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MEDICAL DEPARTMENT.

ART. LV.—*Introductory Lecture* delivered at the opening of the Faculty of Medicine, University of McGill College, November 5, 1860, by D. C. MACCALLUM, M.D., Professor of Clinical Medicine and Medical Jurisprudence.

GENTLEMEN,—Our first duty in meeting together for the first time in this new and beautiful lecture room, is to pay a tribute of respect to the memory of one who during his life time held the most prominent position amongst the Medical Faculty, who was one of the original founders of the medical school of McGill College, who was always the conscientious and indefatigable supporter of its best interests, and the warm and faithful friend of its alumni. I refer to Dr. Andrew F. Holmes, late Dean and Professor in this University. To the majority of those I address, he was personally known, and I am certain that the hearts of many of you, even as I speak, will bear silent witness to the truth of what I now say, that loved and respected as he was by all, he was *most* loved and respected by those who knew him best. His was one of those quiet and undemonstrative natures that attract not the giddy and thoughtless many, but that are appreciated thoroughly by the discriminating few. Around men such as he was, cluster home affections, the loves of kindred and the truest friendships. The deep warm current of feeling underlying the cool and placid surface of mere manner, is only known to those who have taken the trouble to sound carefully the depths of such hearts.

Dr. Holmes, as you well know, was universally and deservedly esteemed in this city, for that high sense of duty towards his God and towards his fellowmen, the possession of which invariably characterizes the true Christian. No person, I firmly believe, ever felt more sincere anxiety to know what were his duties in all the relations of life, or performed these duties with more unswerving conscientiousness, when he once fully understood in what they consisted. During his connection with this medical school, from the time he associated himself, about the year 1824, with the late Drs. Robertson, Stephenson, and Caldwell, in its

establishment, down to the period of his sudden demise, he laboured unceasingly for its advancement. Many able men have, at various times, been connected with it as lecturers or professors; but not one ever had its welfare more at heart or strove more earnestly and assiduously for its success. To Dr. Holmes, then, the last of the founders of this school, to his talented co-founders and their able successors, now no more, and to the older members of the present faculty, belongs the honour of placing McGill College in the proud position she now occupies in the estimation of the public, both at home and abroad, as a flourishing and successful school of medicine.

In the practice of his profession he was everything that a true physician ought to be:—courteous, kind, attentive, considerate, cautious. His sympathies were ever with suffering humanity. The querulous complainings of the sick, the stories of their manifold trials and sorrows, fell not upon an impatient or inattentive ear. The sympathizing countenance, the word of comfort, and the encouraging tone of voice were ever ready with him to soothe the pain-racked victims of disease, to cheer the mourning and desolate ones, and to raise the fearful and downcast.

In the life of Dr. Holmes, moral, social and professional, you and I, gentlemen, have an example which we would do well to closely follow. Strive, then, to live as he lived, and whether or not the summons to quit this weary world comes to you in as sudden and unexpected a manner as it came to him, happy and peaceful will be your end; for what saith the inspired Psalmist—"Mark the perfect man, and behold the upright, for the end of that man is peace."

"Knowledge," says Addison, "is that which, next to virtue, truly and essentially raises one man above another. It finishes one-half of the human soul." Would you test the truth of this assertion, gentlemen? Then, look abroad into the world, and single out from the community of nations those that occupy the most commanding positions—whose might is feared—whose friendship is courted, and whose counsels are respected: examine into the causes of their superiority to other nations, and you will find the most prominent one to be—that they excel in knowledge. Look around you—and, whether you reside in a city—a town, or a village hamlet, what do you observe? Who are the men most honored and respected in the community, who are the men of power and influence, who fill the places of trust and usefulness? Are they not emphatically, as compared with their neighbours, the men of knowledge? Knowledge, then, must be desirable. "A certain degree of ease and independence," says Dugald Stewart, "is essentially requisite to inspire men with the desire of knowledge." I must confess to differ with this astute philosopher, as I believe that all men are actuated, to a greater or less degree, by a desire to acquire knowledge. Various existing circumstances, such as mental capacity of race, state of civilization, &c., inasmuch as they increase or diminish the motives which originate the desire, undoubtedly determine, not only what shall be the extent of the desire but also what shall be the kind of knowledge desirable. If, however, we except Cretins of the first degree, in whom every ray of intelligence is absorbed by the

gloom of absolute fatuity, and who are capable of experiencing merely sensorial pleasure, it is questionable if there exist a class of human beings, who do not evince by their actions, a strong desire to become acquainted with many things external to themselves. In a barbarous state, the desire is most limited, and the determining motives in its production are of the lowest order. Man, in this condition, prompted by sensations of hunger, and his experience of the necessity of providing suitable covering to defend his body from vicissitudes of temperature, seeks to know what of vegetable, and what of animal life are best adapted to supply his wants. To learn the haunts and habits of the various animals that roam through the forest wilds—to become acquainted with the more palatable and healthful edible fish that frequent the lakes and rivers—and to ascertain which are the esculent among the fruits of the earth, appear to constitute almost the whole of his desire.

In a state of semi-barbarism, advance in civilization brings with it added wants—increased motives, and, as a consequence, a more extended desire. He would now know by what processes the varied products of nature may be so altered from their original conditions, as to afford increased gratification to his senses and additional pleasure to his mind. Impressed with a sense of the magnitude and importance of nature's operations, he would know somewhat of the *how* and the *wherefore* of her mysterious workings. Limited in his powers, and unenlightened by a revelation of truth, he *deifies* much that inspires him with awe or terror. He peoples the air, the earth and the water with innumerable gods, and renders grovelling homage to the most disgusting objects of creation.

Some idea may be formed of the might of this desire, and of the all-powerful grasp with which it seizes while it directs the minds of men in a state of complete civilization by reflecting on the untiring energy, displayed by the great intellects of the civilized countries of Europe and America in their pursuit of knowledge; and the marked avidity with which the masses endeavour to acquaint themselves with all the discoveries of the master minds.

Thus it is, that one man passes night after night contemplating the movements of the heavenly bodies, or gazing, by means of the telescope, into the far-away regions of space, if haply he may be able to add something to his own knowledge and that of his fellows; whilst another, actuated by the same desire, wanders through different climes, observing, arranging and naming the various natural productions of and animals peculiar to each; or accumulating information regarding the characteristics of the inhabitants, the climate, the qualities of soil the mineral wealth and the general aspect of each. Thus it is, that one man will make the trackless ocean the field of his wanderings, and, leaving all the sweet allurements and endearing associations of *home*, take himself away to where the cold seems intense enough to paralyse anything but the indomitable bravery and perseverance of the Arctic voyager, in the hope of discovering a passage through the glacial barrier of the Polar Seas; whilst another will court retirement and spend days and nights in the study of the properties and probable nature of that part of himself which he can more particularly call I. Thus it is, that earnest enquirers have been found willing, in all ages, to forego every pleasure, to labour under the obloquy poured upon them by an unthinking and superstitious world, so that they might attain the great object of their

desire—to know the construction of the beautiful, intricate and truly wonderful machinery of the human body; whilst others, again, with a courage and self-devotion that cannot be too highly lauded, have quietly faced the grim king of terrors in his most favorite haunts, for the sole purpose of becoming acquainted with those dread diseases, which, in their visitations, so scourge vex and decimate the human race. In the confined and filthy chamber, where a few straggling rays of heaven's sun may occasionally penetrate, the abode and hiding-place of want and wretchedness: in the densely crowded boarding-house of the homeless and poverty stricken wanderer, the Ishmaelite of modern and civilized times: in the dank and noisome alley or court, full of garbage and excrement, the receptacle of the accumulated filth of years: in the Lazar house or hospital ward, with their atmosphere laden with the emanations arising from the prostrate victims of disease, and charged with a miasm of the most subtle and deadly nature: in such places, have these heroic souls, worked a short but glorious space of time, in singleness of heart and nobleness of purpose, for the benefit of humanity, and then died martyrs in the purest sense of the term, leaving behind them a bright example to their followers in their deeds of love and mercy, and a valuable legacy to all generations in the knowledge patiently accumulated by them at every moment, even while the shadow of death with gradually deepening gloom stole o'er their senses, obscuring and rendering more and more indistinct the subjects of their observation and study.

