in the bitten arm—these pains frequently alternated; on examination it was found red; there was no discontinuity of surface; a large cicatrix was evident. I was informed that at breakfast he drank two cups of tea; all the day he had complained of itching of the cicatrix in the arm which had been bitten; he had frequently rubbed it. At one o'clock he sat down to dinner with the servants, but could neither eat nor drink, yet complained of parching thirst; four o'clock, being excessively thirsty, he went to a public-house for some beer—attempted to drink, it produced a sensation of horror; he then asked for water—when produced he shuddered and turned away, leaving the house without attempting to drink. The jaws were separated by a piece of wood placed between the molares. I then with an iron spoon conveyed into the pharynx two drachms of tincture of opium and the same quantity of spirits of camphor; a few drops were forcibly ejected by the violence of the spasm; ten grains of calomel mixed with honey were placed under the tongue; three drachms of mercurial ointment were rubbed into each axilla, and the same quantity on the thighs; in half an hour the same dose of laudanum and camphor was repeated, the convulsions having returned with pain.

One o'clock a.m. Saturday.—Paroxysms not so severe.

℞ Tinct. opii,
Sp. camphoræ aa ʒj;
fiat haust.
Quamprimum habeat.

Admoveantur hirudines xii scrobiculo cordis.
Mittatur sanguis ad ℥xx saltem.

2 o'clock a.m.—More tranquil, free from pain; thirst; on being asked to drink some tea, with horror he shuddering exclaimed, "O no! O the tightness in my throat." The cicatrix in the arm has given way; he has a slight discharge from the wound.

4 o'clock a.m.—No sleep, perfectly sensible, restless; thinks he must die; free from pain; although he has taken within four hours 300 drops of laudanum, and the same quantity of spirits of camphor, there is not the slightest tendency to delirium; he has had no paroxysm for an hour.

10 o'clock a.m.—He did not sleep until 5 o'clock; he continued in a sound sleep until 9, when he asked for drink; they gave him some water, which he drank without inconvenience.

℞ Pil aloes, ʒi,
Pil hydrarg. gr. x. fiant pil vi.
Statim sumendæ.
℞ Magnesiæ calcinat, ʒi,
Mannæ, ʒiv;
Tinct. hyoscyami ʒij,
Mist. camphoræ, ℥v; fiat mist.

Capiat quartam partem omni quadrihora.

Six o'clock p.m.—Ptyalism has commenced; he has been sleeping nearly the whole day, and perspired most profusely; has taken gruel occasionally.

Sunday morning.—Mouth very sore; copious flow of saliva; bowels have been well opened; dejections very dark.

Repetantur mist et pilulæ sine hydrarg. pil.

7 p.m.—Bowels have been well evacuated; less thirst; pulse 95, small; only complains of weakness; has eaten some pudding; no unpleasant sensation when he drinks.

On Monday he returned to Tottenham convalescent; mouth sore.

I saw him about a year after his recovery; he was then suffering from some aberration of the digestive functions—continued under my care a few days.

Case III.

September 7th, 1829, I was requested to see Sarah Knights, ætat. 13, at Standon.—11 o'clock, p.m. This poor child had been under the care of Mr. Packman, of Puckeridge, whom I met in consultation; she was labouring under all the symptoms of hydrophobia, the consequence

of a severe bite she had received in the face about four weeks prior to my visit, from a mad-dog belonging to the Rev. H. Law, rector. It is scarcely necessary to record the symptoms, which corresponded in every feature with this most terrific and appalling disease.

The bitten parts were somewhat inflamed and painful; pulse 160, intermitted considerably, very small. The sight of glass produced the same distress as water,—the slightest agitation of the air; some person present happened suddenly and carelessly to withdraw his handkerchief from his pocket, even this produced a severe attack of spasm, with horror; she frequently attempted to spit out the accumulation of viscid saliva. It was quite evident there was little prospect of success; the poor sufferer had been struggling with this direful disease twenty-eight hours; she was nearly worn out. I administered the following draught, taking the same precautions as in Reuben Piper's case:—

℞ Sp. camphoræ
Tinct. opii aa ʒj,
Aquæ font ʒij.—fiat haust.

The whole was swallowed; five grs. of calomel, with honey, were placed under the tongue. A drachm of blue ointment was rubbed into each axilla.

I remained with the little sufferer an hour; before leaving, gave the same dose of laudanum and camphor; and requested that it should be repeated during the night, if the same consecution of distressing symptoms continued; also, that the mercurial friction be repeated in four hours. I called the next morning; the poor mother reported that she passed a more tranquil night; there had been no delirium; she slept for a short space; paroxysms less frequent and violent; yet it was evident to them she became weaker, and was sinking; she drank fluid two or three times, with little difficulty; frequently during the night had repeated her persuasion, that if the same treatment had been tried before, she would have recovered; that now she must die:—she resigned her spirit about 4 o'clock, A.M., five hours after my first visit; no symptoms of ptyalism had taken place.

It is quite clear, large doses of opium or laudanum only, are of service, and can be given in this disease without danger.

If administered in the form and proportion recommended, or combined with ether, on the supervention of the disease, simultaneously with plentiful mercurial inunction, that is to say, for an adult, not less than ʒj. within a few hours, and in such parts of the body, where it will be with most facility absorbed; with general and topical depletion, I am sanguine that the treatment will be successful, and shall be amply rewarded, if by my professional brethren it is found so.—*London Lancet.*

Buntingford, May 12th, 1845.

ON APHTHA INFANTUM.

In a series of articles published in the *Journal de Medicine*, Professor Trouseau and M. Delpech give an elaborate and practically useful description of this disease. After stating that the characteristic eruption is formed of a fibrinous pseudo-membrane, situated on the mucous membrane of the digestive organs; the authors study the affection under the following heads—I. SEAT—in the various portions of the digestive canal from the mouth to the rectum; as to the opinion of its existing simultaneously throughout its whole extent, the facts are not sufficiently evident to authorize attaching such importance to it as is generally done. II. CAUSES—are divided into—1° *Local causes:* uncleanliness of the mouth; acidity of the saliva; normal desquamation of the epithelium; use of teats; friction of the cheeks on the alveolar edge while sucking. 2° *Those which produce only a local action, though acting on the whole system,* (*a*) *age;* most authors consider this disease as peculiar to children; Dr. Valleix never witnessed it in children upwards of two months old; others deny its existence in adults, but the authors observed it in nine children from two and a half to twenty-two months old, and in the mouth and vulva of adults affected with phthisis. (*b*) *Confined air in hospitals:* Dr. Lebat states that it exists but at the Foundling and Venereal Hospitals, but cases are recorded which prove that it may exist in other localities. (*c*) *Climate and temperature;* further researches are requisite ere a positive conclusion can be drawn. (*d*) *Contagion;* though it may be propagated by contagion, yet in the generality of cases it is produced by an epidemic influence. 3° *Those which act primitively on the whole system, and secondarily on the mouth.*—(*a*) *Puerperal diathesis.* In the mother it shows itself by the development of metritis, metro-peritonitis, uterine phlebitis, phlegmasia alba dolens, &c., and in the child by phlebitis ombilicalis, erysipelatous peritonitis, ophthalmia purulenta, aphthæ. (*b*) *Enteritis.* According to Dr. Valleix aphthæ form part of this affection, and increase the danger; the author considers that in general the simultaneous appearance is merely a concidence, and that the danger is augmented from their complicating each other. Sometimes, however, enteritis may precede aphthæ, when the patient is weakened by the long continuation of the diarrhœa and vomiting; this is principally observed in somewhat older children, and it then produces the eruption in two ways—in irritating sympathetically the buccal mucous membrane, and in predisposing, by the modification of the blood, the organism to the formation of pseudo-membranes. It is in this latter mode that this affection is produced in phthisical patients, from the intensity of the febrile symptoms, the sympathetic action of the intestinal phlegmasia on the buccal mucous membrane, and the action of the saliva, which is always more or less acid on this surface. If aphthæ are more frequently observed in children, it is probably owing to the peculiar circumstances in which the patient is placed, the fragility of the integuments, and the greater plasticity of the blood.—(*c*) *Certain cachexiæ*—III. SYMPTOMS. 1° *Of the idiopathic form.*—A few days before the eruption takes place the mucous membrane becomes dry and shining; conical eminences are perceived, giving to the parts a granular aspect; colour varies, sometimes of a dark red, at others pale; the membrane appears thicker and velvet-like, is infiltrated with a greater quantity of serosity, and is affected with inflammatory œdema: after the precursory symptoms, some whitish semi-transparent spots make their appearance retaining the form of the eminences on which they are developed; sometimes in the course of three or four days they run through their different periods; in the last stage their colour may be of a brilliant milky white, or a dirty yellow or brown; the two last however, are owing to the remedies employed; the pseudo membrane is very adherent at the commencement of the disease, so much so, that it cannot be removed without producing a slight hæmorrhage; at a later period it can be detached with facility. This takes place more or less rapidly according as the spots increase in size or remain stationary, because, in the former case, the spots which develop themselves around the old ones prevent their being removed; the adherence is also different according to the age, being greater as the child grows older; the pseudo-membrane separates sooner when the salivary glands secrete abundantly, or when the child drinks freely; the parts it affects are principally the lips, the tongue, and the cheeks, seldom, if ever, the fauces and œsophagus. The danger is not always greater when the eruption is confluent than when it is discrete, for the latter may sometimes be productive of serious consequences, whilst the former may go through its various stages without giving rise to any accident, the heat of the mouth did

not seem to be notably augmented; pain, evident from the cries of the child whenever it took the breast; no general symptoms. A curious phenomenon took place when the disease disappeared; it consisted in an eruption of small red spots, some of them above the level of the skin and terminated by a small vesicle; this eruption does not appear on any particular spot, and soon disappears. The duration is, on an average, from eight to twelve days; its termination is never fatal. 2°. *Of the symptomatic or dangerous form.*—In addition to the symptoms just enumerated, others here exist. (*a*) Diarrhœa may appear at the same time as the thrush, or be consecutive to it; in the former there may be a solidarity of causes, but in the latter this is no longer the case. (*b*) *Erythema* is peculiar to infancy, though it may sometimes be observed in exanthemata; it presents two stages:—in the first the skin is of a dark violet red colour, which disappears partly on pressure, and becomes dull brown; it sometimes covers the buttocks and part of the thighs; as to the secondary eruption, the authors, with Ketelair and Arneman, consider it to be vesicular; in some few, however, it was difficult to assert that they were not papular; be this as it may, it is but transitory, the epidermis soon disappears and leaves superficial, round, and dark red excoriations. The cause of this eruption is the irritation produced by the urine. (*c*) *Ulcerations of the malleoli* or, rather, *ulcerous diathesis*, never manifest themselves except in very young children, in whom the change which takes place in the skin after birth is not yet finished; the redness becomes transparent, is excoriated at an early period without being preceded by a vesicle; these ulcers are produced by the pressure of one ancle against the other. According to Dr. Valleix, of these three symptoms, erythema shews itself first, for, in seventeen cases out of twenty-three, it preceded the aphthæ six days on an average; in five cases, the diarrhœa appeared first, in four both together; the researches of the author led to an opinion diametrically opposite, since the diarrhœa was, in the generality of cases, the first symptoms that appeared. (*d*) *Ulcerations of the buccal mucous membrane* are situated generally on the roof of the mouth or the gums; more or less deep and numerous; edges irregular, soft, red, or whitish; in their intervals the mucous membrane is of a dark red, sometimes violet-colour, and very painful. (*e*) Enteritis and its concomitant symptoms, such as swollen abdomen, and painful diarrhœa, vomiting, and fever. When the disease terminates fatally, the pulse, gradually loses its force, the emaciation is very great, skin as if stuck on the bones, that on the forehead full of wrinkles, Hippocratic facies, torpidity, with convulsive movements from time to time, and finally, death. IV. TREATMENT.—The different measures may be comprised under the following heads:—1° *Preservation* may be classed thus—(*a*) *birthplace*: children born in the wards of hospitals are more frequently and dangerously affected; this may be avoided by diminishing the number of beds in each ward, by isolating persons suffering from contagious or epidemic diseases; and even if the contagious principle be not admitted, still may not the penetrating odour emitted by a woman recently delivered, if not neutralized by appropriate measures, become the cause of this disease in individuals who are pre-disposed? (*b*) *Abode*: The unanimous opinion of the various authors who have written on this subject, proves how necessary it is to make a good choice. (*c*) *Alimentation*: lactation has an immense influence on the termination of this disease; thus, out of fifty-one children, twenty-nine were suckled by their mothers, and twenty-two not: the deaths were—of the former, seven; of the latter, seventeen. Lactation may, therefore, be considered as beneficial, whilst other modes of alimentation are more or less injurious; and it may not only render the termination favourable, but is likewise an excellent remedy, and in this respect it acts in two ways—in improving the general health, and in furnishing an aliment appropriate to the physiological condition of the digestive organs. (*d*) *Temperature*: the child must be clothed so as to avoid all sudden changes from hot to cold. 2° *Local Curative.*—On the appearance of the eruption, to the hygienic means, the following must be added—℞. Sodæ borac. Mell. optim. aa. p. e., the parts to be rubbed with this mixture; if this be insufficient, alum may replace the borax, or what is still more efficacious, hydrochloric acid when the patient has no teeth, or the azotate of silver in substance or solution—℞. Nitr. argent. 3ss. Aquæ distill. ℥ss.—in the intervals of the cauterisations, the mixture of borax must be employed. Dr. Bretonneau covers the parts with calomel mixed with a mucilage of gum arabic. 3° *Treatment of the constitutional condition and complications.* When enteritis exists, the most appropriate remedies are ipecacuanha in doses so as to cause vomiting—℞. Bismuth. subnitrat. gr. ij. Sacchar. alb. gr. xviii. Fiat pulvis. Pulvis calculi cancrorum.—℞. Calomel gr. j. Sacchar. alb. grs. xvii. M. ft. pulvis, in doses equales ij. vel. iij. divi dendus:—or ℞. Calomel gr. ij. Carb. calc. ℈ij. Tinct. opii. gtt. j. M. Ft. divide in doses pulv. vj.—Decoctum album.;* rice water, starch enemata. When the symptoms are still more intense, we must have recourse to monesia, bistort, ratanhia, catechu, and tannin in enemata, and azotate of silver, as follows:—℞. Argent. nitr. gr. 1-5th., Syrup, simpl. 3 v., Aq. distill ℥j, M. ft. haustus—vel. ℞. Argent. nitr. g. j. Aquæ distill ℥vjss. M. ft. enema. Against the erythema frequent lotions with ℞. sulph. zinc. ℈j., Aquæ distill ℥iiss. M. ft. lotio., or with a weak solution of acetas plumbi. Finally, to prevent the ulceration of the malleoli, the limbs must be kept carefully separated by soft linen; and should this not suffice, the feet and insteps must be carefully covered with strips of sticking-plaster. V.—STATISTICAL TABLE. Of the fifty-eight cases related, there were thirty-one boys, and twenty-seven girls—the termination, cures 23, deaths, 25: of the remaining ten, eight left still ailing, and in two the result is omitted. The age varied from four days to twenty-three months.