What for, gentlemen, are you in this lecture room? Why have you left your homes for a period of six months, and congregated in the halls of this college? When you left those homes how full of soul yearnings and aspirations were you! Yearnings incomprehensible mayhap to many of you, but which are innate to us all; which constitute a feature of the mind of man, stamped indelibly there, and to be transmitted to his offspring through all time, at the period when thoughtless mother Eve turned a too willing ear to the voice of the tempter and, at his suggestion, put forth her hand, plucked and ate of that forbidden fruit, which, in its ingestion, was to make her like unto the Gods and give her a knowledge of good and evil. It is not because your parents or friends have selected medicine as a profession for you, nor, I firmly believe, from any purely sordid or interested motives that you have experienced those stirrings within you. Were you to remain without any well defined course of life open before you, still would you feel a gnawing unsatisfied desire to know the other, and still the other. The mind is active and will not rest. It will seek knowledge, although perdition be the result. Well has it been observed by Montesquieu in his "*Essai sur la gout.*" "Notre âme est faite pour penser, c'est-à-dire pour apercevoir: or un tel être doit avoir de la curiosité; car, comme toutes les choses sont dans une chaîne où chaque idée en précède une et en suit une autre, on ne peut aimer à voir une chose sans désirer d'en voir une autre. C'est donc le plaisir que nous donne un objet qui nous porte vers un autre; c'est pour cela que l'âme cherche toujours les choses nouvelles, et ne se repose jamais." Oh! this insatiable thirst, these measureless longings for what to us are the regions of the unknown. How they whip and goad and spur the panting soul from childhood to youth, from youth to manhood, from manhood to old age; and yet, after the

most super-human efforts have been made, and the man stands at the brink of the grave, how exceedingly paltry and small does his stock of knowledge appear. He feels as if he had gathered a few of the pebbles only from the shores of the knowable, while the vast ocean itself stretches out before him unexplored. "I live joyless in my eighty-ninth year," writes the great Humboldt to his friend Varnhagen, "because of the much for which I have striven from my youth, so little has been accomplished." So it is, and so it always will be! Despite his loftiest attainments, man always feels an intellectual want that must be satisfied, an intellectual void that must be filled. And, what is most singular, the more varied and profound his knowledge, the deeper he may have penetrated the arcana of nature, the richer and more glorious the truths he may have brought from thence, the more weak and ignorant does he appear to his own scrutinizing introspection. What distinguished talent! What indefatigable perseverance! What rare industry! What accumulated stores of learning has such a one, exclaim a wondering public, who are conscious that an incalculable distance intervenes between their own acquirements and his. Whilst he, the scholar and wise man, according to the testimony of all, in view of the higher and still higher heights of truths remaining to be scaled, and whose outlines are appreciable to his exalted sense alone, in view of the ever-widening and ever-lengthening vista that opens up before him as he pursues his travels into regions of thought and territories of investigation which were never before penetrated, bewails his own littleness, his want of energy and mental vigour, for knowledge, as a rule, certainly has the effect of making its most favoured votaries, the humblest and least self-conceited of men. He regards the three score years and ten allotted to man in this state of existence, a mere fleeting point of time, all too short a period in which to grasp even a tithe of what presents itself for investigation, and he, therefore, looks hopefully forward to an infinite future, where his soul may bathe without check or limit in the pure, unchangeable waters of truth.

The desire for knowledge, then, has doubtless brought you here. And the knowledge you seek is of that special kind included in what is termed a medical education. It is not necessary for me to enter upon a particular description of the different branches into which medicine is divided, as you will soon become practically acquainted with them. Suffice it that I make a few very general remarks on the causes that have originated and perpetuated medical knowledge, and on several of the obstructions that encumber its path.

Man must die! Such is the fiat that has gone forth from the counsels of the Almighty. He comes into the world, he is here, and he is not. From the moment he emerges from the womb, and even before, he is exposed to influences which have a tendency to bring his existence to a termination. There is, I believe, in all the human race, an instinctive dread of death, of that dissolution of man's component parts which all know they must submit to, of that resolution of the mere material portion into its original chemical constituents; the extinction of vitality, and the unknown flight of the psyche or soul to enter on an untried state of existence in "that undiscovered country from whose bourne no traveller returns." A brave and courageous soul a man may have, but still he shrinks from laying himself down to sleep that sleep from which there is in

this world no awakening. There is, however, a slavish fear of death, which renders those who are its subjects, the most miserable and unhappy of beings. It is not confined solely to persons who are living in habitual violation of moral law, but is found as well to embitter the existence of upright and God-fearing men.

"Men," says Lord Bacon, "fear death as children fear to go into the dark; and as that natural fear in children is increased with tales, so is the other." Were men educated to look upon their dissolution, not only as an event certain to take place, but as one which as "a tribute due to nature" ought to be met calmly and manfully; were they to make it more frequently the subject of their conversations and private contemplations, it would be greatly shorn of its terrors and divested of much of that repulsiveness which now render its approach so terrifying to the majority of mankind. "It is worthy the observing," says the greater thinker I have already quoted from, "that there is no passion in the mind of man so weak but it mates and masters the fear of death; and, therefore, death is no such terrible an enemy when a man hath so many attendants about him that can win the combat of him. Revenge triumphs over death; love slights it; honour aspireth to it; grief fleeth to it; fear anticipateth it; nay, we read, after Otho the emperor had slain himself, pity (which is the tenderest of affections) provoked many to die out of mere compassion to their sovereign, and as the truest sort of followers. Nay, Seneca adds, niceness and satiety; "a man would die," says he, "though he were neither valiant nor miserable, only upon a weariness to do the same thing so oft over and over." What Lord Bacon says is doubtless true, as numerous instances attest, but the rule certainly is, that men dread to die, and hence arises that sense of insecurity and desire for self preservation which have given origin to medicine. In the early periods of the world's history, diseases and bodily injuries must have carried consternation to the minds of men, for observation and experience would tell them that these conditions placed life in jeopardy, as they were exceedingly apt to prove fatal. What more natural, then, than that they should apply themselves to the discovery of means whereby they might ward off the threatened danger. Of necessity the knowledge accumulated, must for centuries, have been limited.

We may form an approximative idea of the condition of medicine in these early times by observing the amount of knowledge on this subject possessed by savage communities. An approximative idea, I say, as these communities have gradually added, through a long series of years, to their stores of such information.

If we take the aborigines of this continent, we find that they are acquainted with the medicinal properties of a number of the more common indigenous plants of the country, which they administer with benefit in certain simple diseased states of the body; but it is true, nevertheless, that their "medicine men" whenever they have difficult cases to deal with, trust more to incantations and *diablerie* than in herbs and nature.

Diseases and bodily injuries, however, being common to all times and to all conditions of society we find the same dread of death to prevail now as at all former ages. And, as human life is held in higher estimation among civilized communities, a more thorough cultivation of medical science, in these latter days

has been the result. The different kingdoms of nature have been ransacked for remedies to alleviate suffering and cure the manifold ills that flesh is heir to. And not satisfied with merely rescuing the victim of disease, great and successful efforts are being made to discover those hygienic conditions favorable to its development and multiplication, as well as those which most conduce to prolong life. Indeed, the problem which has occupied the minds of men at every period of the world's history, having for its subject "man sick" has never before had so much talent and energy expended on it.

In connection with the subject of the mortality of mankind and in consequence of the bearing it has on the question of the necessity for the existence of medical science and medical practitioners, I should not omit to notice a species of fatalism which is quite prevalent. You will not be long in practice before meeting with persons who are more or less tinctured with it, and their boldly expressed views may cause you to experience a certain degree of mental uneasiness, and even lead you to doubt whether you have really acquired a profession as honourable and as useful as it is usually represented. The four or more years which you have spent in acquiring medical knowledge may seem to you, viewed through the distorting medium of this pernicious fatalism, as so much time wasted in the pursuit of information, which, when acquired, is absolutely worthless to the possessor. Every man, say these worthies, has a time appointed to him, when he must resign his life and be gathered to his fathers. This period is fixed in the unalterable decrees of Heaven. It *will occur* at the proper moment in spite of all the unwearied care and anxious solicitude of friends, or the best applied skill of the most talented and learned physicians. And, further, no man *can* or *will* die before his time. Now, if these bold assertions, and to say the least, rashly expressed views were correct, or if they were extensively credited, do you not see the consequence that would naturally flow therefrom? What need, forsooth, would there be for physicians? Why should *you* or *I* spend valuable time in prosecuting studies that must prove so utterly worthless? If a man must die at a certain hour on a certain day, and there is not the remotest possibility of his dying at any other time, why trouble him when disease invades his body with prescriptions and useless attentions? If he is to recover he will get well without them. But, is this fatalism true? We trow not. Omniscience is one of the attributes of the Deity, whom we all reverence as the Creator and Preserver of all things, whether it be in the heavens above, on the earth beneath, or in the waters under the earth. His knowledge includes infinity and extends to eternity. The future of every living being is open before him, if he desires to scan it, from the moment they enter on their mysterious existence. But I cannot believe that *he* maintains a *constant* and *direct* interference in the affairs of each individual. Men come into the world and find themselves surrounded by and in intimate relation with phenomena that are the results of immutable laws. In the air they breathe, in the food they eat, and in the water they drink, lurk many a hidden foe to their vitality. Deep in the interior of the world upon whose superstratum they fearlessly walk; in that stratum itself with its endless diversity and beauty of surface, and in the life sustaining atmosphere by which it is enveloped, forces mighty beyond their wildest conceptions, remain chained and passive workers of the Almighty's will. Man.

is surrounded on all sides by malign influences, which, by the induction of different diseases, tend to bring about his dissolution. Indeed, Bichat defines life itself to be "an assemblage of the functions which resist death." The Creator of man, however, has not exposed him helplessly to the operation of these influences and their effects. By the gift of reason and the capacity for prosecuting and acquiring knowledge, he is fully furnished with the power necessary to guide him unscathed through this world, until he arrives at the period, appointed from the beginning, when a "sickness unto death," removes him from his probationary state. For that there is a period fixed for the death of every mortal, we freely admit; but while doing so, we would strenuously assert that it is quite possible for a man to die before his time. That is, he may so violate the laws of his nature by a reckless course of conduct, or carelessly expose his body to the influence of well known deleterious influences, that a mortal disease may strike him down ere half his days are numbered. It being, then, uncertain, whenever a person is indisposed, whether that indisposition will or will not terminate in death, the result in many instances depending materially on the careful and correct application of the means whereby a bountiful nature has provided for the restoration of the aberrant functions to their natural and healthful action, how important that there should be a class of men to devote their time and talents to the elucidation of disease and the proper methods of obviating its effects on the body. In truth there is an absolute necessity for medical knowledge and medical practitioners. Society cannot and will not do without them.

This want of faith in the efficacy of medicine is not, I am sorry to say, entirely confined to the unprofessional. We find a class of physicians who profess to despise therapeutics and trust entirely to the "*vis medicatrix nature.*" On the continent of Europe they are known as those who practice according to what is termed "the expectant treatment." Doubtless this scepticism on the part of numerous talented and celebrated men in the ranks of the profession, has done much to extend among the people that kind of fatalism of which I have just spoken. The greatest scepticism is exhibited by the Vienna School. The following interesting pen and ink portrait by Dr. Gallavardin, of the celebrated Skoda, the very type of the spirit and tendencies of that school, will serve to show the extent to which disbelief in practical medicine exists in high quarters: "That which constitutes the originality of Skoda among all the teachers of Germany, and which has made for him so universal a reputation, is his scepticism. In medicine there has been rarely seen, if ever, a *doubter* so absolute, so fervent; for his is no *theoretical* scepticism (which is a very common thing) but a *practical* scepticism, which he actively propagates both by his teaching and through the writings of his pupils, and by its application at the bedsides of the sick. Thus from his name any physician who neither believes in nor practices any forms of therapeutics, is termed a Scodist. Scodism among the Germans is Pyrrhonism in medicine. We would lay long odds that our reader could never divine the remedy which Skoda applies at the bed-side. Every year, during nine or ten months of clinical lessons, he employs on his twenty-eight sick—patients they may indeed be called—in *succession* all the most classical, most celebrated means of cure, and do you know with what intention? Simply to convince his pupils that all these medications are always and completely *inefficient*.

If by *chance*—*chance* is indeed the term to use here—if on any treatment there supervenes a very prompt and marked amelioration he attributes all the honour to the natural course of the disease. Example:—A young man of nineteen, very robust, comes into the hospital on the 11th May, on account of a pneumonia of the right lung, of a highly inflammatory and severe form. On the 13th and 14th Skoda causes him to take infusion of Foxglove, which induces six stools a day. On the 15th a pound of blood is drawn from his arm by his orders. Next day, the 16th, the pulse, which on the preceding evening, was at 100, falls to 66. To explain so notable and prompt a modification of the pulse, Skoda expresses himself in these terms: ‘Perhaps it is the effect of the bleeding, such things have been seen; perhaps, too, it may have been the effect of the foxglove, such things have been seen too.’ Skoda reasons habitually after this fashion, never denying in a very decided manner. In this way, little by little, he *insinuates* doubt into the minds of his disciples, all the more surely that he does not insist on its reception; so that finally these come insensibly to lose all practical faith, to raze from their medical vocabulary the word *causality* just as their master does.”

Formerly the system of drugging was carried to a fearful extent, and occasional injury to the constitutions of those subjected to the repeated doses of pills, boluses, powders, draughts and mixtures of the physicians of those days, probably resulted. A reaction has now taken place, and the other extreme has been, in the case of the Vienna School, fairly reached. It does not follow, however, that because *too much* medication is injurious, *all* medication must necessarily be hurtful. The active treatment, moreover, adopted by our predecessors, may have been demanded by the type of the diseases prevailing at the time; for, I believe, there are causes in operation which subject the same disease to undergo such changes, as, after the lapse of a number of years, to imperatively demand a modified or even contrary treatment at the hands of the medical profession. While it behoves every one, therefore, practising the healing art, to observe attentively those changes that take place in the constitution or general character of diseases, it is exceedingly puerile on his part to lose faith in medicine, because after the lapse of a certain number of years he finds he has to adopt other, and even contradictory plans of treatment in disease, to those he found beneficial when he first entered on the active duties of his profession. Diseases, likewise are so modified in many of their essential characteristics by the constitution of the patient, the presence of any particular diathesis, and so forth, that it is impossible to lay down absolute rules for treatment that will apply in all cases. Should a physician adopt the plan of Skoda and employ a therapeutic remedy merely to suit a name, which cannot be other than arbitrary—should he treat pneumonia, without first carefully ascertaining whether or not there exist circumstances that will in a great measure determine his treatment, he cannot be considered other than a routinist. He may possibly cure, or patients may get well in many instances; but it is quite undoubted that many others will suffer at his hands. When you come to practice medicine, gentlemen, above all things avoid becoming the slaves of mere routine. It paralyzes all effort, hanging like a dead weight to the neck of good resolutions of improvement, and is certain to prove a serious stumbling-block to all progress.

Medical knowledge has been disturbed, also, by that restless spirit of enquiry that is abroad at the present day, and which leads its possessors to question the truth of existing institutions, and seize with avidity every new theory brought forward, having the merit of novelty to recommend it. As has been well observed:—"This temper of mind, so restless and credulous, which harbours with avidity the teeming brood of rapidly developed novelties which successively appear, and whose every appearance is ever proving the vanity of those which went before, has no favour or patience for medical science as recognized and taught in our schools. It seeks and believes that it has found for the time at least a sure and infallible panacea for all the ills to which flesh is heir, and regards, as a narrow-minded and selfish bigot, every member of our profession who holds fast by the old fashioned modes of treatment. But persons who are animated by this unsettled, flighty and morbid temper of mind are not to be reasoned with and we have little hope of convincing them, by any arguments, of the folly and fallaciousness of their sweeping condemnation. The science of medicine has always been a plant of slow and stately growth; it has gathered strength through all the changing scenes of two thousand years; it has been watered, and pruned and cared for by wise and good and earnest men of many generations; it is still an object of honest pride and zealous culture to numbers who know it best, and they feel no temptation, though others may, to barter its ancestral strength and long tried stability for any of the mushroom growths which spring up and perish in a day. Those persons, therefore, must be regarded as foolish, who despise and would set aside the healing art as it now exists, for this reason, that in so doing, they overlook not merely the pregnant fact, that crowds of able and educated, and honest minds have contributed their best energies towards its advancement during so long a period of the world's history, but also this other fact, that medicine has always been eclectic in its nature, neglecting no useful hint but gathering and adopting its means and appliances from all the elements and from every available field. Hence also, there is an obvious fallacy in the idea which many entertain, or at least express, that the members of our profession are hindered by narrow-minded bigotry or by the fear of endangering their craft, from hailing with open arms, every new and popular plan of treatment. The truth is, that we are ever ready to incorporate with our own views every element of truth, however small, which those systems may contain; we only demur to their vain pretensions to be regarded as panaceas. And then, as to our craft being in danger, surely every one must see, that were self interest our guiding star, our policy in that case would be to adopt the quackery *in toto* and so supersede the cavillers who now accuse us of bigotry and selfishness.