			43	
1st month	from 1 to 7 days. 5	28	5th month	2
	" 8 " 14 " 12		6th "	4
	" 15 " 21 " 4		7th "	2
	" 22 " 28 " 7		8th "	0
2nd month	 8		14th "	1
3rd month	 5		17th "	2
4th month	 2		24th "	2
	43			56

In two, the precise epoque of the commencement of the disease was unknown. In fourteen cases there was no complication; thirteen recovered, one died (the mother was affected with icterus.) As to the complications, in twenty-one the diarrhœa appeared first; in nine others as a sequela; in eight the first symptom was the erythema (five of these patients presented no diarrhœa); in seven others it was a sequela; in seventeen cases intense vomiting took place. Two cures—two left the hospital after the disappearance of the thrush, but still dangerously ill; one was affected with tubercles; one, when apparently well, was seized with pleuritis, which proved fatal; eleven died. In fourteen cases ophthalmia existed. The duration varied; it was in the fatal cases—in eleven, from two to five days; in two, from five to ten days; in seven, from ten to twenty

* *Decoctum album* is thus prepared in the Parisian hospitals—℞. Cornu. ust. ℥ij. Mic. pan. alb. 3 vi. Acaciæ gum, Aquæ cinnam aa. ℥ij. Syrup. simpl. ℥ij. Aquæ lb. ij. Triturate the hartshorn and the bread crumb in a marble mortar, add the gum and water, boil for half an hour, strain, and finally add the syrup and cinnamon water. This preparation may advantageously replace the mistura cornu ust of the London Pharmacopœas.

days; in three, from twenty to forty days; and in two, for three months. In the patients who recovered: in three, from four to five days; in six, from five to ten days; in five, from ten to twenty days; in five, from twenty to thirty days; and in one, two months and a half. Finally, as to the month, in which it was the most prevalent, the result was:—

	Cases	Cures		Cases	Cures		Cases	Cures
January	4	1	May	9	5	September	7	3
February	2	1	June	1	0	October	7	3
March	3	0	July	8	2	November	2	2
April	3	1	Aug.	8	5	December	1	0

—*Medical Times.*

ON THE EFFICACY OF CRYSTALLIZED NITRATE OF SILVER IN THE DIARRHŒA OF CHILDREN.

According to Trousseau's proposal, nitrate of silver was employed in the policlinic of Berlin, by Romberg in cases of obstinate diarrhœa of children.—The usual formula was: ℞. Argent. nitr. crystall. gr. ½-j. solve in Aq. destill. q. s. Mucilag. rad. salep. unc. 2½, Syr. diacod. unc. ½. A teaspoonful to be taken four times a day. The author details twelve cases of acute and chronic diarrhœa in children from nine months to twelve years of age, which were treated generally with complete success; and without any subsequent injurious consequences. Even when the symptoms indicated the presence of tuberculosis intestinalis, the nitrate of silver displayed an equally good effect. The remedy does not seem to have been used at all in the form of enema.—(*Dr. Henoch in Journal fur Kinner krankheiten.*)

FRICTION VIBRATION IN PERITONITIS.

Dr. Spittal at a meeting of the Medico-Chirurgical Society of Edinburgh, read some observations on the mechanism and diagnostic value of the friction vibrations perceived by the ear and by the touch in peritonitis. The following were the principal conclusions at which he arrived:—That the mechanism by which the friction vibrations are produced are of three kinds, viz. 1*st*. By the respiratory movements of the diaphragm chiefly; but also by the action of the abdominal muscles; the vibrations being synchronous with these movements, though sometimes only perceived during inspiration. 2*nd*. By artificial movement of the parts by pressure with the hand or otherwise; the vibrations corresponding to the movements produced. 3*rd*. By the peristaltic motion of the intestinal tube; the friction having a peculiar continuing, rustling, creeping character to the ear and the hand, corresponding to the vermicular motion of the intestines. That the immediate cause of the vibration is the rubbing together of two peritoneal surfaces physically altered by inflammation, and although the effusion of lymph has been considered necessary for their production, it appears highly probable that at a prior stage of the disease, when the peritoneum is merely drier than usual, friction vibration may take place. That the amount of motion between the inflamed surfaces, necessary for the production of the friction vibration, is very limited; and that the different modes of friction as to *rapidity* and degrees of *pressure*, may not only modify the intensity, but also the tone and quality of the vibrations. That the present state of our knowledge does not permit us to connect any particular species of vibration with a certain physical condition of the serous surfaces, although reasonable grounds exist for this expectation. That although the friction vibration cannot be required as evidence of the existence of adhesion between the peritoneal surfaces, it has not been proved that, in the case of partial adhesion, and even when the adhesions are general, provided the effused lymph be recent, soft, and extensible, an amount of motion sufficient to produce friction vibrations may not occur. That the respiratory abdominal friction vibrations are chiefly manifested at the upper part of the abdominal cavity, where the more solid contents are situated, and in the case of a large organic tumour, and may be regarded as indicative of the inflammation having its site over a solid organ or tumour. That the indications from artificial movements of the parts have been perceived, both over solid organs or tumours, and over the intestines. That the *peristaltic* friction vibrations indicate with *certainty* that the peritoneum investing the corresponding portion of the intestinal tube is the part affected; and that wherever these peculiar vibrations are very distinctly perceived, they may be regarded as indicative of a lively and free motion of the folds of intestine upon one another and upon the parietes, or that no adhesions exist between them; at all events, that they are not generally adherent, nor matted together into an adherent mass, nor to any great extent adherent to the abdominal parietes.—*Med. Times, May* 24.

HEALTH OF THE TROOPS.

At a meeting of the Statistical Society a paper was read on the means of forming and maintaining troops in health, by Assistant-Surgeon Balfour. The inhabitants of towns are the individuals whose position most closely approximates with that in which troops are placed; and the mortality in the prime of life is nearly one-third greater than among the rural population. The deaths among the Foot-guards amount to twenty one-sixteen per thousand annually, and sixteen per thousand may be fairly received as the average of the civil inhabitants of Britain. We thus obtain a standard by which to contrast the loss of life in Britain with that to which our armies are subject when serving in foreign countries. The following is the result of Mr. Balfour's researches:—

Country.	Annual mortality per 1,000
New South Wales	14·1
Cape of Good Hope	15·5
Nova Scotia and New Brunswick	18
Malta	18·7
Canada, Upper and Lower	20
Gibraltar	22·1
Ionian Islands	28·3
Mauritius	30·5
Bermudas	32·3
St. Helena	35
Tennaserim Provinces	50
Madras Presidency	52
Bombay Presidency	55
Ceylon	57·2
Bengal Presidency	63
Windward and Leeward command	85
Jamaica	143
Bahamas	200
Sierra Leone	483

ATROPHY OF THE HEART.

Inspection.—Cardiac movements, imperceptible to sight, and often to touch.—*Auscultation*; sounds of the heart distant and feeble.—*Percussion*; In consequence of the diminished organ being overlapped by lung, the præcordial region yields almost as cleara sound as the opposite side. The history of the case, its supervening upon chroric and debilitating affections, and the permanently small thready character of the pulse, will assist the diagnosis. Constant and unremitting sedentary occupation, with a deficiency of pure air, proves a not unfrequent source of atrophy of the heart.—*Times, May* 31.

DISPLACEMENT OF THE HEART.

Dr. Durrant, in the *Provincial Medical Journal*, says, the diseases within the thorax causing unnatural deviation of the heart to either side, are, copious pleuritic effusion; hæmorrhage into that cavity from external violence; pneumo-thorax; empyema, with liquid effusion; extensive pulmonary emphysema of one lung; tumour, either of the mediastinum or lung; aortic aneurism; to which may be added, the rapid absorption of a pleuritic effusion, the heart being drawn to the affected side (Stokes); and, lastly, universal consolidation and contraction of one lung, with hypertrophy of the opposite (Hope). Depression of the heart may be caused by extensive emphysema of both lungs; tumours within the chest; aneurism of the arch of the aorta; and, to a certain extent, by gravitation, from great enlargement of the organ itself. The heart may be pushed upwards by enlargement of the liver, ascites, abdominal tumours, and by a flatulent distension of the stomach. In rare instances, a contracted and atrophied lung from tubercle, will induce elevation of this organ.—In a case of rheumatism, admitted into the Ipswich Hospital a short time since, the heart was found to be considerably displaced both upwards and backwards, by a stomach enormously distended with flatulence. The apex of the heart could neither be seen nor felt; the situation of the base was higher than natural, and the sounds very indistinct; the entire præcordial region, and beneath the sternum from between the third and fourth ribs downwards, afforded a loudly tympanitic sonoriety. On careful percussion, the shape of the distended viscus could be traced with tolerable accuracy. Under the use of purgatives, the phenomena of the heart's action assumed thier natural position.—The only correct guide to the formation of an accurate diagnosis, in reference to the extent and manner in which the heart has undergone displacement, is an acquaintance with its normal position within the chest, more particularly the situation of its apex, and that of the sigmoid valves: over the latter, it will be recollected that the second sound obtains its maximum. These points decided, the amount of deviation from the natural position which the organ has undergone, may generally be ascertained with considerable precision.—*Ib.*

HYPERTROPHY OF THE HEART.

Dr. Durrant, in the *Provincial Medical Journal*, gives the following physical signs of hypertrophy of the heart:—*Inspection.*—Impulse of the heart visibly increased, forcibly raising the hand or stethoscope; the apex of the organ is seen and felt pulsating lower than natural, often between the seventh and eighth ribs. In extreme cases, the præcordial region is rendered prominent. *Auscultation.*—Force of the hearts action permanently increased, and heaving raising the hand of the observer, receding abruptly again with a shock, constituting the back stroke, or diastolic impulse of Dr. Hope. This phenomenon is caused by the sudden refilling of the ventricles. The sounds of the heart are deadened and obscure; the first sound is prolonged, dull, and limited to the præcordial space; the second sound very feeble and indistinct; most audible over the situation of the sigmoid valves. In consequence of the prolongation of the first sound, the period, prior to the succeeding rhythm, is much shortened. *Percussion.*—Increased dullness, both transversely and vertically. In concentric hypertrophy with contraction, the phenomena are similar to the above, but more immediately confined to the præcordial region. In this variety the impulse is less, the sounds more feeble and limited, while percussion gives the sensation of greater resistance to the finger, without increasing loss of sonoriety.—*Ib.*

ON BRIGHT'S DISEASE OF THE KIDNEYS.

By D. J. Corrigan, M.D., *Physician to the Whitworth, Hardwicke, and Richmond Hospitals, Lecturer in the Dublin School of Medicine, &c.*

This is the disease which has been described by Blackhall under the name of inflammatory dropsy. It is found to occur sometimes after scarlatina, as well as after exposure to cold. In such cases anasarca sets in suddenly, the pulse is high, the skin is hot, the urine high coloured, of a high specific gravity 1,020, and contains albumen, the tongue is white, and there is vomiting and pain across the loins. What it is that produces the anasarca here we do not know. We know that such a thing is there, but that is the whole amount of our knowledge. Of the nephritis itseif the anasarca can be neither cause nor effect; it is merely an accompaniment of the disease, just in the same way as we find œdema of the side in pericarditic or pleuritic effusion, in which no vascular connection can be traced between the serous membranes affected and the œdematous parts. We also observe this latter symptom in renal or lumbar abscess, where there is a thickness of parts to the extent of some inches between the seat of the collection of matter and that of the œdema. Neither can it proceed from vascular congestion, for *post-mortem* investigations do not discover the least trace of congestion in the parts. As I have said already, we know it is there, but *how* it came there we cannot tell. In treating this form of dropsy you would err greatly were you to confine your remedial measures solely to the removal of the dropsy, without directing your attention to the state of the kidneys.