Orthodox and upright members of the medical profession are, as a rule, not "so far behind the times" as certain petty detractors of their fair fame would fain made the public believe. Because, forsooth, the thinking philosophic minds in medicine do not assent to and immediately embrace every wild and extravagant medical theory let loose on the world by the singularly erratic minds that abound at the present day they must be stigmatised as obstructionists. Never before in the history of this world did their exist so widespread an inclination to sneer at and depreciate everything having the authority of ages of existence,

and the adhesion of countless great and commanding intellects, for their continuance. Never before did such a multitudinous array of shams and counterfeits meet the gaze of men. And yet, there probably was never a time when the fields of truth were more assiduously explored or explored to better advantage. Medicine, although she has added vastly to her stores of truthful knowledge in every one of her departments within the last half century, has many present shams and counterfeits. Some of the *spurious coin* is remarkably specious in appearance and passes current to a certain extent, but the time *will come*, when the *aqua regia* of experience will expose the baser metal, for, there is truth in the old adage:—"All that glitters is not gold." Mistake not! semblances of truth contain within them the elements of rapid decay. That they exist for a lengthened period, or, indeed, that they exist at all, is entirely owing to the conserving properties of the few grains of truth that are usually mixed up with the mass of error in their composition. For the human mind, to its credit be it spoken, will not tolerate falsehood, merely for falsehood's sake. Truth is indestructible. When, therefore, all the *pathies* at present existing, shall, as such, have passed away into that oblivion to which their numerous predecessors have been consigned, the modicum of truth which each possesses *shall not perish*. It shall then find its appropriate place in that edifice whose foundations are verities, an edifice that has not only stood for ages, storms and tempests, and even the adverse influences of time itself, but has, in these latter days, expanded into such magnificent proportions; exhibits such strength and solidity in its construction, and presents so much beauty and harmony in its arrangements, as to command almost universal confidence and regard:—the temple of legitimate medicine.

Now, gentlemen, would you acquire thoroughly the profession of your choice; a profession of which you may justly be proud, for there can be no higher or more ennobling pursuit, or, one more godlike, than to rescue man from the influence and effects of disease. Is it your earnest desire to so acquaint yourselves with the varied stores of learning accumulated in the science of medicine, that you may with confidence assume the great responsibilities which will hereafter devolve upon you as practitioners of the art? Then, enter on your studies with a firm determination to succeed. And if that determination be followed up by energetic action success is certain. There is no one element in a man's character so necessary to his success as energy. Without it the most profound intellect would be almost worthless to its possessor. With it a man of even moderate natural abilities may achieve results that will place his name among the foremost names of the age in which he lives. Let not the siren voice of pleasure lure you from the simple and rugged path of duty. Close your ears, beyond the power of hearing when she whispers enticingly of the mazy dance and its fascinating concomitants. Be equally deaf to her entreaties when she would lead you away to scenes of so called mirth and jollity. Spend not your precious time in dreaming. Four years only have been allotted to you, to go over the vast field of knowledge included within the complete curriculum of this college. Think soberly and earnestly on this fact, and then ask yourselves, if you can afford to fritter away days or even hours in desultory pursuits. If you have any favorite study foreign to the one you are now entering upon, I would strongly advise you

to give it up for the present, and concentrate all your energies on the work which now lies before you. For, as Milton expresses it:—

“Not to know at large of things remote
From use, obscure and subtle, but to know
That which before us lies in daily life,
Is the prime wisdom; what is more, is fume
Or emptiness, or fond impertinence,
And renders us in things that most concern,
Unpractised, unprepared, and still to learn.”

REVIEW DEPARTMENT.

ART. LVI.—*On obscure diseases of the Brain and Disorders of the Mind, their Incipient Symptoms, Pathology, Diagnosis, Treatment, and Prophylaxis.* By FORBES WINSLOW, M. D., D. C. L., Oxon. Philadelphia, Blanchard & Lea, 1860. 8vo. pp. 576.

In this volume Dr. Winslow has given to the world a body of information on Psychological Medicine, of a most interesting character. He has gleaned from every country and from many sources ancient and modern, details and cases which have never before been collected, and which throw much light on the more obscure diseases of the brain and disorders of the mind. The work will be found of much interest by the practitioner and the student, as introductory to the study of mental alienation. It does not indeed pretend to be a system of psychological medicine, but is, as its author expresses, the *avant-courie* or introduction to a practical work upon which he is engaged, in relation to the specific types of encephalic disease.

Coming to us in this guise, it would be scarcely fair to subject the work to the severe scrutiny and criticism which a more pretentious production would merit. The volume is evidently intended as much for the general reader and the student of mental philosophy, as for the medical practitioner. And we prognosticate for it, especially on this continent, an extended popularity among the reading public. Dr. Winslow's style is genial, graceful, eminently clear and always agreeable. His account of the morbid phenomena of intelligence, of the irresistible impulse to suicide in the homicidal maniac, of the rapidity of mental action in dreams, of recklessness in monetary transactions in some incipient phases of mental disorder, of motiveless acts of brutality connected with latent insanity, of the mysteries of the inner mental life, and the innate wickedness of the human heart, are all alike interesting and instructive.

As an example of the felicitous style and apt illustration which abound in the work, we select the author's remarks on “The mental acuteness and subtlety of the Insane.”

Whilst analyzing the incipient symptoms of insanity as manifested during the stage of exaltation and excitement, it will not be irrelevant for me to consider an important

subject closely connected with the matter under consideration, but perhaps more immediately bearing upon the medico-legal point of great interest to the jurist, as well as to the practical psychologist. I refer to the subtlety, quickness of apprehension, ready wit, biting sarcasm, great power of self control, extreme cunning and extraordinary shrewdness of the insane, as well as the wonderful mastery they have occasionally been seen to exercise over their acknowledged delusions, whilst under the searching analysis of the ablest and most accomplished advocates of the day. In many cases it has been proved to be useless to possess the "key note" to the insanity of the person under examination, or "to touch the chord." supposed to be in unison with, and likely to awaken into activity, the latent insane delusion and cunningly concealed hallucination. The lunatic, if he be carefully trained and skilfully tutored, having an important purpose to accomplish by effectually *masking* his mental disorder, will, under these circumstances, act with wonderful ability and singular ingenuity, on the *defensive*, and, in the teeth of the most stringent examination, make "no sign." How often have I seen the insane (*who have been previously well prepared*) thus baffle the acumen of the most experienced and sagacious members of the bar.

It is a commonly accepted notion, that the delusive idea will immediately develop itself, provided its character be known, and special reference made to it by those engaged in testing the sanity of persons alleged to be of deranged mind. Nathaniel Lee, who acquired no inconsiderable degree of practical knowledge of the phenomena of insanity during his long incarceration in Bethlem, and prolonged association with the inmates of that hospital, appears to have been inoculated with this fallacy, for he says, in his description of the madness of Cæsar Borgia.

"Like a poor lunatic that makes his moan,
And for a while beguiles his lookers on,
He reasons well. His eyes their wildness lose.
He vows the keepers his wronged sense abuse;
But if you hit the cause that hurts his brain
Then his teeth gnash, he foams, he shakes his chain,
His eyeballs roll, and he is mad again."

It requires no ordinary amount of tact and skill, as well as practical acquaintance with the subtle psychology of insanity, to fully qualify a person to examine and unravel successfully a complex case of lunacy. I have often found it necessary to pay two or three protracted visits to a patient, conversing with him on general subjects, before I have considered it prudent to make any reference to the alleged delusions. By this process the confidence of the patient is effectually secured, his suspicions disarmed, and the expert able gradually to direct the attention to the points upon which the mind is thought to be disordered. If the lunatic clearly perceives the object of the physician's visit, the drift of the questions addressed to him, and fully realizes the importance of concealing impressions that are represented to be creations of a diseased imagination, it will require much persevering ingenuity to extract from him anything like an admission of his actual state of insane mind.

Feigned insanity is often unmasked by placing the patient under the influence of chloroform. Might not the same anæsthetic agent be found serviceable in analyzing a case of cunningly concealed lunacy? There can be no doubt as to the effect of chloroform in giving, in a particular type of case, great temporary prominence to insane delusions. I have occasionally observed, that when it has been found necessary to administer this anæsthetic agent by inhalation to persons mentally deranged, its immediate effect has been to develop and to drag from their hiding-place, hallucinations that were previously if not in a latent, but faintly and feebly manifested state.*

* It will be important not to confound the hallucinations and illusions occasionally induced, in persons of healthy minds, by the administration of chloroform, with those that are clearly symptomatic of a state of mental derangement.

Dr. Haslam remarks, that " a successful examination of an insane person is not to be effected by directly selecting the subject of his delusion, for he will immediately perceive the object of such inquiries, and endeavour to evade or pretend to discover them ; the purpose is more effectually answered by leading him to the origin of the distemper, and tracing the consecutive series of his actions ; and the association of ideas in going over the road where he has stumbled he will infallibly trip again."

The power of concealing delusions, which confessed and even dangerous lunatics have been known to possess, when under the strictest and most searching examination, has often astonished persons unaccustomed to deal with them, and not fully conversant with the subtle phenomena of insanity. The illustrious LORD ERSKINE observes in one of his most able and eloquent speeches, " that in all the cases which have filled Westminster Hall with the most complicated considerations, the lunatics and other insane persons, who have been the subjects of them, have not only had the most perfect knowledge and recollection of all the relations they stood in towards others, and of the acts and circumstances of their lives, but have, in general, been remarkable for subtlety and acuteness. These are the cases which frequently mock the wisdom of the wisest in judicial trials ; because such persons often reason with a subtlety which puts in the shade the ordinary conceptions of mankind ; their conclusions are just, and frequently profound ; but the premises from which they reason, when within the range of the malady, are uniformly false ; not false from any defect of knowledge of judgment but because a delusive image, the inseparable companion of real insanity is thrust upon the subjugated understanding incapable of resistance because unconscious of attack."

A repudiation (for a short period) of the existence of insane thought, admitted by the patient and known by others to have previously existed, the ability to converse continuously and rationally, with great shrewdness and sagacity, on matters requiring for their comprehension a vigorous and well-balanced intellect, are no conclusive and demonstrative tests *per se*, of legal soundness of mind, or of recovery from an attack of insanity. In the great majority of cases, evidence of this character should, however, be viewed as establishing a *bona fide* restoration to health of mind.

Some years ago, I had under my care a young gentleman who had tried, on more than one occasion, to murder his sister when under the delusion that she had prevented, by her unjustifiable interference, his marrying a lady of large property and high rank. The idea was altogether an insane one. For nearly a year this notion was never absent from his mind. He, however, manifested other symptoms of mental derangement. Eventually, the delusion with regard to the sister appeared to have been removed from his imagination. I spoke frequently to him on the subject, and he declared that his impressions with regard to his sister no longer existed. He once observed, " I wish to see my dear sister for the purpose of craving her forgiveness for permitting such bad thoughts to enter my mind." To all appearance he seemed to be restored to mental health, or at least to be convalescent, yet I had (from a variety of trifling circumstances, when viewed by themselves) my doubts and misgivings as to the *bona fide* character of his apparent recovery. For more than a week, his mind, he alleged, was free from all delusion. I called one day to see him, and placed myself in such a position that I could closely observe his conduct, and hear his conversation, without his being aware of my presence. When I first saw him he was reading. In about ten minutes he left the sofa where he was sitting, and approached towards the looking-glass. He gazed fixedly at himself for a few minutes. He then began, whilst in this position, to indulge in the most malignant grins. At last he clenched his fists, and walked about the room in an agitated manner, exclaiming, " The villain," " the miscreant," " the viper," " the snake in the grass," " I'll do for her on the first opportunity." I was now satisfied that the lunatic had been playing an artful part for a purpose, and that he was still in a dangerous state of insanity. I did not converse with him on this occasion, but did so on the following day, when, strange to say, he persisted in declaring that he had no delusions with regard to his sister, or any member of the family. I made no reference to what I observed on the previous day, and being convinced in the course

of a week, that it was not my intention to allow him to be at large, he threw off his disguise and his insanity then became evident to every person who approached him.

"I remember," says the late Sir Henry Hallford, "hearing Lord Ellenborough express, in the strongest terms, his conviction that an insane person had completely recovered, after having observed him to sustain a lengthened conversation upon an important subject with great good sense and sobriety. Nevertheless this patient was detected, a few days afterwards, under the full influence of his delusion, using Latin however, to express his thoughts, that he might effectually elude, if possible, the watchful observation of his attendants."*

"The insane," says Esquirol, "group and arrange their ideas, carry on a reasonable conversation, defend their opinions with subtlety and even with rigid severity of logic, give very rational explanations, and justify their actions by highly plausible motives. When they have a great object to effect, they will combine all their means, seize every opportunity, remove all obstacles, have recourse to threats, force, cunning dissimulation, prayers, promises, and tears; they deceive the most experienced, their perseverance is indomitable, convinced that what they think is true, that what they wish is just and reasonable, they cannot be convinced of their error. The conviction is occasionally stronger than their judgment. You are right, said a lunatic to Esquirol, but you cannot convince me that you are so."†

Are phenomena like these susceptible of a psychological solution? There can be no doubt that in certain types of insanity, unconnected with much, if any, cerebral disorganization, the intellectual and perceptive faculties are, although influenced by the prevailing delusions, in a state of unnatural exaltation. In ordinary cases of disease implicating the brain producing a state of vascular congestion on its surface, or a great rapidity in the circulation of the blood through its vessels, the psychical functions are, generally, in an active state of manifestation.

In attacks of fever, accelerating the cerebral circulation and in the incipient stage of the brain affections of early life, the patient often exhibits an unnatural acuteness occasionally amounting to a brilliancy of intelligence. There is also great sensorial activity. Analogous phenomena are observed in some forms of ordinary cerebral disorder affecting the operation of thought; and on this principle we may in a measure physiologically and philosophically account for the subtlety and cunning of the insane. But does not the fact admit of another solution?

The *instinctive* appetites, as contradistinguished from the *intellectual* faculties, are as a general rule, in a state of activity, exaltation, and ascendancy, in many types of deranged, as well as originally defective and impaired mind. In the various gradations of imbecility and in some cases of profound idiocy, we often observe manifestation of the instincts. In the lower grades of stupidity and congenital idiocy, we occasionally see exhibited that extraordinary sagacity and cunning which is so characteristic of the higher class of animals. Mechanical ingenuity, acute sense of hearing, seeing, and smelling, as well as wonderful powers of adaptation to all possible physical conditions, are often observed among a certain class of the insane, utterly incapable of appreciating a rational idea. Hence, we may, to a certain extent, explain the *subtle instinctive sag-*

* Essays and Orations read and delivered at the Royal College of Physicians by Sir H. Hallford, Bart, M.D., p. 142.