Bleeding from the arm in a full stream, as directed by Blackhall, the application of leeches, or cupping glasses to the loins, followed by vesication, aided by the internal exhibition of antim. tart. or James's powder in suitable doses, may be prescribed at first. As soon as the pulse is lowered, and the skin has become cool, you may direct the administration of mercury to excite salivation to a very moderate extent. Under this treatment the anasarca will be removed, and the disease disappear for the present, and not a few cases are thus permanently cured. The attack for the present is removed; in some time after, your patient comes to you, again seeking relief, having, as he says, caught a relapse from cold. This is removed again and again, until the disease has attained to that pitch of intensity which constitutes the immediate subject of this evening's lecture. Up to this time neither the ascites nor the anasarca will have become considerable, and the collection of water in the abdomen—depending neither on heart disease, such as contraction of the auriculo-ventricular opening, nor on actual disease of the peritoneum, but on some peculiar cause at present inexplicable to us—does not reach beyond a somewhat definite amount. The disease has now acquired is an intensity which previously it did not possess. What that which produces this mischief? Of the disease under examination called "Bright's Disease of the Kidney," from having been first elucidated by that gentleman, there would appear to be two varieties. In one of these the kidney becomes larger than natural, of a mottled yellow colour, which gradually spreads over the whole gland, and the tubuli uriniferi extend far towards the cortical part of the kidney. In the other variety the kidney becomes smaller than in health, the tubuli uriniferi traverse a much greater space through the kidney than in the former, running in this variety almost to the capsular covering; its surface becomes studded with minute tuberosities, which project above the capsule, as if numerous grains of small shot were irregularly distributed through, and sunken into, the cortical portion of the kidney. I regret very much that I forgot to bring with me a specimen of kidney affected with this variety of disease, which was taken from a young boy who died of it. The *post-mortem* was made this morning. This

preparation (handing one round), although it has lost its peculiar colour, will, however, serve to give you some idea of the diminution in size which the organ undergoes, and it preserves pretty well the appearance of these granular bodies of which I have already spoken as projecting above the capsule of the kidney. In that variety where the kidney has become enlarged, the urine continues of nearly the natural specific gravity, ranging from 1.015 to 1.025, and is still secreted abundantly as in health, nay, sometimes more so, for we often find the patient obliged to get out of bed four or five times of a night to make water, while the quantity he passes far exceeds that of the natural secretion; even under this profuse diuresis, we find the accompanying anasarca not at all lessened, plainly proving that both are independent of each other. Albumen is still secreted in the urine, and the colouring matter of the blood is often deposited in that excretion. In other words, blood is passed with the water. In the other variety the urine becomes of a specific gravity, far below the natural standard—1.005 to 1.010—it loses its peculiar colour, and in proportion as the disease advances in malignancy, albumen diminishes, until in its highest stage it disappears altogether, and the tubuli uriniferi allow nothing to pass through them but water almost quite pure. The circumstance of albumen being wanting altogether in the worst forms of the disease, has led persons to criticise the remarks of Bright, and to speak of them as being destitute of accuracy; but, had they examined his writings carefully, they would have found that Bright himself states that fact. We have next to inquire how it is that this disease proves fatal. We find from the experiments of Christison, that in persons labouring under this variety of disease, the urine is deprived altogether, or almost, of its salts, and loses its peculiar principle, urea. That from the loss of its salts, this fluid has become of a less sp. gr. than natural, as indicated by the hydrometer, but the same ingenious observer has extended his remarks further, and has found, that the blood, when submitted to proper chemical manipulation, has yielded urea in quantity. Being aware of these facts, it is not unnatural for us to suppose, that the mass of circulating fluid becomes poisoned by the retention in it of these peculiar saline particles, which it is the proper office of the kidney to eliminate. The fatal event is brought on by effusion into the cavity of the pleura, or by a combination of gastric with head symptoms; these latter set in at first with vomiting, and are quickly succeeded by fatal coma or convulsions. Of the termination by effusion into the pleura we have at present an instance at the Hardwicke in Mrs. Scully. About eighteen months since she was first attacked with the primary nephritis; she had been frequently relieved before this last attack, but now effusion within the chest has set in, and she is hurrying rapidly along "the way of all flesh." With regard to the following observations which I am about to make on this subject (having thus sketched at length for you the disease as it exists,) I beg to apprize you that I do not put them forward as possessing any claim to credit further than what their own correctness shall entitle them to. I place them before you as the result of conviction, forced upon me by years of careful observation of this disease; and, believe me, that to make an observation correctly, which will enable us to bring our knowledge of the pathology of an organ to bear properly on its means of cure, is often the work of years. The observations I have to make consist in the assertion and proof that both these varieties of "Bright's disease" are identical in origin and progress with the two diseases I have spoken of some evenings since, under the names of hypertrophy and cirrhosis of the liver. My reasons for this opinion are drawn from the similarity of appearance which the kidney in both varieties of Bright's disease, presents to the liver affected with the before mentioned diseases. They are drawn, also, from the relative effects which both these renal affections produce on the duration of life, corresponding exactly to those produced by the liver in either states of hypertrophy and contraction. When a section of the kidney, affected with the first variety of renal disease of which I have spoken is made, you perceive the same yellow colour running all through its cortical tissue, just in the same manner as it pervades the liver when in a state of hypertrophy. Here you have plates (exhibiting them) which, taken from Nature, clearly demonstrate the identity of mottled appearance, which pervades both kidney and liver in their first stage of hypertrophy. The enlargement in both organs arises from an extraordinary effusion of lymph within the body of each gland, and which lymph, becoming organized, increases both to their present size. In the contracted and lessened variety, which I shall venture to call cirrhosis of the kidney, we find the same effects caused as had previously taken place in the liver. In both organs this arises from the contractility of the effused lymph. In this last variety of "Bright's disease," the substance of the gland, or, as it is termed, the "acini," does not become the seat of effusion. This is confined solely to the cellular tissue, the matrix of the gland; and the lymph effused here, afterward, on its contraction, exerts such pressure on the acini as to produce these irregular elevations which we find studding the surface of the kidney in this affection. This contraction also exerts such pressure upon the secreting vessels of the organ, as to prevent the passage through them of any fluid denser than water. After death has taken place, on dissection we find the tubuli uriniferi extending to within a very short distance of the capsule, and but very little of the cortical structure remaining.

It remains for us to see, if this view which I have taken of the disease can be of any use in rendering our treatment of it more successful, or if there are any signs recognisable during life, which point out to us which state of disease our patient is labouring under. With regard to the successful event of the treatment, others must decide, but I am confident that there are signs which, during life, plainly tell us under what variety of "Bright's disease" it is that our patients labour. I have found the following symptoms invariably pathognomonic of each variety. In these cases, where the kidney has arrived at the state analogous to that of the large hypertrophied liver, we find the urine secreted abundantly, as in health, or even more so, sometimes tinged with blood, albuminous, of a specific gravity, not much below the natural standard, averaging from 1.015 to 1.025; along with these the skin is dry and hot, and there is pain across the loins: while in cases where, in addition to the two latter symptoms, you have the urine decreased in quantity, though albuminous, and of a very low specific gravity—1.005 to 1.010—*there* you may confidently say that cirrhosis has fairly set in. It is easy to understand why one should be a disease of comparative obedience to medical treatment, and why its fellow should be so productive of effects certainly fatal. We can naturally suppose, that in a case where the urine continues to be secreted natural in quantity, and containing nearly the average ratio of its saline ingredients, nothing can be going forward (as far as the kidneys are concerned) which can be productive of much constitutional injury. It may be said, that the presence of albumen in the urine would, in the foregoing case, bring this fluid up to the natural standard of weight, independent of the natural quantity of uric salts. This hypothesis is untenable, for although albumen does exist here in large quantity, still this foreign ingredient cannot have the effect of appreciably increasing its weight. It must contain nearly its usual proportion of saline matter, or the urine will fall far short indeed of its healthy weight. On the other hand, we can as reasonably conjecture, that the amount of derangement or disorganization under which the kidney labours, must be of importance enough to produce fatal constitutional effects, when the kidney allows only a fluid to

pass through, resembling pure water in its properties, and this, too, but scantily secreted, while the salts which should be thrown out of the system in the urine, are retained in the blood, there to act by their presence as a poison to the whole constitution, and produce death in the various ways before mentioned. Having thus given you my reasons for the belief I entertain of the identity of pathology and cause between these several diseases of the kidney, and the diseases of the liver after which I have named them, let us try if, on examination, we can trace any analogy between the secreting system of the kidney in its hypertrophied state, and the secreting system of any other organ in the body during the continuance of any disease which may affect the latter; or if this analogy will give us any clue to our treatment of this variety of Bright's disease? (Here he again recapitulated all the symptoms of the hypertrophied kidney, as detailed before, and concluded by stating that these symptoms had at some past time been preceded by an attack of nephritis.) He then proceeded as follows: this attack of nephritis has subsided and has given rise, in my opinion, to an atonic state of the kidney, in which its function of secretion continues to be performed almost naturally,—a fact proved by the quantity of urine eliminated, containing nearly its healthy ratio of saline matter, and at the same time its vascular system becomes so relaxed, as to allow the serum of the blood to pass through. In fact it is in a state similar to what it would be were it the subject of passive hæmorrhagy, and just in the same condition as the intestines when labouring under cholera or diarrhœa. In my opinion this disease is nothing more than a *diarrhœa of the kidneys*. Of the varieties of Bright's disease, this is by far the most manageable, and is one, as I think—when properly treated—not productive of serious detriment to health. If one might pursue still the analogy which I have proved to exist between it and its kindred disease of the liver, I see no reason why life should not be prolonged to as great a duration in the former as in the latter. The treatment here should resemble that for the hypertrophied liver, in which you cannot do better than improve the patient's health by tonics, and never mind interfering directly with the liver. If you meddle with it you will probably have reason to repent it, *you cannot reduce its bulk, and by your efforts to do so you may shatter the constitution irretrievably.* In this variety of kidney disease act likewise, direct your remedies, *not* to improve directly the state of the gland, the subject of disease, but to improve as much as possible your patient's state of health.

A curious circumstance frequently takes place in this disease; the anasarca disappears for a few days, when the patient fancies himself cured, but in a very short time it returns again, and this although the patient has been over and over again mercurialised. I shall relate to you an instance which occurred in my own practice a very short time since, illustrating the utility of the line of treatment which I have been recommending to you. Many others have fallen under my notice from time to time, but the case I am about to recite is the latest. In April or May last I was consulted by a gentleman labouring under the symptoms which I have detailed as characteristic of this affection. He had been attacked the previous summer; had been confined to his room all the winter, when he was bled, cupped, leeched, blistered, and put under repeated mercurial courses, without having derived any benefit from them. Reasoning from the analogy which I conceived to exist between this disease and that of the liver, which I have so often mentioned, and being aware of the inutility of the measures which had been previously adopted, I determined to try tonics with him. Of these I considered iron the best, and the preparation which I selected was the persesquinitrate, in doses of fifteen or twenty minims three times a day in water. Under this plan of treatment, aided by a judicious regimen, he improved quickly; and no later than last week I have had a letter from him, stating that the dropsy is gone, and that his general health is excellent. I cannot say if in this case the urine is still albuminous, as I have not lately had an opportunity of determining. With regard to the power of the persesquinitrate of iron in this disease, I am not aware that it possesses any greater than other chalybeates. A more extended experience than mine is necessary to determine that. This case will shew you the inefficacy in this disease of any mode of treatment which goes on the plan of reducing acute or sub-acute inflammation of the kidney. Your best plan of treatment I conceive to be that, which by improving the constitution generally, will serve to increase the tonicity of the relaxed vessels of the kidney.

The treatment of the primary nephritis I have already mentioned. For the removal of the anasarca, which may set in after its subsidence, you may, *for once*, have recourse to small charges of mercury, assisted by diuretics; but when once the deposit of lymph has taken place within the kidney, characterised by the signs I have already detailed, lay aside all other remedies, and have immediate recourse to tonics.

Cirrhosis of the kidney, when once established, I look upon as a disease wholly incurable, and quite beyond the present extent of the remedial art, as its progress is surely, though sometimes slowly, fatal. It is true, indeed, that though we cannot remove the cause of the disease, yet we can palliate some of its most distressing symptoms and complications. The anasarca we may temporarily remove by crem. tartar, digitalis, and other diuretics; the ascites by tapping, followed up by diuretics. When the head is threatened—as very often happens—we may combat the mischief by appropriate remedies; or if the chest become affected, we may give temporary relief by adopting the line of treatment proper in pleuritic effusion or bronchitis, as the case may demand. Beyond these lines of demarcation, our treatment in this variety of kidney disease cannot travel; it is beyond our control; while in its fellow-affection, if we adopt the line of practice which has been of service in the cases and under the circumstances already referred to, I am confident, that—humble instruments of a far more mighty physician—our efforts will often be crowned with success in restoring the blessings of health, and perhaps of longevity to our sickness-stricken brethren.—*Med. Times April 5th.*

SURGERY.

ON DISEASES OF THE EYE.—By Professor Velpeau.

Iritis.—This affection was but little studied by ancient writers, but in compensation as it were, modern authors have, within the last twenty years, paid particular attention to it. The silence of the former, and the researches of the latter, have caused several errors which it is necessary to point out. It was supposed, that, as iritis was not described in ancient, and occupied so considerable a portion of modern works, it was not so frequent formerly as at the present day. This is easily explained by reflecting on the manner in which the diseases of the eye were divided by the older writers; all were comprised under the denomination of internal and external ophthalmia; inflammation of the different internal parts of the eye itself constituted the former, whilst that of its appendages formed the latter. It is, therefore, not surprising that iritis should not have been studied apart, since it was included under the general term, internal ophthalmia; yet it is certain that it was known, for Maitre Jean, Janin, and St. Yves mention it, and Deamours in his work quotes several cases; but it must, however, be confessed, that until of late this affection was but little attended to. Formerly practitioners admitted but two species of opthalmia, to which they added an epithet according to the constitution of the subject; a mode of classification which, even to the present time, some persons are disposed to adopt. In

the commencement of the present era iritis was the subject of several memoirs; Smith and Dr. Gimelle studied it; but it was only in 1823, that M. Gillet de Grandmont sustained publicly his thesis on this affection. Previously to this period it was known in Germany and England; Travers, Saunders, and some others, having already made it the subject of their studies. It would, however, be difficult to prove that iritis was more frequent formerly than at the present time, and it may be added, that there is no reason to believe that such was the case. There are, sometimes, facts by which we may explain the greater frequency of certain diseases at one period than at another; in the present instance none exist; all that can be asserted is, that iritis is one of the diseases of the eye, which is frequently, very frequently, observed, and comes immediately after inflammation of the tarsi, of the conjunctiva, and the cornea. This would be sufficient to prove how important it is that the practitioner should be familiar with the various forms of this disease, but a still more powerful motive exists, viz: the attendant danger, which makes it absolutely necessary to study this phlegmasia more attentively than those already described, for when it terminates favourably, it leaves indelible marks, accompanied by more or less important derangement in the functions of the organ. Iritis is, therefore, an affection which is deserving of the surgeon's most serious attention.

Divisions.—Iritis may be divided into acute, chronic, simple, specific, or presenting various complications, according to the peculiar constitution of the patient or the place in which he resides. The German authors have established numberless divisions, but they are superfluous, if not injurious; thus they admit thirty varieties of iritis, distinguished by the terms anterior, posterior, rheumatic, gouty, abdominal, syphilitic, &c. My opinions on this subject, which have been openly expressed, have often drawn from my opponents epithets far from flattering. Their mode of studying diseases is, perhaps, not very scientific, since it is the custom in that country to separate the various branches of medicine, and to create a professorship for each specialty, so that persons, otherwise distinguished for their talents, are confined to a very narrow circle, beyond which they perceive nothing, and are led to consider trifles as things highly important. This is a misfortune for science. Thus Baer, whose talent is well known, recognises fifty or sixty different species of cataract. Two things should be avoided; huddling together all the various inflammations of the eye on the one hand; and creating superfluous and numberless divisions on the other. The prudent practitioner will always keep a medium.

Definition.—Iritis may be defined to be a distinct inflammation, which cannot be confounded with other affections of the eye without great danger. This is evident since it may exist alone; but it must not be supposed that, therefore, iritis is always unattended by inflammation in the surrounding tissues, but merely that the phlegmasia commences in the iris, and constitutes the principal affection, whilst that of the neighbouring parts is sympathetic. Again, strictly speaking, a distinct inflammation does not exist in any organ; for instance, no one denies that peritonitis is a phlegmasia of the serous membrane of the abdomen, and that the inflammation may extend to the neighbouring cellular, muscular, and mucous tissues, still it is generally admitted, that the former is the principal disease, and like all affections of a distinct nature, has its peculiar causes, symptoms, mode of development, and termination. Now, is not all this observed in iritis?

Varieties.—It may be admitted that the inflammation may commence on the anterior or posterior surface of the iris, or in its parenchyma. Scientifically speaking, this is correct, but it is not less true, that in a very short time the whole organ becomes affected. The phlegmasia may also be partial, general, or more or less modified by the constitution of the patient; but, in admitting that, owing to these several circumstances, there may be modifications of the disease; we are far from stating that each of these constitute a special inflammation? One variety may be said to have a specific origin, viz., the syphilitic; but as to the scrofulous, rheumatic, arthritic, or such like, they ought to be rejected, as their symptoms may be observed in simple iritis. Moreover, how is it possible to admit the influence of a rheumatic, gouty, or scrofulous virus, on the constituent parts of the eye, and on the iris in particular, when many distinguished physicians consider the existence of a virus peculiar to each of these diseases chimerical? Do not many eminent practitioners state that rheumatism is a phlegmasia of the fibrous and synovial tissues? Again, in admitting that gouty iritis exists, its characteristic symptoms are often observed in patients admitted into hospitals, while it is well known that gout is a disease very seldom seen there. The same remarks are applicable to scrofula, and though the diseases of the eyes are, doubtlessly, modified by this form of constitution, still they do not in this respect form an exception, as all other affections are equally so. As to the opinion that scrofula is a disease of a peculiar nature, and that the diseases of the eyes, on account of the modifications produced by it, are separate maladies, it is inadmissible. As a constitutional affection, scrofula certainly exists; but as one of a peculiar nature, it cannot be admitted; at the same time, let it be well understoood, there is no doubt that phlegmasiæ of the eyes, and especially iritis, may present a particular character, under the influence of a rheumatic, scrofulous, or any other diathesis, in this respect resembling all the diseases with which individuals of these constitutions may be affected. Thus, if a rheumotic person is affected with pleuritis, pneumonia, or any other malady, does it not present some peculiarities? Will it not be the same with a scrofulous individual? Now, if iritis occur in these cases, it will likewise offer sometimes *sui generis*. The difference, however, is great between this mode of considering the influence of the constitution on the diseases of the eye, and principally on iritis, and the theory of the Germans, who assert, that it is possible to recognise a gouty constitution on inspecting the eye, an opinion completely erroneous, since the pathognomonic symptoms may be observed in persons who have never had an attack of gout in their lives. These are the principal differences between the French and German doctrines, but it may be stated that even in Germany this doctrine is nearly obsolete, and that the practitioners who profess it are ignorant of the progress of science, not only in foreign countries, but also in their own. Iritis may be modified by the constitution of the patient, but no variety of a specific nature exists, except the syphilitic, because no one can deny that a virus is the cause of syphilis, whereas this is not generally admitted in other affections.

Symptoms.—Those of acute uncomplicated iritis may be divided into three stages; in the first stage, more or less pain in the forehead, temple, and bottom of the orbit; photophobia; lachrymation; vision more or less impaired; very slight redness; cornea transparent; conjunctiva almost white; the sclerotica, on the contrary, presents a reddish pink tint, disposed in a circular form, somewhat analogous to the rising already described in keratitis, but differing inasmuch as it dose not reach the cornea, which is surrounded by a small greyish-brown circle; this symptom is very important in the diagnosis of iritis, and is produced by the anatomical disposition of the cornea and sclerotica, it being impossible, from the mode in which these two membranes are united, for the vessels to reach their point of junction, and it is the space comprised between the cornea and iris which forms the circle.—Though a phenomenon purely anatomical, it has been erroneously considered by the Germans as the sign of gouty iritis, called, consequently, the arthritic circle; the natural colour of the iris more or less changed; this symptom is difficult to discover when both eyes are affected, as no comparison can be made, except when the colour of the iris was previously known to the medical attendant; mobility of the pupil more or less diminised; when one eye alone is affected, it is generally smaller than on the healthy side; its form may vary considerably; it may be irregular, angular, or in the shape of an oval triangle: the edges may have a velvety, flaky appearance; the pupil may be cloudy, caused by the diminution of the transperancy of the humours. The characteristic signs of this disease are, sub-orbitar pain, slight photophobia and epiphora, injection, sight more or less impaired, red tint of the sclerotica, disposed in a radiated circle, small greyish-brown ring surrounding the cornea, a change in the normal colour of the iris, and modification in the shape and aspect of the pupil.

DISLOCATION OF THE KNEE FORWARDS CAUSED BY FORCED EXTENUATION OF THE LEG.—By F. Jacqet, M.D.

Bauzon, sergeant in the 66th regiment of the line, ætat. 21; strong and muscular; sanguineous constitution; entered the military hospital at Metz half an hour after having met with the following accident:—Amusing himself with jumping on level ground, he fell, contrary to the rules of gymnastics, on the left foot, the leg being at the same time stretched to the utmost, and thrown slightly backwards, the right limb, which was carried forwards, not reaching the earth as soon as its

fellow. Bauzon felt a smart pain in the knee, and fell immediately on his face. On examination, the state of the part was found to be:—the lower limb was flexed at an angle with the thigh, so that the articular surface of the tibia was in contact with the inner surface of the patella, the anterior sub-cutaneous face of which was directed upwards and forwards; the condyles of the femur were easily felt in the popliteal region which was very tense; pulsations of the popliteal artery not so easily felt as generally stated, owing to its being contained in the inter-condylean furrow; triceps cruralis prominent; tendons of the crural muscles inserted on the tibia and fibula were stretched, and formed two slightly curved cords, the concavity looking upwards; limb mobile; flexion easily performed, and almost without pain; foot turned inwards or outwards, according to the position in which the limb was placed, the shortening not more than an inch; slight swelling on each side of the knee; very little pain; no ecchymosis; in all probability the only lesions were rupture of the crucial ligament, and some fibres of the gastrocnenii; all the tendons were uninjured. Reduction was easily effected by performing gentle and gradual extension on the leg, and without causing much pain. The only symptoms afterwards noticed were swelling of the knee, which soon disappeared, and pain in the sole of the foot, especially at its inner edge, and in the tendo Achillis, produced by the apparatus. Six weeks after the accident, the patient could move about without limping, except when fatigued; the knee was still weak, but not swollen. The patient was bled the day of the accident, and, after reduction, to subdue, or rather prevent the occurrence of inflammation; the apparatus was kept moist, first with Goulard water, and afterwards with camphorated spirits of wine. According to the author, this luxation was produced in the following manner:—When the body is thrown forwards, so as to cause the femur to form a right angle with the tibia, the inferior extremity of the anterior surface of the former presses on the upper edge of the patella, and as this bone reaches the anterior tuberosity of the tibia, it becomes firmly fixed. A lever of the first kind is thus obtained, the power being applied to the upper end of the femur; the fixed point being the patella, and the resistance being formed by the posterior ligament. When the power is sufficient to overcome the resistance, the condyles escape backwards in the ham, but not downwards, as shewn in the case just related. The editors of the *Archives* in recording this case, justly remark, that M. Velpeau, in stating that the leg might be bent so as to form a right angle with the thigh, without luxation taking place, spoke of extension alone; whereas, in Dr. Jacquet's case, two causes existed—first, forced extension; and secondly, the sudden shock produced by the falling of the body on the ground, and that by the union of these two causes, the luxation might easily be explained without having recourse to hypothesis.—*Archives de Medecine.*

CHEMISTRY, MATERIA MEDICA AND PHARMACY.

ANASTATIC PRINTING.

A recently invented process, termed anastatic printing, was made the subject of a lecture at the Royal Institution in Albemarle-street, London, on Friday, April 25, by Dr. Faraday. It is in many respects worthy of the attention of our chemical readers. When this discovery was first announced, and it was said that a means had been devised to copy from a printed page of any size, a line engraving, or any other print,—say, for instance, a page of the *Times* newspaper, upon a surface which would immediately furnish an impression—a perfect fac-simile of the former, the process requiring only a few minutes to complete; and that from the same surface many thousands of similar impressions might be taken, it was said that the thing was absurd! impossble! After the inventor had shown the possibility of these extraordinary achievements, by producing copies of engravings and printed sheets, the method by which it was accomplished was considered to be a profound mystery; even electricity requires a considerable time; but this process may be completed, and the copy exhibited, in a few minutes. Scarcely less marvellous than its results is the simplicity of the principles involved in the operation, and the small number of materials it requires. Everything depends upon the ingenuity of the inventors, who have studied and discovered new properties in water, oil, and gum arabic, which enable them to work these wonders. Dr. Faraday's exposition of the matter was as follows:—The printed page to be copied is laid upon blotting paper, and the reverse side is sponged over with very dilute nitric acid, so as to render the paper damp throughout; superfluous moisture is then removed by blotting paper, and the sheet is placed (the printed surface, to be copied, downward) upon a perfectly clean and polished zinc plate; a fold or two of bibulous paper is laid over it, and it is submitted to a careful, equable, and powerful pressure, by passing through rollers turned by means of levers. The effect of this is to moisten the zinc plate with the dilute acid, where the unprinted part of the paper comes into contact with it, and a slight corrosion or *biting in* is effected; at the same time the ink of the printed letters parts with a slight film, which is left on the zinc plate. This is technically termed *setting off*, and from this the process is designated *anastatic* printing. The success of the subsequent process depends upon two principles which Dr. Faraday says, have received some scientific elucidation very recently—namely, the *mutual* repulsion of oil and water, and the cohesion of the particles of fluids among themselves. This attraction of the particles of oil for oil, and water for water, is a far more energetic force than has been hitherto imagined. Upon the repulsion of dissimilar, and the mutual attraction of similar particles, anastatic printing depends. In illustration of the operation of these forces, together with the repulsion of water by polished metallic surfaces, a few simple experiments sufficed. Thus, water will run over a clean metallic plate, as tin or zinc, without wetting it. If a thin layer of water is laid over a surface,—such as a china plate for instance,—and a particle of oil is placed on it, the water will be repelled on all sides of the oil. In like manner, water will run off from an oiled surface without wetting it.

On the zinc plate, treated as described above, there are two kinds of surfaces,—one whereon the letters have left a film of oil—printer's ink being a mixture of oil and lamp-black—the other wetted with the dilute nitric acid. The next step is to rub printer's ink over the surface by means of a rag, and the operation requires no nicety or care, the ink will adhere only to the impression of the letters, not to the *wetted part* corresponding to the white unprinted part of the paper. Then, again, the whole is rubbed over with another rag wetted with water, holding in solution gum arabic, and what the inventors call *phosphatic acid*. This phosphatic acid is prepared by placing a stick of phosphorus in water in such a manner as to allow a portion of the stick to remain above the surface of the water exposed to a slow process of oxidisement in the air. The principle upon which the action of this solution depends is by no means obvious. The effect is, that the surface around and between the letters on the zinc plate becomes so wetted, that no ink will adhere to it, whatever may be the force with which it is applied. The addition of the smallest portion of gum arabic to water will cause it to wet surfaces of metal or other substances, over which it would otherwise pass without leaving the least trace of moisture.

The application of the solution of gum and phosphatic acid having been made, nothing more is necessary than to apply printer's ink to the zinc plate by means of a roller, as in lithography, and it will now print hundreds, nay, thousands of impressions so beautifully as fully to equal the original, and being so exact a fac-simile as to require the most nice observations by the experienced eye of a printer to distinguish from letter-press or copper-plate printing. The same rollers and machinery employed to take the impression upon the zinc plate suffice for printing the number of copies required. It is, however, found, that after a number of impressions have been taken, the letters begin to spread, the edges becoming blurred. In this case, all that is required to be done is to clean off all the ink from the plate by a rag, and it is found, that so permanent is the property imparted to the surface of the plate, that merely washing it over with the gum and phosphatic acid solution, the letters will again take up the ink from the rollers, and print again, with the edges as sharp and clearly defined as ever. Thus the renewal may be repeated, and the printing proceeded with, *ad infinitum*.