† A patient, who was confined in a public asylum, stoutly and ingeniously maintained that he was considered and incarcerated as insane, because nature had blessed him with acuter powers of discernment, judgment, reason, and fancy, than his less fortunate neighbors. Unfortunately, however, he had not the good sense and prudence to conceal these superior gifts and endowments of mind from the observation, jealousy, and envy of his contemporaries; hence he was declared to be a lunatic, and sent to, and detained in, a madhouse.

acity and acuteness so frequently seen associated with the various forms of deranged mind. It would appear, that in proportion as the reasoning and reflective powers are in an arrested, latent, and dormant state, do the instinctive propensities (as a compensating balance) ascend the scale, occupy the seat of reason, and arrogate and exercise the right of undisputed and often unbridled sovereignty.*

Mr. Dugald Stewart thus attempts metaphysically to account for the acumen and subtlety of the insane. He maintains that the phenomena may, to some extent, be attributed to the physical influence of the disorder in occasioning, together with an increased propensity to controversy, a preternatural and morbid excitation of the power of attention, and of some other intellectual faculties; but much more in his opinion to its effect in removing the check of those collateral circumstances by which, in more sober understandings, the reasoning powers are perpetually retarded and controlled in their operation. Among these circumstances, it is sufficient, says this able writer, to specify, for the sake of illustration, 1. "That distrust, which experience gradually teaches, of the accuracy and precision of the phraseology in which our reasonings are expressed: accompanied with a corresponding apprehension of involuntary mistakes from the ambiguity and vagueness of language; 2. A latent suspicion that we may not be fully in possession of all the elements on which the solution of the problem depends: 3. The habitual influence of those first principles of propriety, of morality, and of common sense, which, as long as reason maintains her ascendant, exercise a paramount authority over all those speculative conclusions which have any connection with the business of life. Of these checks or restraints on our reasoning process, none are cultivated and strengthened, either by the rules of the logician, or by the habits of *vivâ voce* disputation. On the contrary, in proportion as their regulating power is confirmed, that hesitation and suspense of judgment are encouraged, which are so congenial to the spirit of true philosophy, but such fatal incumbrances in contending with an antagonist whose object is not truth but victory. In madmen where their control is entirely thrown off, the merely local process (which never stops to analyze the meaning of words) is likely to go on more rapidly and fearlessly than before, producing a volubility of speech, and an apparent quickness of conception, which present to common observers, all the characteristics of intellectual superiority. It is scarcely necessary to add, that the same appearances, which in this extreme case of mental aberration are displayed on so great a scale, may be expected to show themselves, more or less, whenever there is any deficiency in those qualities which constitute depth and sagacity of judgment."†

These lengthened extracts will convey to the reader, a correct impression of the agreeable, instructive but somewhat discursive commentaries before us. They prove the author to be an able, earnest, industrious man, but they scarcely elevate him to the same level in psychological science as Haslam or Conolly, Pinel, Esquirol, Ray or Rush. In the whole work consisting of 576 pages, there is only one chapter, and that the last, devoted to the general pathology, diagnosis and treatment of insanity. Of this somewhat impotent conclusion Dr. Winslow does not appear to be quite unaware, for in the last chapter of his work, as well as in the preface he tells us that he designedly avoids entering into the consideration of the subtle changes which take place in the parts implicated before

* "Madness," says Coleridge, "is not simply a bodily disease. It is the sleep of the spirit, with certain conditions of wakefulness; that is to say, lucid intervals. During this sleep, or recession of the spirit, *the lower, or bestial states of life, rise up into action and prominence.* It is an awful thing to be eternally tempted by the perverted senses."

† "Philosophy of the Human Mind" (1848), p. 431, 2.

death in cases of insanity. And that the vast and important field of mental pathology, "has been but cursorily examined, if not left altogether unexplored." In a future work, Dr. Winslow hopes to accomplish this with the necessary minuteness. He regards the present as a prefatory essay, and we shall look for the more finished production with great interest. Whether the time has yet arrived in which psychological medicine can be reduced to a system, may admit of a doubt. It may be in this as in other assumed sciences, that we shall have to wait and garner up facts, before we can venture to proceed to generalize them, and before we can hope to reduce them to form and substance as the received principles and practice of psychological medicine.

In the great task to which he has applied himself with so much ability and industry, Dr. Winslow will have the sympathy and good wishes of the profession throughout the civilized world. His own training, habits and character would appear to fit him eminently for the duty. We believe Dr. Winslow has been a leading practitioner in this specialty for more than twenty years. As physician to an asylum he has had ample opportunities of seeing the disease in all its forms and phases. He has studied in the best schools of Continental Europe as well as in those of Great Britain. His elder brother Mr. Commissioner Winslow has presided over more commissions "De Lunatico Inquirendo" than any man living. Dr. Winslow has also conducted a journal of psychological medicine for years in which every form and variety of mental aberration has been discussed. And if we mistake not, to these two last circumstances may be traced the incorporation, in his present volume, of many of the appropriate and interesting illustrations with which the work abounds. We heartily commend the work of Dr. Winslow to our readers, and hope he will have health and energy to continue his labors upon this interesting but abstruse subject.

ART. LVII.—*The Principles and Practice of Modern Surgery.* By ROBERT DRUITT, Licentiate of the Royal College of Physicians, London, &c. A new and revised American from the eighth enlarged and improved London edition, with four hundred and thirty-two illustrations. Philadelphia, Blanchard & Lea: Montreal, R. & A. Miller, 1860. 8vo, pp. 695.

In this valuable addition to Surgical literature, the present edition is a decided advance over its predecessors. The chapter on Inflammation is entirely new, and on other matters we permit the author to speak for himself. "Pyemia and Phlegmasia Dolens are removed from the chapter on Veins, and treated of in their natural alliance with Erisipelas, and diffuse inflammation. Due notice has been taken of the use and abuse of caustics in the treatment of Cancer. The arrangement of the chapters on Injuries has been altered, so as to give due prominence to the comparative safety of Subcutaneous Injuries. The whole chapter of Gunshot wounds has been written afresh and very much enlarged. The chapter on the Eye has again been most kindly revised by Mr. Haynes Walton, whom I have besides to thank for the materials for a section on the Ophthalmoscope. The treatment of Anchylosis by forcible extension, and of Syphilis by fumigation, the recent improvements in Ovariectomy and in the treatment of

Vesico-vaginal Fistula; the radical cure of Hernia, and the subject of Chloroform and the too frequent deadly results of its administration may be mentioned as having received special addition or improvement, whilst in the last chapter I have taken pains to bring into small compass the latest and best information on Excision of the Knee joint."

We have thus given the peculiarities for which the present volume or edition is distinguished. In fact surgical literature is brought down to its latest period; the present day, and whether we view Drutt's Surgery as a guide to operative procedures, or as representing the latest theoretical surgical opinions, no work, that we are at present acquainted with, can at all compare with it. It is a compendium of surgical theory (if we may use the word) and practise in itself, and well deserves the estimate placed upon it, viz., that of a text book on surgery both in the school of McGill College and elsewhere. We know of no work on surgery, which gives so much valuable information to the enquiring student and practitioner, in the same space, and hence its value as a text book in the classroom of the teacher of surgery.

ART. LVIII.—*On the theory and practice of Midwifery.* By FLEETWOOD CHURCHILL, M.D., M.R.I.A., &c., &c., with additions by D. Francis Condie, M.D., &c., with one hundred and ninety four illustrations. A new American from the fourth corrected and enlarged English edition. Philadelphia: Blanchard & Lea. Montreal: R. & A. Miller, 8vo. pp. 655.

The present edition is a decided and marked improvement upon the last, and the rapidity, with which this favourite volume is passing through its editions, affords the strongest proof possible of the strong hold which it has taken on the mind of the profession. Few works on this branch of medical science are equal to it, certainly none excel it whether in regard to theory or practice, and in one respect it is superior to all others, viz., in its statistical information, and therefore, on these grounds, a most valuable work for the physician, student or lecturer, all of whom will find in it the information which he is seeking.

This edition however differs somewhat from the preceding ones. To use the author's language, he "has added what he found wanting, pruned what appeared redundant, and corrected what was vaguely or carelessly expressed," and on examination the text bears out these remarks. The American editor's labours have added also to its general value, and altogether the present edition exceeds the preceding one by the addition of at least one half more matter, thus rendering it one of the most clear and concise exponents of the theory and practice of midwifery which we possess, while it is furthermore enriched by two valuable additional chapters, the one on the "operation of craniotomy," the other "on the qualifications and duties of the monthly nurse."

To criticize a work, which has repeatedly undergone that ordeal, and has always received most favourable notice, is a task of supererogation. In its present improved condition we most cordially commend it to the notice of the profession and of the student; to the former, as containing most valuable rules of practice, and to the latter, as a most complete embodiment of the science and art of midwifery. Of the author, in regard to the contents of this volume, it may be with perfect propriety said, "*nil teigit quod non ornavit.*"

PERISCOPIIC DEPARTMENT.