But there is still another highly ingenious device belonging to this process. When it is desired to copy print or engraving which is very old, and which, therefore, will not, by the above method, *set off*, the copy is placed in a weak solution of caustic potash, which pervades the paper, and softens the surface of the ink forming the letters; it is then dipped into a solution of tartaric acid, which, combining with the potash in the texture of the paper, forms bitartrate of potash, an insoluble salt, which remains in

minute crystals in and on the white part of the paper, and the ink roller may now be passed over it, when it will impart a thin surface of the fresh ink to the printed letters without soiling the intermediate white of the paper, and the copy may now be treated like a recently printed sheet.—*London Lancet, May* 3.

On the EQUIVALENTS of SEVERAL SIMPLE BODIES.

BY M. J. PELOUSE, M. A. S., &c.

The progress analytical chemistry has made of late renders it possible to attain a correctness unknown at the period Berzelius established the laws by which chemical compositions took place.—Thus, in carbonic acid, Professor Dumas has proved that the atomic weight of carbon was not 76.44 but 75.00; the same *savant* discovered that, the equivalents of hydrogen and calcium were 12·5 and 250. It, therefore, appeared that the hypothesis of Prout on equivalents, considered as multiples of a single body, *hydrogen*, was not without foundation and new substances,—azote, chlorine, sulphur, zinc, bromine, mercury, borium, strontium —were added. This hypothesis was generally admitted until the researches of Mr. Marignac proved that the equivalent of chloride of potassium was not a multiple of that hydrogen, and that one, if not both were exceptions to the general rule. In the following table, the author gives the results of his researches on the equivalents of various metals compared with those of Berzelius.

			Berzelius.
Sodium	237·17	.....	290 90
Potassium	489·30	.....	489·92
Barium	858·03	.....	856·88
Strontium	548·65	.....	547·29
Azote	175·08	.....	177·03
Silicium	88·915	.....	92 43
Phosphorus	400·00	.....	392·29
Arsenic	937·50	.....	940 08

Shewing that the greatest difference is between the eq. of phosphorus. If these numbers were divided by 12·5, the eq. of hydrogen, some give a very different result from that law indicated by Prout, whilst others—phosphorus, azote, arsenic—coincide with it, their eq. being multiples of that of hydrogen. Finally, it is principally the elements of organic bodies whose eq. seem always multiples of that of hydrogen.—*London Medical Times.*

TESTS FOR CREOSOTE.

The creosote of commerce is very commonly a mixture of various hydrocarbons, eupione, &c., and containing variable proportions of true creosote.

The strength and medicinal efficacy of creosote depending mainly upon its purity, it is indispensable that purchasers should be able to apply an easy and satisfactory test. Dr. Ure, in the Supplement to his "Dictionary applied to the Arts and Manufactures," proposes to test the purity of creosote by its specific gravity, a method wholly inapplicable to the purpose, and devoid of any scientific basis. The following test may be relied on:—Place a drop upon the skin of the hand, allow it to remain for about one minute, and then wash it off with water; if the creosote is pure, it will act as a powerful escharotic, producing a white spot, which will shortly become red, with a pungent sense of burning. The intensity of its caustic effects, indeed, stands in direct ratio to its purity; many commercial specimens will be found to exert very little, or none. Moreover, pure creosote is perfectly soluble in caustic potass.—*Lancet, May* 11.

THE PREPARATION OF PROTO-LACTATE OF IRON.

Take two pounds of sour milk, one ounce of sugar of milk, and one ounce of iron filings; mix, and allow the mixture to stand for several days at a temperature of from 86° to 104° Fahrenheit, taking care to stir it frequently. As soon as the sugar of milk is dissolved add another ounce; and when a sufficient quantity of proto-lactate of iron has been produced, which is seen by the deposition of a white crystalline powder, the mixture is boiled, and filtered boiling hot into a vessel which admits of being closely stopped. On cooling the salt is deposited in crystalline crusts. The separation, however, is completed only after the lapse of several days. The fluid is then decanted, the crusts broken and washed repeatedly with cold water, and the salt dried upon bibulous paper at a moderate heat, as quickly as possible. Lactate of zinc may be prepared in the same manner.—Prof. Wohler, *Annal. der. Chemie.*

CERATE MADE WITH STEARINE.

In the last number of the *Journal de Chemie Médicale*, M. Barbin, druggist at Angérs, gives the following formula for preparing cerate, in which stearine may be advantageously substituted for wax.

R.	Stearine,	180 grammes.
	Rose water,	375 "
	Oil of almonds,	500 "

M. S. A.

It will be observed that the white wax is replaced by stearic acid, and in an excess of sixty grammes over that prescribed in the codex.

This process has the advantage of yielding a perfectly white and homogeneous cerate: it has the unctuousness of *cold cream*; and an hour suffices for its preparation. It costs less than that of the codex, and is equally efficacious. It might be substituted in hospitals where yellow wax is used, as the price of the latter substance is more than that of stearine.—*Encyclographie Médicale*, Jan. 1845.

PREPARATION OF IODIDE AND BROMIDE OF SILVER.

These salts may be quickly prepared, by precipitating in the dark, a solution of fused lunar caustic, with iodide or bromide of potash or soda, receiving the precipitate on filtering paper, washing it repeatedly with distilled water, and finally drying it on white filtering paper, spread over a chalk or porphyry flag. Thus procured, these salts are of a yellowish colour, and in appearance fleecy. Diffused or direct sunlight, exerts over these salts a decomposing power, reducing them to the state of black oxyde.—*Buchner's Repertorium.*

MIDWIFERY.

ON THE EMPLOYMENT OF PESSARIES.

Before describing the various kinds of pessaries, it may be well to dispose of the objections urged against these instruments, by Dr. Hamilton and other writers. It is affirmed, that pessaries can only act as palliatives; that they cause irritation and leucorrhœa; that they make injurious pressure on the contents of the pelvis; that if not frequently removed, they become encrusted with a calcareous matter, which may lead to ulceration even into the rectum, putrid discharges, and fungous and malignant growths; that patients, while wearing them, have suffered from irritation of the bladder and protracted constipation; and that cases from time to time occur, where, from the laceration of the perineum, no ordinary pessary can be retained; and, lastly, that they subject the patient to the charge of the medical attendant for life.

It is not true, that pessaries never act but as palliatives. I have known many instances of their employment for several months, no other treatment having been resorted to, where a perfect cure has been obtained; so perfect, indeed, that on removing the pessary, the descent has not again taken place. But if this objection were allowed, it would detract but little from its value, as the recumbent posture, astringent injections, tonics and cold, are far more efficacious with, than without the pessary. Irritation and leucorrhœa may be produced; and I know there are patients, who, on these accounts, cannot wear it; but how few are these compared to the number where such evils subside in a few days, if the pissary has been accurately selected as to size. I have often, indeed heard the remark, that so far from there being annoyance, there has scarcely been any consciousness of the presence of the artificial support. That ulceration into the rectum, although probably not more than one such instance ever occurred, may have been occasioned by too large a pessary, or by its incrustation, cannot be denied. But how easily might such evils have been prevented! Surely if these dangerous consequences are not inevitable; they cannot be adduced against the judicious employment of the remedy. On one occasion at Guy's,

I had some trouble in taking away a caoutchouc pessary, which had become hard from the calcareous deposit of eight or nine years, it never having been removed during the whole of that time; but on making some severe remark to the woman on her neglect, she simply replied, that the comfort she had derived for the years she had worn it, far outweighed any suffering she had latterly endured. She went out of the hospital quite recovered in a few weeks, and never afterwards, at least to my knowledge, had a return of the procidentia. I scarcely know any cases where irritation of the bladder, strangury, or constipation, have remained beyond the first fortnight after introduction, if excessive exertion and errors of diet have been avoided. There are examples where, after replacing the parts and introducing a pessary, excitement, pain, and fever run so high, that abdominal inflammation may be feared. In such, probably, the mischief is more consequent on the reposition than on the pessary; but be this as it may, the instrument should be removed, and the uterus permitted again to come down. Bleeding from the arm, fomentations, poultices, leeches to the abdomen, purging may be required; and for some days or weeks the attempt ought not to be repeated. If the pulse again rises, and the same evils are threatened, the reposition will be frustrated, and such a case may be one in which the uterus must remain procident. Laceration of the perineum certainly prevents the beneficial employment of the common pessary; but I cannot conceive why such an exception should be taken. These lacerations are happily exceedingly rare;—as compared with procidentia of the uterus the proportion must be small indeed; and it certainly cannot be fairly objected to any instrument, that it is not applicable to cases for which it was not designed. The circular ring pessary, the one in most general use, was intended to rest on the flooring of the vagina. Without such a foundation it cannot be employed, and this very flooring is often entirely destroyed by laceration of the perineum.

Dr. Hamilton lastly asserts, "that pessaries subject the patient to the charge of medical attendant for life." Is not this contradicted by every day's experience? Women take out, wash, and replace the pessaries themselves. I have known many who do this, and who only apply to their medical attendant in some unusual emergency, or when they think the size of the support requires diminution. The pessary is certainly not a perfect instrument; but how rarely, in the treatment of diseases, have we the choice of remedies so good as to be without some imperfections. Does it not much more frequently happen that our choice is limited? Prosidentia is an evil; the wearing of a pessary is an evil also; but it does not require any great discrimination to perceive, or candour to acknowledge, that the greater evil by far is the procidentia; and that the lesser evils of the pessary are merged in the benefits it so constantly confers.

A good pessary should be light, hard, and smooth, and so accurately adapted to the size of the vagina, that whilst it supports the uterus, it should produce neither pressure nor abrasion, and certainly not interrupt the evacuations of the bladder or rectum.

To fulfil these conditions, the ingenuity of medical men has been largely taxed, and many pages would be required for a summary only of their various inventions. Gold, silver, lead, iron, sponge, cork, elastic gum, and boxwood, have all been used. The last is by far the best material, as it is light, and yet of hard texture, and so close in its grain, that it is not acted on by the discharges; being also, when well polished, perfectly smooth.

The *circular boxwood*, or ring pessary, is that in most common use. Its edges are round and smooth, with a central aperture for the tip of the finger to alter its positions or to assist in its removal, and to permit the escape of any natural or morbid discharges. In the construction of this form, care should be taken that the outer margin is tolerably thick, by which better support is afforded to the uterus, and there is less risk of any injurious pressure or abrasion of the inner surface of the vagina. It is also of still greater importance, that the central hole be not too large. A small aperture will suffice for the purpose already mentioned; a larger one will allow the entrance and strangulation of the os and cervix,—an accident exceedingly painful to the patient, and perplexing to the practitioner. In a case lately, I had to scarify freely before the cervix could be set at liberty. It is probable, that many of the cases of inflammation, ulceration, or gangrene, have had such an origin. But this could never happen, if, instead of an aperture large enough for the thumb, as it often is, there be one so small as to admit only the tip of the fore finger. Laundy has for many years made all the pessaries used at Guy's on this principle. It is rare to hear any complaints of this pessary, when it has been of right size, and properly introduced; for, although I have tried every kind of abdominouterine supporter, Hamilton's, Hull's, and several others, yet I find that patients give the preference to this simple, cheaper, and generally more efficient support. The perineal pad, the distinguishing feature of these more elaborate contrivances, is not without its disadvantage. I have one patient who never has the bowels relieved without removing the 'supporter,' and latterly, she has discontinued it altogether, because it produced great irritation and pressure about the valve and rectum. She now wears a common circular boxwood pessary. Women, who can themselves remove and re-introduce this support, ought to be supplied with some of the same, and of lesser size, never using a pessary for a second time. If the assistance of a medical man is required, once in three, four, or six months will suffice, although, of course, exigencies may arise rendering more frequent attention necessary. Occasionally these instruments are worn for twelve or eighteen months without removal; and some months since I took one away which I had introduced four years previously. The patient had been in Van Dieman's Land during the interval, and had derived the greatest comfort from the support thus afforded. The uterus was so high up, and the vagina so healthy, that she has since gone through her daily duties without the pessary, and without any further descent. For married women this form is the best, as neither intercourse nor conception are prevented. 'Let it also be understood, that other remedial measures are not to be given up, as the time during which a pessary may be necessary, will much depend on the patient's persevering in the recumbent posture, and the use of astringent injections.

But there are cases where, owing to the morbid capacity of the vagina, the *hollow ball pessary* must be used. This form also is best made of box-wood, with several holes for the escape of the discharges, and having affixed to one end a slip of tape, to facilitate its removal. Often this will be retained, when of proper size and well introduced, without any external mechanical contrivance; but where the dilatation of the parts is excessive, the plan of Sir Charles Clarke has succeeded well. But most surgeons are somewhat ingenious, and I frequently see inventions of greater or less utility, the half of which it would be impossible to enumerate. Pp. 561—565.—*Ashwell on diseases peculiar to Women.*

FORENSIC MEDICIME.

CASE OF POISONING BY HYDROCYANIC ACID.

On the evening of the 23d of January, I was summoned to the aid of Mr. H——, a medical gentleman of Stratton, near Cirencester, who was reported to have poisoned himself. I found him lying on his back on the hearth-rug, his head supported by a folded shawl. His countenance was placid, and free from all contortions, his eyes closed, and the pupils not largely dilated; a fresh healthy colour was on his cheeks. His limbs were quite supple, and his body warm. Life had been extinct about ten minutes. From the statement made to me in the room, and which afterwards appeared in evidence at the inquest, I learnt that he had returned home from a long round of visiting, much fatigued, and feeling a pain in his chest, took the bottle of acid from its place in the surgery, and went into the parlour adjoining, for the purpose of taking a minim dose to relieve it—a remedy he had more than once had recourse to before, for the same purpose. While there he was heard to stagger, and as the housekeeper rushed into the room, he fell, and an ounce phial, about half full of hydrocyanic acid, of Scheele's strength, corked, dropped from his hand. She rang the bell violently, and gave the alarm, and in five minutes his brother, who is a medical man, was on the spot. He was then breathing, and his pulse was distinctly perceptible at the wrist. Notwithstanding every means tried to counteract the effects of the poison, he expired in a few minutes without any scream, and quite tranquilly.

Appearances, twenty-two Hours after Death.—Weather very cold. The body was cold and rigid. All the depending parts, as the back, shoulders, bend of elbows, &c., were of a mottled purplish colour. On opening the chest, the right lung presented a dark, dusky purple appearance, was not much collapsed, and

contained air. On being cut into, a frothy, dirty-brown, semi-mucous fluid exuded, tinged with blood. There was no odor of prussic acid from it. In the cavity of the right pleura were about eight ounces of thin serum; the surface of the pleura was not marked by any evidence of inflammation. The left lung was of a pale colour, exsanguine, contained but little air, and poured out only a whitish frothy mucus on being cut into; it was firmly adherent in its whole extent to the costal pleura of the same side, and, posteriorly, the adhesions were so strong as to defy my strength to separate them. The pericardium was natural; it contained, perhaps, a little more fluid than usual in its cavity. The heart was small, and firmly contracted, and the vessels on its surface distended with fluid blood. On cutting into it, about three ounces of dark-coloured fluid blood trickled out, without the least appearance of coagulation having been attempted. It exhaled no smell of prussic acid. The parietes of the ventricles were a little thicker than usual. The liver was large and healthy. The spleen soft and easily broken down, resembling mulberry jam. The kidneys were firm, rather large, and slightly coagulated. The stomach contained about fifteen ounces of half-digested food, that gave out the peculiar smell of food undergoing digestion, with which also could be satisfactorily recognized the well-known odour of bitter almonds. The mucous coat of the stomach was healthy, and smelt strongly of prussic acid after the stomach had been emptied of its contents. The intestines were healthy. The brain and its coverings were healthy, but its vessels and its sinuses were filled with dark-coloured fluid blood. It was quite free from any smell of prussic acid.

In this case, first, he had power to cork the bottle after having taken the poison; indicating its paralyzing effects on the sensorium not to have been instantaneous. Second, the placid state of his features, unmarked by any act of expiring. Third, there was no scream, but he died tranquilly and silently. Fourth, the congested state of the right lung might more reasonably be referred to the effects of chronic pneumonia than to the poison. Fifth, the blood was everywhere dark coloured and fluid. Sixth, the odor of bitter almonds was satisfactorily recognized in the stomach, and nowhere else. Seventh, he lived nearly ten minutes after having taken the poison.—Mr. Pooley, in *London Medical Gazette.*

CASE OF POISONING BY ARSENIC.

In the examination of the corpses of two men, supposed to have been successively poisoned by the wife. Wholer distinctly detected arsenic, even after an interval of seven years and six months. He incinerated all the soft parts of both corpses with nitre. In the case of the man who died last, it was found that during the last moments of his life, he had taken phosphuretted oil, and had therein consumed altogether about 16 grammes (about 250 grains) of phosphorus. On examination of the stock of phosphorus in the apothecaries shop, whence it had been obtained, it was found to contain about half per cent. of arsenic. The phosphorus used in the preparation of phosphuretted oil ought therefore in future to be tested for arsenic.—*Ann. der Chem. and Pharm.* 53, *p.* 141.

Dr. TAYLOR'S REPORT ON THE PROGRESS OF TOXICOLOGY.

(*Continued from page* 81.)

Conversion of calomel into corrosive sublimate by an alkaline chloride. A case lately occurred in France, in which a medical practitioner was charged with the death of a child by the administration of a common dose of calomel with muriate of ammonia. It was stated by M. Mialhe, who gave evidence on this occasion, that, by contact with any chloride, such as common salt, calomel was converted to corrosive sublimate; and such a mixture was therefore highly dangerous. Experiments subsequently performed, showed that if this change did take place at all at common temperatures, or at the temperature of the stomach (98°,) it was only to a trifling extent, and not likely to endanger life by the usual mode of exhibiting the medicine. The question is of some importance to medical practitioners; for, although it is not customary to give calomel in mixtures with alkaline chlorides, yet common salt is largely employed as an article of food, and the chlorides of sodium and potassium exist in the animal secretions. It is therefore proper to state here the results of some recent experiments on the subject by M. Larveque, especially since these tend to show that the statements of M. Mialhe are not strictly borne out by observation. An account of these experiments will be found in the *London and Edinburgh Phil. Mag. Sept.*, 1843. The principal facts merely are here selected. In one experiment a mixture was made of 45 grains of calomel, 90 grains of chloride of sodium, and 1875 grains of distilled water. The mixture was frequently shaken, but it was only after the lapse of a week that the supernatant clear liquid was at all discoloured by sulphuretted hydrogen gas. This was not, however, owing to the presence of any corrosive sublimate, for none could be separated by sulphuric ether. The effect of the gas was doubtless due to the presence of a minute portion of calomel held dissolved by the alkaline chloride. When nearly double the quantity of common salt was used with half the quantity of water, still no evidence of the production of any corrosive sublimate could be obtained. The chlorides of potassium, barium, calcium, and magnesium gave precisely similar results. When the mixtures were heated to 212°, then a portion of corrosive sublimate, easily separable by ether, was uniformly produced. Muriate of ammonia was found, even at common temperatures, to convert a portion of calomel to corrosive sublimate. This, however, is only likely to occur where the quantities of calomel and muriate are infinitely larger than it is probable they would ever be prescribed for medicinal purposes. Practically speaking, this conversion by common salt can never give rise to any dangerous consequences; because it is not found to take place at common temperatures, nor at the temperature of the body. The change produced by muriate of ammonia at common temperatures is so slight as to be of no importance.

Lead.—In November, 1843, an interesting trial took place at the assizes of the Puy de Dôme, in France, involving the rare question whether or not the death of a person had been caused by the criminal administration of a salt of lead. The whole of the proceedings are reported with much unnecessary prolixity (extending to 158 pages) in the *Annales d'Hygiène* for January, 1844. The deceased died under suspicious circumstances; on examination of the body, there was nothing found indicative of the action of poison, while the stomach was ulcerated and in an otherwise diseased state. No salt of lead was found in the contents, but traces of the metal were discovered on incinerating the viscera. A question then arose, whether this metal was a natural constituent of the body, or the result of a portion which had been swallowed and had acted as a poison. The medical opinions were much divided. Orfila thought that it was very probable, if not certain, that the deceased had died from the effects of lead. There was so much doubt about the case, that, in an English court of law, it would probably have been speedily dismissed for want of clear medical proof of the cause of death. The details are not of sufficient general interest to justify quotation, but the medico-legal reader will find, in the controversy between MM. Dupasquier, Danger and Flandin on the one side, and M. Orfila on the other, that the art of conducting a medical prosecution and a *medical* defence is well understood in France.

Carbonate of lead. Shot in bottles. A case is related in the *Annales d'Hygiène*, April, 1844, which shows that serious accidents may sometimes happen from the shot used in cleaning bottles being left, and afterwards becoming chemically acted on by the wine or liquid introduced. The practice of thus cleaning bottles is very common in England and also in France, and the small pellets often become fixed in the narrow part of the base of the bottle, and thus escape notice.

A person after having swallowed a few glasses of liqueur, suffered from the most violent colicky pains, and all the symptoms of irritant poisoning. Dr. Hanle, who was immediately called, having observed that the liquor remaining in the bottle was very turbid, poured it off for analysis, when he found, firmly wedged in at the bottom of the bottle, ten leaden pellets, which had become so completely transformed to carbonate of lead, that there was only a small nucleus of the metal left. So long as the liquor was clear, no accident had arisen from its use; but the symptoms of poisoning appeared immediately when the turbid portion, at the bottom of the bottle, containing the salt of lead either suspended or dissolved, was swallowed.

It is singular that the lead should have been found in this case in a state of insoluble carbonate; for, in general, the vegetable

acids contained in wine (if we except the tartaric) form soluble salts of the metal. With acescent wines, such as those made in this country, which owe their acidity chiefly to citric acid, accidents of this kind are very liable to occur; but with good Spanish wines this is not so common. The acidity here is chiefly due to tartaric acid; and it is only slowly that tartrate of lead is formed, even when the quantity of shot left in the bottle is large.

Action of water on lead. A very important communication has been made on this subject by Dr. Christison to the Royal Society of Edinburgh, which has been since published in their "Transactions" (Vol. xv. Part 2.) A few years ago, the Doctor was led to examine the water introduced into a dwelling by a lead-pipe, from a distance of three quarters of a mile. It was remarked that the water fresh drawn from the pipe *was perfectly transparent at first*, but on exposure to air, it quickly presented a white film, afterwards ascertained to be carbonate of lead. This water had been previously examined by Dr. Christison, and he had concluded that it contained salts enough to prevent corrosion of the lead, from the circumstance that several pieces of the fresh-cut metal retained their lustre when immersed in it for a period of fourteen days! "I did not," he observes, "at the time, advert to the difference between an experiment, in which some ounces of water were left at rest on a few square inches of lead, and one in which a column of water, only three quarters of an inch in diameter, flowed constantly over a surface of nearly 800 square feet." On analysis, this water was found to contain but a very small portion of saline matter (the 21,400th part,) and the salts were of such a nature as to have the least protective influence. The remedy adopted, was to leave the spring water at complete repose in the pipe for a period of four months, so as to allow the carbonate to crystallize slowly and firmly on its interior. "This experiment was attended with complete success. The water was then found to flow without any impregnation of lead, and has done so ever since."

In another case, the water gave rise to the effect of slow poisoning by lead; and here again it was observed,—a fact hitherto not noticed by toxicologists,—that it was quite transparent when first drawn, and only acquired an incrustation of carbonate of lead after being exposed to air for some time. In this instance, the water contained a large proportion of saline matter (the 4,460th part;) but on analysis this chiefly consisted of chlorides,—the salts which have the least effect in preventing the action of water on lead; while the really preventive salts, commonly contained in terrestrial waters (sulphates and carbonates,) were present only in the minutest traces. Polished lead was found to be tarnished by it in a few hours. The remedy adopted in this case was to keep the pipes constantly full of a solution containing a 27,000th of phosphate of soda. After the lapse of about three months, it was found that the water contained no traces of lead.

This last case establishes, that it is impossible to determine merely from the quantity of saline matter contained in water, whether it is liable to become impregnated with lead or not. The salts may be of a nature to have little or no *protective influence* in the proportion in which they exist.

Dr. Christison has found by his experiments, that the compound produced under these circumstances is not, as it is commonly supposed to be, a pure crystalline carbonate of lead, but that it is formed of two equivalents of carbonate of lead with one equivalent of hydrated oxide of lead. This compound is permanent in the air, and is only converted to neutral carbonate by suspending it in water and treating it with a stream of carbonic acid gas. It would appear from the analysis of Mulder, confirmed by that of Christison, that even the white-lead of commerce is not a pure carbonate, but a compound of four equivalents of carbonate to one equivalent of hydrate. The most simple method of preventing water from acquiring a poisonous impregnation by lead, available under all circumstances, is that of allowing it to remain for some months before use in the pipe or cistern. This gives time for a firm crystalline deposit of carbonate to attach itself to the surface of the metal, whereby all further action is prevented. It is not uncommon to find this deposit regarded by ignorant persons as the result of the hardness of the water;—it is scraped off and a fresh surface of metal exposed, so that in a case of this kind, water from a particular cistern may have been for a long time used with impunity,—and yet suddenly give rise to symptoms of lead-poisoning, probably to the surprise of the medical attendant and the parties affected.

The conclusions of Dr. Christison are of so much importance in a medical view, that we hear subjoin them. 1. Lead pipes ought not to be used for the purpose of conveying water, at least where the distance is considerable, without a careful chemical examination of the water to be transmitted. 2. The risk of a dangerous impregnation of lead is greatest in the instance of the *purest* waters. 3. Water which tarnishes polished lead when left at rest upon it in a glass vessel for a few hours, cannot be safely transmitted through lead-pipes without certain precautions. Conversely, it is probable, though not yet proved, that if polished lead remain untarnished, or nearly so, for twenty-four hours in a glass of water, the water may be safely conducted through lead-pipes. Water which contains less than about an 8000th of salts in solution, cannot be safely conducted in lead-pipes, without certain precautions. 5. Even this proportion will prove insufficient to prevent corrosion, unless a considerable portion of the saline matter consist of carbonates and sulphates, especially the former.

(*To be Continued.*)

THE

British American Journal.

MONTREAL, JULY 15, 1845.

ON BILLS OF MORTALITY.

It has often been with us a matter of surprise, that in this colony receiving a large annual immigration, with a population continually augmenting from that and natural causes, not the slightest attempt has as yet been made to ascertain with precision the diseases to which the inhabitants are chiefly incident in different localities. As far as the villages, which are thickly studded over the Province, are concerned, a measure having this object in view could be easily carried into effect, and with comparatively very little trouble; but the results could scarcely be viewed as so useful, or important, as those of a similar measure in the cities, the populations of which increase in a far greater ratio, and the vital statistics of which, when once obtained, might very legitimately be extended to the country parts in their vicinities. If the magistracy, in whose hands the sanatory regulations of the cities formerly reposed, had not their attention directed to the subject, or if so, were unable, from what cause soever the inability may have arisen, to carry a suggestion of the kind into effect, the several corporations on whom these duties now devolve, having by parliamentary enactment been invested with ampler powers, and the means to employ them more effectively and to better advantage, ought to direct their attention to the subject, and perfect a measure of the kind within their respective jurisdictions. There are very few cities in the United States of any note, and as few also in Great Britain and the European Continent, whose civic authorities have not bestowed some attention to this matter, the weekly or monthly results being published in the form of bills of mortality.

As the object which is sought to be attained, is the number of interments, and the specific diseases which resulted in a fatal issue, the bills are usually constructed

in a tabular form, the mode of arrangement being found to vary in different cities. In the London bills of mortality a subdivision of the diseases is first effected into two classes: 1. Zymotic or epidemic, endemic and contagious; and 2d—Sporadic. These may be subsequently subdivided into sections. The first class is not usually further extended, but the second is, the sections of it referring the diseases to their seats, whether of the nervous centres, the thoracic viscera, the abdominal viscera, of uncertain seat, or specific. The diseases are not usually specified, unless they appertain to one of the two last sections; but in this manner a general view is given of the causes of mortality, the number of deaths referred to each section, being expressed opposite the respective heads. In the London reports, however, the ages are not given, which seems to be a great desideratum, and deprives them of a great portion of their value for minute statistical purposes.