MEDICAL JURISPRUDENCE.

POISONING WITH PHOSPHORUS—ATTEMPT AT POISONING WITH MATCHES MADE WITH THE RED OR AMORPHOUS PHOSPHORUS—RECOVERY—RENEWED ATTEMPT WITH THE ORDINARY LUCIFER MATCHES—DEATH—AUTOPSY—ANALYSIS.

Emily B., aged 26, a domestic servant, suffering from wounded vanity and affection, determined to poison herself. Some years previously she had read an account of two travellers who had been poisoned by coffee prepared in a pot in which a packet of lucifer matches had been inadvertently left, and she determined to take the hint. She soon made the attempt, but to her annoyance she suffered no inconvenience, in consequence of the matches she bought being prepared with red or amorphous phosphorus. For some time she relinquished her design; but she ultimately, on the 17th March, bought two sets worth of ordinary matches, coloured blue at one extremity, igniting easily on gentle friction. She took about four ounces of coffee, added more than three cups of boiling water, and made three cups of very strong coffee. Of this she drank one cup at once. She then added to the two remaining cups of coffee other two cups of boiling water, filtered the whole, and thus obtained a bottleful of pretty strong coffee. She took the phosphorized ends of all the matches and placed them at the bottom of the coffee pot, and allowed them to infuse for an hour and a half. She again reheated the whole almost to ebullition, and swallowed two cups of this infusion of phosphorized coffee. She said that this infusion, though warm and well sweetened, had a disagreeable taste of lucifer matches; but yet could be swallowed without repugnance. Immediately afterwards, she took a cup of ordinary coffee and retired to her bed, where she rested nearly an hour, only sensible of a slight degree of lassitude and headache which came on immediately.

Meanwhile, the police were informed of what had occurred, and a doctor was quickly called, who lost no time in sending her to the Hospital Lariboisière, where she was placed under the care of Doctor Pidoux. The house-physician at once gave her an emetic of tartrate of antimony. An hour had only elapsed since she swallowed the poison. She vomited nearly half a pint of a clear glairy fluid, at the bottom of which lay a black pulpy matter, and two pieces of non-digested meat. The vomited matters had a strong alliaceous odour, and in them were observed particles of the blue colouring matter of the matches. Later in the evening, after taking a copious drink of water, she vomited a glairy fluid without any deposit, and free of any odour of phosphorus.

On the 18th March, at the morning visit, her features were unaltered, the tongue was slightly coated. She complained of having had a metallic taste in her mouth all the morning, and of an odour of lucifer matches which continued to annoy her. Since the previous evening she suffered much from discharges, which troubled her by their penetrating odour of phosphorus. The vomited matters also left in the throat a peculiar burning sensation. She said, that neither at the time of swallowing the poison nor since, had she felt any pain in the stomach. She complained only of a little heaviness. The bowels had not been moved since the evening. There was no fever. The face was slightly pale, the heat of the skin moderate, and the pulse was very slow (54); the respiration normal.

Her mind was quite calm. She mentioned that she had long ago determined on committing suicide, and that she only regretted that for the second time she had failed in her purpose. She declared that, as soon as she was well, she would throw herself from the tower of St. Jacques. For a considerable time she had been in the habit of collecting the newspaper accounts of suicides and poisonings, to enable her to make up her mind as to the particular method she would choose. She was surprised that in the present instance she had not suffered more. She was, nevertheless, a girl of good intelligence, who gave

all details with clearness, and narrated very well the history of her poisoning. She has slept a little this morning, though, as she says, the coffee agitated her a good deal in the beginning of the night. She had been tormented the previous night by heat and dryness of the nasal fossæ, as in a commencing coryza, and especially by a fixed frontal pain situated above the eyes. She has had nervous symptoms, in the shape of formication in the thighs and cramps in the feet and legs. In addition, in the course of the evening, she had well-marked venereal desires.

This morning, there only remains a little pain in the kidneys and thighs.

18th, evening. She has been much better to-day, has hardly vomited, and has asked for food.

19th, She only complains of headache and pains in the loins.

During the 20th and 21st, her condition was so favorable, that she was allowed to rise and walk about the ward for some hours. She had an allowance of food.

The house-physician, M. Paul, who reports the case, at this time thought that her recovery was complete, and that, from the small dose of the poison taken in the first instance, and the promptitude with which vomiting had been induced, a quantity sufficient to produce dangerous results had not entered the system. But M. Pidoux, who had seen several cases of phosphorus poisoning, warned him not to trust to this amelioration in the condition of the patient, which he believed would prove to be but transitory, and that some serious symptoms were to be looked for, especially hæmorrhages from various parts. This anticipation was realized on the following day, for on the 22d the patient was seized with epistaxis, and the catamenia, which ought not to have appeared for eight days later, came away in great abundance. She became feverish, her skin assumed a yellow colour; and in the evening, after taking a drink of milk, she vomited, and in the vomited matter there was a clot of blood. On the 23d the fever had increased, she had a jaundical appearance, the skin was warm, and some spots of purpura were observed over the chest. She complained of pain over the region of the liver, and during the day she had slight hæmoptysis. Treatment, 15 grains of perchloride of iron in a julep, with lemonade.

The fever was stronger on the 24th. The skin was dry, hot, and burning, the yellow tinge was a little darker and more visible, the face was pinched, the lips were very dark, the gums bloody, the tongue dry and dark coloured. The belly was tense, and the hepatic region was painful to the touch. She died during the night.

Examination of the body twenty-four hours after death. The skin was yellow, the colour of sulphur, over the whole surface, with violet streaks here and there, especially in the more depending parts, where they united and formed an uniform violet tint. A blackish froth, resembling coffee grounds, escaped from the mouth and nostrils. There were no ecchymoses on the surface of the body, only the purpurous spots on the chest noted during life were still visible. The most striking circumstance observed was the remarkably healthy condition of the alimentary canal. No lesion was observed in the mouth, œsophagus, or stomach. No ulceration, softening, or even redness. The same might almost be said of the intestines. The small intestines were healthy. A red patch was found in the cœcum, and another in the transverse colon. The rectum contained hard greyish fæces. The contents of the stomach and of the small intestines were composed of a blackish matter resembling coffee grounds, and what is found in cases of hæmatemesis. In the small intestines, it was more like the broken down pulp of the spleen. The principal lesions, undoubtedly, were the bloody effusions in the thoracic and abdominal cavities.

Blood was effused into the substance of the transversalis muscle, which was detected by sub-peritoneal ecchymosis, the size of a crown piece. A similar effusion was observed in the cellular tissue behind the left kidney. The viscera generally were affected with apoplexy. In the left lung there were two apoplectic clots, the size of a large nut, and in the right an apoplexy *per infiltration* occupying the whole inferior lobe.

On the posterior surface of the heart, there were two or three small effusions

beneath the pericardium, and another beneath the endocardium, in the cavity of the left ventricle.

The blood was neither coagulated in the aorta nor in the right side of the heart. There was only a syrupy liquid, like lees of wine, in these organs, even in the right auricle, where there was not the slightest trace of fibrinous clot. The thoracic aorta was surrounded with a layer of blood, which occupied its entire sheath, and a portion of the posterior mediastinum. There was also ecchymosis in the external membrane of the aorta.

The great venous trunks were empty.

The liver was covered with a series of violet points, which formed at the level of the tenth rib a transverse band of a diffused bloody hue, and penetrating but slightly the substance of the organ. Nothing particular was observed on the concave surface. The yellow substance prevailed, and was only here and there tinged with red points. The kidneys contained effusions below the serous membrane in the pelvis and calices, and on section nothing but a bloody fluid escaped.

The spleen was small, and of ordinary density. The brain and cerebellum were only slightly congested. The bladder and uterus were normal.—*Edinburgh Journal*.

TANNIN AS ANTIDOTE TO STRYCHNINE.

BY PROF. KURZAK, OF VIENNA.