For the city and county of New York the bills of mortality differ considerably from those of the British metropolis. The diseases are all distinctly specified, and the number of deaths from each disease placed opposite. The report is concluded by a summary of the mortality at the different ages. The minuteness of detail conspicuous in these reports, renders them of great value.

In the execution of a similar measure in this and the other corporate towns of this Province, we do not think that any obstacles can exist which could not be easily surmounted. The required information, as to the age and disease of the deceased, might be easily obtained by the clerks of the different cemeteries from the friends any time before the interment has taken place, the latter information being furnished by the medical attendant to the friends for the purpose. The duty, which would thus be entailed upon the clerks of the burial-grounds, should be rendered compulsory, and they should make stated returns to an officer of the corporation, appointed to receive and embody them into a report.

While thus alluding to the mortality of this city, and the measures which should be forthwith adopted for estimating its extent and its causes, we cannot forbear recording our opinion of its increasing salubrity, and consequent diminishing mortality. This fact may be gleaned from its vital statistics since the year 1831. In that year a census of its population was taken, allotting to it 27279 inhabitants. Another census was taken in 1842, its population then being 40,536. A third was taken last year, when it was found to be 44,093. It thus appears, that in eleven years, from 1831 to 1842, the numerical increase of its population may be represented by 13,257. As no census was taken between the years just mentioned, we have apportioned, in order to arrive at an annual average population, the increase equally to each intervening year, and although an objection may lay against the correctness of this procedure, in consequence of the enormous mortality of 1832 and 1834, which should effect a reduction of population proportionate to the ravages which the cholera then produced, and which we have not taken into account, we yet think that the results will not be very materially influenced by the omission.

Year.	Males.	Females.	Total.	Population.	Rate of Mortality to Population.
1831,	...	...	—	27,279	... —
1832,	2239	1192	3131	28,484	... 1 *a* 8.30
1833,	740	638	1378	29,689	... 1 *a* 21.54
1834,	1044	1030	2074	30,894	... 1 *a* 14.89
1835,	511	452	963	32,099	... 1 *a* 33.33
1836,	591	534	1125	33,304	... 1 *a* 28.71
1837,	849	771	1620	34,509	... 1 *a* 21.30
1838,	589	578	1167	35,714	... 1 *a* 30.60
1839,	872	798	1670	36,919	... 1 *a* 22.10
1840,	812	680	1492	38,124	... 1 *a* 25.55
1841,	950	932	1882	39,329	... 1 *a* 20.89
1842,	1048	1037	2085	40,536	... 1 *a* 19.44
1843,	1040	955	1995	42,314	... 1 *a* 21.21
1844,	929	850	1779	44,093	... 1 *a* 24.78

It is evident from an inspection of the foregoing table, that since 1842, the year subsequent to that in which the city was incorporated, there has been a steady decrease in the mortality of its inhabitants. The increase in 1842, was probably owing to the opening of the old sewers, and the necessary operations connected with an extensive system of drainage, which was that year in active progress, and which is scarcely yet completed. It is to the perfect system of drainage, coupled with a more thorough ventilation of the city, and the strictness with which the police regulations as to cleanliness, are carried out—points in which this city may now vie with any other in America or Europe—that such beneficial results are to be attributed; and although much still remains to be done, yet it cannot but be a matter of congratulation, that the labours of our civic authorities have been in the meanwhile crowned with such a signal and happy result. In this result we witness the effect of an enlightened and liberal policy. The advantage is not one which strikes the eye, and excites the wonder and admiration of the many; and though the regulations necessary may often have met with a thankless acquiescence, or even active opposition, it ought to be a matter of satisfaction to the civic authorities themselves, and ought to call forth a pleasing expression of satisfaction from those so signally benefitted, that the life and happiness of the inhabitants of this prosperous city, have been protected year after year with an increasing success.

STRICTURES ON THE MEDICAL BILL.

Passing over the first clause of the Medical Bill, which provides for the abolition or repeal of the Provincial Statutes now in force, in both Canada East and West, for regulating the *Practice* of Physic, &c., we arrive at the second and third clauses, which involve

what may be deemed the *principle* of the measure, and are of high importance, inasmuch as they directly bear on the preliminary education of those who design to enter the Profession, and which, if carried out in their full spirit, cannot fail to elevate its character throughout the Province. Far be it from us to undervalue the pretensions to more than mere respectability to which the medical profession may justly even now lay claim; far less would we insinuate aught against those junior members of it, who have received their licenses from the medical boards within the last ten years, during which no legal enactment directed their studies in a proper channel, or compelled the fulfilment of a prescribed *curriculum*. We cannot however but observe, that this want of Legislative interference has been the occasion of serious evils; for although some did give ample evidence of having prosecuted their studies in a proper manner, a large proportion, in a conscious freedom from control thereby engendered, obtained their knowledge, at the best but superficial, through other channels, in accordance with the dictates of their fancy or caprice. The fact which we announce may elsewhere excite surprise, but it is a question to whom the greater blame should attach, the individuals who have profited by the temptation of easily obtaining medical licenses, or the government which has permitted it.

That the character of the Profession is closely dependant upon the education of its members, is a question which few will dispute; and that the degree of its elevation will be commensurate with its scale of professional knowledge, none we apprehend will deny: and while it will be admitted that almost any compulsory system of education, however limited it may be, is better than none, it is an object of no small magnitude, in dealing with such a subject, to proportion it justly and directly to the necessities of the case. In this Province which is comparatively speaking a new one, whose population is small, and the pecuniary resources of the inhabitants not over ample, nothing beyond a medium course of preliminary education should be insisted on: it should be the duty of the government, to avoid the two extremes, on the one hand of an inefficient course of study, because insufficient to the end in view; and on the other, of one too ornamental, because in all its parts not *absolutely* necessary. We would have every aspirant to the Profession, know every *essential* part, and know it well. In these observations, however, it will be recollected, that the Legislation is intended for the Licentiates of the Medical Boards, in preparing for which a thorough knowledge of the practical branches only of the Profession should be demanded, while we would leave to those who are solicitous of University honours, the prosecution of the more extended *curriculum* prescribed by the colleges on that behalf.

Filling up the blanks in the two educational clauses of the Bill, and correcting what is an obvious error, the classification of Practical Anatomy and Clinical Medicine and Surgery with the *lectures* on the other branches of Medical Science enjoined, the duration of the courses of which is specified, the *curriculum* of the Medical Boards will stand as follows:

That the candidate is at least 17 years of age, that he has received a liberal education, and that he possesses a competent knowledge of the classics.

Satisfactory proof of these is to be afforded to the Medical Boards, *at the time of commencing his studies*, which are then to extend over a period of four years, at the expiration of which he is to furnish testimonials of attendance on the following branches of medical education, taught at a University College or Incorporated school of medicine, in attendance on which two out of the four years of study at the least are to be occupied.

Anatomy and Physiology; Chemistry and Pharmacy; Materia Medica; Theory and practice of Physic; Principles and practice of Surgery; Midwifery and diseases of women and children.	Two courses of each. The courses to continue for six months; the number of lectures in each course 120; and each lecture of one hours duration.

Clinical Medicine and Surgery—Two courses.
Practical Anatomy—Two courses.
Hospital attendance—one year.

In this schedule we have purposely detached Clinical Medicine and Surgery, and Practical Anatomy from the other branches, because, although the courses of the first may extend over a period of six months, yet the number of lectures during the week seldom exceeds, in British schools of medicine, two or three, thus reducing their number considerably within that of the other courses, and lectures on Practical Anatomy are no where delivered; these errors, however are venial, and admit of easy correction. We think that it might be still further improved by demanding of the candidate proof of having attended at least a certain number of cases of Midwifery.

The third clause, however, contains two provisos, one of which has a retroactive influence, and bears upon students who have commenced their studies within two years and a half before the passing of the act, who are by it compelled to follow one of the courses of lectures above specified. Although from principle we are opposed to retroactive Legislation, cases do some-

times occur in which such a practice may be extenuated, in which it may be even justified, and of such cases this is one. It deprives the student of no inherent right, it robs him of no valued privilege; its immediate object is his improvement in professional knowledge, its ultimate object is a benefit conferred upon the community, among which he may afterwards reside, insuring his possession of ampler qualifications for the due fulfilment of his duties.

Such then is the nature of the educational clauses which the bill provides for the student of Medicine. It will be observed to embrace a detail of those branches *only* of medical science with which he *ought* to be perfectly familiar. It will be impossible for him to complete the *curriculum* in two years; it must from its nature demand a longer period for its fulfilment, a period, which might with great propriety extend over the whole time of his pupilage.

In our observations upon the clauses which we have just passed in review, we have refrained from any observations on the manner in which they are worded.—We of the Medical Profession, plain, straightforward men, and fond of peace, abominate ambiguities, especially in legal documents, and feeling perfectly assured that the Medical Boards of the Province, whose duty it will be to carry the measure into effect, will participate warmly in this sentiment, we conceive it quite sufficient, in the mean time, merely to direct attention to their general phraseology, that it may be modified before the ensuing session of the Provincial Parliament. Our remarks are based upon what we conceive to be the spirit of the Law, not by any means upon its letter.

The following appointments have been made in the Faculty of Medicine of the University of M'Gill College since the issue of our last number.

James Crawford, Esq. M.D. to the Chair of Clinical Medicine and Surgery.

Robert Macdonnell, Esq. M.D. (late of Dublin, Ireland,) to the Chair of Institutes of Medicine.

William Fraser, M.D. to the Chair of Forensic Medicine.

The Faculty of Medicine of the University is now composed as follows:—

A. F. Holmes, M.D. M'Gill Professor of the Theory and Practice of Medicine.

G. W. Campbell, M.D., Lecturer on the Principles and Practice of Surgery.

A. Hall, M.D., Lecturer on Chemistry and Pharmacy.

M. M'Culloch, M.D., Lecturer on Midwifery and Diseases of Women and Children.

O. T. Bruneau, M.D., Lecturer on Anatomy and Physiology.

S. C. Sewell, M.D., Lecturer on Materia Medica and Therapeutics.

James Crawford, M.D., Lecturer on Clinical Medicine and Surgery.

R. Macdonnell, M.D, Lecturer on Institutes of Medicine.

W. Fraser, M.D., Lecturer on Forensic Medicine.

Alexander Long, M.D., Demonstrator of Anatomy.

The Chair of Botany has not yet been filled up.

MONTHLY RETURN OF SICK IN THE MARINE AND EMIGRANT HOSPITAL, QUEBEC, FROM THE 1st TO THE 31st MAY, 1845.

DISEASES AND INFIRMITIES.

Febris*	10	Syphilis†	33
Febris Intermit.	3	Strict. Urethræ	1
Urticaria	1	Hernia	1
Pneumonia	5	Fractura§	7
Phthisis	1	Abscessus‖	6
Bronchitis	1	Ulcus	11
Catarrhus	1	Vulnus	7
Asthma	1	Contusio	19
Enteritis	1	Subluxatio	5
Dyspepsia	1	Ustio	5
Rheumatismus†	32	Gelatio	3
Diarrhœa	3	Tumor	1
Cynanche	1	Phlegmon	3
Scrofula	1	Amputatio¶	3
Ophthalmia	5		
Orchitis	6	Total	178

NUMBER OF PATIENTS TREATED DURING THE MONTH OF MAY.

Admitted	178	Discharged	55
Remaining	122	Died	3
Total	300	Total	58

JOSEPH PAINCHAUD, ESQ., M. D., *Physician.*
JAMES DOUGLAS, ESQ., *Surgeon.*

* Generally severe; two or three marked cases of typhus with disposition to head affection.

† All Seamen; the cases generally chronic.

‡ Cases always of some standing, having been contracted in Europe. Through the injudicious use of mercury on the passage frequently great destruction of parts.

§ One case of fracture of the thigh; one of the patella; one of the arm; one compound of the finger; one compound of the great toe; one of the bones of the nose; one compound of the head. This last fracture was produced by a heavy piece of coal falling from a height of forty or fifty feet upon the man's head.—The fracture extended from the upper and posterior part of the parietal bone, through the lambdoid suture, down to the base of the *cranium*. There were extensive lacerations of the integument, and the bones were laid bare to a large extent. The man is doing well.

‖ One is worth mentioning. A lad who for some time was in an hospital in Europe, and who was supposed to have a psoas abscess, was *admitted* here in the latter end of May. It was ascertained that the collection of pus which found its exit in the left groin, was situated in the true pelvis about the rectum and the neck of the bladder. A quantity of purulent matter has been voided by the rectum, and lately the urine and occasionally flatus have found their way through the same opening. The intestines after having been very much disturbed for some time, perform their function naturally and well.

¶ Of these one case was of the lower extremity, necessitated in consequence of the application of a light bandage to arrest the bleeding of a wound on the *dorsum pedis*. It remained applied two or three days and produced extensive sloughing.

J. E. J. LANDRY, *House Surgeon.*

REPORT OF THE MONTREAL GENERAL HOSPITAL FOR JUNE.

DISEASES AND ACCIDENTS.

Abscessus,	2	Hœmatemesis,	1
Albuminuria	1	Hœmorhoids,	1
Ascites,	1	Hepatitis,	1
Bronchitis,	8	Leucorrhœa,	1
Bubo (Sympathtic)	1	Lupus,	1
Concussion of Spine	1	Lepra,	1
Contusio,	10	Morbus Coxarius,	1
Cynanche Tonsillaris ,	2	Neuralgia,	1
Delirium Tremens,	3	Orchitis,	1
Diarrhœa,	7	Œdema,	1
Dislocatio (Humeri)	2	Ophthalmia,	8
Dyspepsia,	9	Pompholyx,	1
Dysentery,	1	Phthisis,	4
Dysuria,	2	Pleuritis,	1
Erysipelas,	4	Rheumatismus,	20
Epilepsy	1	Syphilis (Primary)	6
Entropion,	1	—— (Secondary)	2
Febris Com. Con.	14	Ulcus,	10
—— Intermit,	1	Variola,	2
—— Typhus,	26	Vulnus,	1
Fractura,	4		
Herpes,	1	Total,	168

Dr. Bruneau, Dr. Hall, } Attending Medical Officers.

NUMBER OF PATIENTS TREATED DURING THE MONTH OF JUNE.

Remained,	73	Discharged, Cured,	58
Admitted,	95	Died,	5
		Irregular conduct,	2
Total treated,	168	Remaining,	103
		Total,	168

IN-DOOR PATIENTS TREATED.		OUT-DOOR PATIENTS TREATED.	
Belonging to Montreal,	87	Belonging to Montreal,	230
Immigrants,	64	Immigrants,	55
Seamen,	17	Seamen,	11
Total,	168	Total,	296
Males,	102	Males,	170
Females,	66	Females,	126
Total,	168	Total,	296

Alexander Long, M. D., *House Surgeon.*

In accordance with the declaration expressed in our last number, we have stopped the issue of the Journal to those who have not advised us to the contrary. In acting in this manner, we have desired to give no offence whatever, nor do we think that any *should* feel themselves aggrieved, when they reflect that it is in consequence of their own non-compliance with our distinctly expressed wish, that the circumstance has happened. We are happy to state, that the subscription list is now large, quite sufficiently so, to cover all the incidental expenses connected with the publication of a Journal of this magnitude; and feeling ourselves thus secure from ultimate loss in the undertaking, we have resolved to act independently. A journal, advocating the interests which have been detailed in our Prospectus, ought, we apprehend, to receive a liberal support in this colony;—while the flattering notices of our labours by *competent professional judges*, in the sister Republic, sufficiently, (while we deeply thank them for them) demonstrate that our periodical is *worthy* of it: it remains then to be seen whether the profession here will generally sustain it. The trifling sum at which the annual subscription is placed—so low, as to preclude the idea of *profits* arising to us from the enterprise—can be surely no impediment to its very general circulation.

BOOKS, &c. RECEIVED.

Message from His Excellency the Governor-General. with reports on a Geological Survey of the Province of Canada, by W. E. Logan, Esq. *Provincial Geologist*, presented to the House, 27th January 1845.

Report of the Bloomingdale Asylum for the Insane, 1844.

The St. Louis Medical and Surgical Journal. St. Louis, Missouri, June, 1845.

Transactions of the College of Physicians of Philadelphia from November 1844 to March 1845.

Philadelphia Medical Examiner, July 1845.

Boston Medical and Surgical Journal, No. 19, 20, and 23. The intermediate numbers have not reached us.

TO CORRESPONDENTS.

Letters have been received during the month from Prof. Croft, (King's Coll. Toronto,) Drs. Crasset and Dr. Rees, (Toronto,) George Varey, Esq. (Niagara,) Dr. Duggan, (Hamilton,) Dr. Gauvreau, (Riviere du Loup,) Dr. J. A. Gilchrist, Cobourg, Dr. Beatty, (Cobourg,) Dr. Wight, (St. Johns,) *with enclosures from each.*

We also acknowledge receipt of letters from Dr. Johnstone, (Sherbrook,) Dr. Jacques, (Melbourne,) Dr. Robertson, (Lachute,) Dr. Howard, (Kingston,) Dr. Bicknell, (Clark's Mills,) Dr. Chartrand, (St. Vincent de Paul,) Dr. Jackson, (Quebec,) Wm. Rae, Esq. (Hamilton,) Dr. Lawrence, (St. Andrew's.)

To Prof. Croft, *an answer was returned by post.*

The transactions to which Dr. Grasset *alludes will be received with pleasure, and will meet with attention. Would* Dr. G. *prepare short reports of the meetings alluded to; papers of importance might be afterwards inserted at length.*

From Dr. Taylor, (Ristigouche,) *Every exertion has been in the meanwhile made, but unsuccessfully. There have been several applicants, but none suitable. After the next meeting of the Medical Board for this district, (first Tuesday in August,) there is some likelihood of his desire being accomplished.* Dr. T. *will receive a private letter at that time. A parcel for* Dr. Jacques, (Melbourne,) *has been deposited in the hands of the Editor.* Dr. J. *will please advise on the subject. The missing numbers to* Dr. Hodder, (Toronto,) *have been forwarded; a misunderstanding had arisen.* Dr. Jackson, (Quebec), *will oblige us by sending us the reports regularly as they appear, or by getting the author of them to do so. The journal has been sent to* Dr. Mullin, (Hamilton,) *as advised by* Dr. Duggan.

Several communications are crowded out. We instance, Dr. Stewart's "*remarks on a case of poisoning by Tr. of Opium.*" Dr. M'Culloch's *case of Cæsarian Operation.* Dr. Marsden's "*observations on Malignant Pustule;*" Dr. Bowie's *Report* "*on the Diseases of Immigrants for the Port of Montreal;*" *a paper on* "*the Ornithology of the District of Montreal,*" *and several others.* Mr. Rae *will perceive that about the half only of his paper can receive insertion in the present number; his observations in his letter will receive attention, and probably insertion in a future number.*

MONTHLY METEOROLOGICAL REGISTER AT MONTREAL.—June, 1845.

Date.	Thermometer.				Barometer.				Winds.			Weather.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+51	+80	+67	65 5	30.23	30.02	29.98	30.07	W. S. W.	S.W.byW.	S. W.	Fair	Fair	Fair
2,	" 63	" 84	" 70	70.5	30.00	29.98	29.96	29.98	W.	W.	W.	Fair	Fair	Fair
3,	" 71	" 90	" 71	80.5	29.93	29.96	29.93	29 96	W.	W.	W.	Fair	Fair	Fair
4,	" 67	" 87	" 72	77	30.00	29.95	29.85	29.95	S. W.	S.W.byW.	W. S. W.	Fair	Fair	Fair
5,	" 65	" 70	" 53	57 5	29.72	29.86	30.01	29.87	N. W.	N.W.	N. W.	Rain	Fair	Fair
6,	" 52	" 70	" 52	61	30.02	30.03	30.04	30.03	N.W.byN.	N.W.byN.	W. N. W.	Fair	Fair	Fair
7,	" 47	" 76	" 65	61.5	30.15	30.06	29.97	30.06	N. W.	N. W.	W. by S.	Fair	Fair	Fair
8,	" 64	" 86	" 75	75	29.86	29.72	29 60	29.73	W. S. W.	S. S. W.	W. by S.	Fair	Fair	Fair
9,	" 72	" 86	" 67	79	29.76	29.79	29.89	29.81	W. by S.	S. W.	S.W.byW	Fair	Fair	Fair
10,	" 68	" 83	" 66	75.5	30.00	29.98	29.89	29.96	W. by N.	W. by N.	W. by N.	Fair	Fair	Fair
11,	" 59	" 78	" 62	68.5	29.92	29.90	29.87	29.89	N.W. byN.	N. N. W.	N. N. W.	Rain	Fair	Fair
12,	" 64	" 67	" 64	65.5	29.76	29.83	29.54	29.71	S.W. by S.	S.W. by S.	S.	Cloudy	Clear'g	Rain
13,	" 66	" 78	" 65	72	29.70	29.91	29.74	29.78	W. S. W.	W.	W.	Fair	Fair	Fair
14,	" 58	" 74	" 56	66	29.80	29.86	29.98	29.88	W. N. W.	W. N. W.	N.W.byW	Rain	Fair	Fair
15,	" 54	" 71	" 58	62.5	30.14	30.06	29.90	30.03	N. N. W.	S. W.	W. S. W.	Fair	Fair	Fair
16,	" 61	" 70	" 56	65.5	29.86	29.84	29.83	29.84	W. by S.	W. by S.	S. W.	Cloudy	Fair	Cloudy
17,	" 53	" 66	" 54	59.5	29.87	29 94	30.00	29.94	W.	W.	W. by N.	Fair	Fair	Fair
18,	" 53	" 75	" 57	64	30.15	30.12	30.08	30.12	W. by S.	W. by S.	W. by S.	Fair	Fair	Fair
19,	" 60	" 80	" 64	70	30.14	30.14	30.13	30.14	W. S. W.	W. S. W.	W. S. W.	Fair	Fair	Fair
20,	" 62	" 80	" 64	71.5	30.10	30.03	29.83	29.99	W. by S.	W. S. W.	S.W.byW.	Fair	Fair	Fair
21,	" 60	" 77	" 54	68.5	29.85	29 87	29.90	29.87	N. W.	N. W.	N. W.	Fair	Fair	Fair
22,	" 52	" 77	" 62	64.5	29.97	29.87	29.79	29.88	N. W.	W. N. W.	W. N. W	Fair	Fair	Fair
23,	" 66	" 80	" 67	73	29.73	29 71	29.70	29.71	W. N. W.	W.	W.	Fair	Fair	Fair
24,	" 64	" 75	" 55	69.5	29.65	29.68	29.76	29.70	W. by S.	W. by S.	N.W.byN.	Fair	Fair	Fair
25,	" 56	" 70	" 55	63	29.97	29.93	29.88	29.93	N. W.	N. W.	N. W.	Fair	Fair	Fair
26,	" 58	" 76	" 60	67	29.92	29.89	29.83	29.88	W. N. W.	W.	W.	Fair	Fair	Fair
27,	" 56	" 75	" 62	65.5	29.94	29.92	29.87	29.91	W.	W. by N.	W. by N.	Fair	Fair	Fair
28,	" 58	" 70	" 63	61	29.84	29.82	29.77	29 81	N. N. E.	N. N. E.	N. N. E.	Fair	Sh' wrs	Sh' wrs
29,	" 54	" 65	" 56	59.5	29.80	29.90	29.97	29.89	N. N. E.	N. E.	N. E.	Rain	Rain	Cloudy
30,	" 56	" 70	" 55	63	30.03	30.02	30.01	30.02	N. E.	N. E.	N. E.	Rain	Cloudy	Fair

Thermometer, Maximum Temperature, 90° on the 3rd
Minimum " 51° " 1st.
Mean of the Month, 67° 75'

Barometer, Maximum, 30.23 Inches on the 1st.
Minimum, 29.54 " " 12th.
Mean of Month, 29.915 Inches.

OBSERVATIONS METEOROLOGIQUES POUR LA HAUTE VILLE DE QUEBEC,—Mai, 1845.

Jours.	Thermomètre.			Baromètre à 60° F			Vents.			Etat du Ciel.		
	6h.A.M.	MIDI.	6h.P.M.	6h.A.M	MIDI.	6h.P.M.	6h. A.M.	MIDI.	6h. P.M.	6h.A.M.	MIDI.	6th P.M.
1	44	49	50,5	29,814	29,702	29,588	S	S O	S O	pluie	bruine	nuages
2	45	45,5	48	29,553	29,611	29,592	S O	S O	N E	beau	nuages	couvert
3	45	52,5	52	29,741	29,833	29,753	S O	S O	N O	beau	quelq. nuages	couvert
4	39	49	44	29,828	29,769	29,598	N E	N E	N E	nuages	couvert	pluie
5	38	47,5	42,5	29,791	29,784	29,862	S O	S O	S O	beau	quelq. nuages	quelq. nuages
6	42,5	59,5	59	29,898	29,820	29,656	S O	S O	S O	beau	nuages	nuages
7	43	47	37	29,604	29,561	29,715	N E	N E	N E	nuages	nuages	pluie
8	42,5	38,5	39	30,001	30,003	29,956	N E	N E	N E	beau	beau	beau
9	36	45,5	42	30,049	29,113	30,172	N E	N E	N E	nuages	couvert	beau
10	40	59	58	30,322	30,238	30,050	S O	S O	S O	quelq. nuages	couvert	couvert
11	47,75	75,5	63	29,899	29,863	29,853	S O	S O	N E	nuages.	quelq. nuages	nuages
12	50,5	51	54,5	29,897	29,959	30,015	N E	N E	N E	beau	nuages	nuages
13	45,5	55	51,5	30,059	29,979	29,825	N E	N E	N E	nuages	quelq. nuages	beau
14	47	80	78,75	29,744	29,594	29,423	N E	S O	S O	couvert	beau	couvert
15	45,5	46	41,5	29,573	29,698	29,755	N E	N	N	pluie	pluie	couvert
16	40	47,5	50	29,991	29,997	29,978	S O	N E	N E	beau	beau	beau
17		63	63		30,048	29,992		S O	N E		beau	beau
18	49	50	48,5	29,940	29,800	29,701	N E	N E	N E	pluie	couvert	pluie
19	45	51½	56	29,686	29,609	29,634	N E	N E	E	pluie	couvert	pluie
20	47		64	29,712		29,626	S	S O	S O	bruine	nuages	beau
21	46	55	50	29,874	29,841	29,885	S O	S O	S O	couvert	couvert	quelq. nuages
22		56,5	56,5		29,895	29,797		S O	S O		beau	couvert
23	50,5	65	63	29,790	29,711	29,638	S O	S O	S O	beau	nuages	couvert
24		54	56		29,829	29,813		S O	S O		nuages	nuages
25	40,5	52	51,5	29,793	29,778	29,675	S O	S O	S O	couvert	couvert	couvert
26	45	49	52	29,507	29,413	29,447	S O	S O	N O	couvert	pluie	nuages
27	55	57	62	29,753	29,774	29,692	S O	S O	S O	beau	beau	beau
28	58	83,5	68	29,619	29,406	29,481	S O	S O	S	couvert	couvert	pluie
29		16	44,5		29,867	29,948		S O	N E		pluie	couvert
30	42	52	50,25	30,038	30,044	30,027	N	S O	N O	nuages	quelq. nuages	beau
31	45	64	65,5	30,123	30,056	29,989	S O	S O	S O	nuages	beau	beau