FROM want of a reliable antidote, the treatment in cases of poisoning by strychnine hitherto consisted principally in endeavouring to evacuate the poison, to combat the frightful spasmodic symptoms by narcotics, and to re-establish respiration, when it finally ceased, by artificial means. Donné proposed iodine, chlorine, and bromine as antidotes to strychnine; Garrod, Rand, Morson, and Falck recommended prepared animal charcoal; but the efficacy of those substances has been neither tested sufficiently by experiment nor proved by experience. The same is true in regard to tannin, and the astringent vegetables containing it, their infusions, decoctions, &c. Although they recommended themselves by the fact that tannin forms chemical compounds, insoluble in water, with strychnine and other poisonous alkaloids, it seemed very probable that these products might be redissolved in the stomach and intestines, and thus be rendered capable of absorption, the virtue of tannin as an antidote to strychnine was, therefore, considered very doubtful.

With a view to subject this matter to a thorough examination, and to ascertain the efficacy of tannin in preventing and allaying the symptoms of poisoning by strychnine, Professor Kurzak made a series of experiments on rabbits and dogs. As the end of his interesting and highly important memoir, he states that the results of his investigation permit him to draw the following conclusions:—

1. *Tannin*, if administered in time, is an excellent *chemical antidote to strychnine*.
2. The doubt, whether the precipitate formed by tannin in a solution of strychnine, although insoluble in water, would not be redissolved by the gastric and intestinal juices, and the strychnine thus reobtain its poisonous properties, is solved by these experiments on rabbits and dogs in a complete and highly gratifying manner.
3. The successful results in dogs and rabbits justify the expectation that *tannin would suspend the poisonous action of strychnine also in man*, even in cases where the evacuation of the tannate of strychnine, formed in the stomach could not be accomplished.
4. These experiments show that *twenty to twenty-five times the quantity of tannin is required in order to suspend the poisonous action of strychnine*. In cases of poisoning it will be, however, advisable to administer a relatively larger proportion, as a part of the antidote will be absorbed by the usual contents of the stomach, particularly by gelatine.
5. As tannin as proved to be an antidote to nitrate of strychnine, which is much more soluble in water, there is so much greater reason to hope that it will be successful in poisoning by pure strychnia which dissolves in water with great difficulty.

6. *The same successful result* is to be expected from its administration in poisoning by the hard and tough *nux vomica*, which imparts the poison to aqueous fluids, but gradually and not very rapidly.

7. Tannin is a so much more valuable antidote in poisoning by strychnine, as galls in which it is contained can be readily procured, and thus be administered without much loss of time. They are easily reduced to a powder, which is given mixed with water. Another advantage is obtained by the vomiting which it is liable to produce. In the mean time, an *infusion* or *decoction* of powdered galls may be prepared.

On an average, Turkish galls contain fifty, the Illyrian galls twenty per cent. of tannin. At least one drachm of the former and two drachms and a-half of the latter are therefore required to neutralise one grain of strychnine introduced into the stomach, but in general, especially if there is vomiting, a much larger quantity should be administered.

8. Another readily obtained substance containing tannin is *Chinese tea*, the efficacy of which, in poisoning by strychnine, is confirmed by our experiments. But these experiments (VII. and VIII) have also shown that, in a decoction of tea-leaves, we cannot count upon the whole amount of tannin contained in them. In poisoning by a larger dose, it would therefore be necessary to administer so large an amount of green tea that the antidote itself might produce poisonous effects. One decigramme (1.3 grain of nitrate of strychnine requires, as our experiments prove, ten drachms (600 grains, 40 teaspoonfuls) of green tea, which, according to Peligot's analysis, contain about fifteen grains of caffeine. Tea is therefore applicable only in poisoning by smaller doses, but may otherwise be useful as adjuvant.

9. The efficacy of *roasted coffee* as chemical antidote to strychnine seemed to be much inferior. The amount of *caffeo-tannic acid* contained in coffee is, according to Payen, 3.5 to 5.0 per cent. But our experiments (IX., X., XI.) show that the decoction evidently contains a much smaller quantity of undecomposed tannic acid than this percentage would justify us in assuming. The decoction of 180 grains of roasted Cuba coffee (being adequate to 200 grains of the raw coffee, which should contain at least six grains of tannic acid) produced, according to the ninth experiment, merely a delay and diminution of the poisonous effect of 0.13 grain of nitrate of strychnine. In the tenth and eleventh experiments, 300 grains of raw coffee, which weighed, after roasting, 267 and 264 grains, and should have contained at least nine grains of tannic acid, had furnished a decoction which, as antidote to 0.13 grain of strychnine, was nearly inert, only delaying the appearance of the symptoms for a little while.

10. From *unroasted-coffee*, so inconsiderable an amount of tannin is extracted, by boiling, that the employment of its decoction for our purpose is out of the question.

11. *Oak bark* (of *Quercus robur* and *Q. pedunculata*) contains, according to Gerber, 8.5 per cent. of tannic acid, and imparts it readily to aqueous fluids. It deserves attention in poisoning by strychnine so much the more, as it can be procured without much delay, especially in the country. What has been said about the administration of galls equally applies to the use of the powder and decoction of this bark.

12. On account of their frequent occurrence and the large amount of tannin they contain, we have to mention in this connexion: *acorns* (from *Quercus robur* and *Q. pedunculata*) with 9 per cent., the *bark of the horse-chesnut* with 8 per cent., *willow bark* with 5½ per cent., and the *green hull of walnuts*. The *radix tormentillæ* (with 17 per cent.), *rad. caryophyllatæ* (with 31 per cent.), and *rad. bistortæ*, are still richer in tannin, but can rarely be procured without much loss of time.

13. The solubility of the precipitate produced by tannin in a solution of strychnine, by *acetic, citric, and tartaric acid* (vide experiments with the same), show the necessity of avoiding vegetable acids during the treatment of poisoning by strychnine with tannic acid.

14. The same applies to the internal use of *alcohol and alcoholic remedies*.

15. The reported experiments with rabbits have sufficiently proved that more active

voluntary movements excite the spasms usually produced by strychnia, even when they otherwise would not have made their appearance. In treating cases of poisoning by strychnine, it is therefore highly important to prohibit as much as possible all voluntary movements, and to avoid violent excitement of any other kind.—*Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*, March 12, 1860.

MEDICINE.

ON THE TREATMENT OF DELIRIUM TREMENS BY LARGE DOSES OF DIGITALIS.

By G. M. JONES, M.R.C.S. Lond. and Edin.; Surgeon to the Jersey General Hospital. Having just had an opportunity of showing to some Medical friends from London—Mr. Spencer Wells, Dr. Ballard, and Mr. McCrea—the effects of large doses of digitalis in the treatment of a very severe case of delirium tremens; and having been strongly advised by them to make my experience of this mode of treatment, known to the Profession, I gladly do so by means of the *Medical Times and Gazette*.

About twelve years ago I was called to see a patient with delirium tremens, residing about a mile from my house, who was almost *in articulo*. I prescribed a dose of chloric ether with tincture of opium; but the wife, who came for the medicine, took, by mistake, a phial containing *one ounce* of tincture of digitalis. I discovered the error; and was horrified when I heard the patient had taken this dose; but no less surprised than pleased when I also heard that, instead of being poisoned, he was very much better. Under ordinary treatment, I fully believed he would have died; but after this single dose he rapidly recovered. Profiting by this hint, I began to give digitalis in all the cases of delirium tremens which came under my care in Hospital and private practice; and during the last twelve years I have adopted it in at least seventy cases—this effect of drunkenness being very common in Jersey.

As to the dose, experience has taught me that the best dose is *half-an-ounce* of the tincture given in a little water. In some few cases, this one dose is enough, but generally a second dose is required four hours after the first. In some cases, but very seldom, a third dose is called for; but this hardly ever need exceed two-drachms. The largest quantity I have ever given was *half-an-ounce* at first, *half-an-ounce* four hours afterwards, and another *half-ounce* six hours after that—making an ounce and a-half in ten hours.

As to the effects of these doses, my impression is that the action is on the brain, not on the heart. The pulse, so far from being lowered in force, becomes fuller, and stronger, and more regular, soon after the first dose. The cold clammy perspirations pass off, and the skin becomes warmer. As soon as the remedy produces its full effect, sleep for five, six, or seven hours commonly follows; sleep is the guide as to the repetition of the dose. No action on the kidneys is evidenced by any unusual secretion of urine. Sometimes the bowels are slightly acted on, but not commonly. I have never once seen any alarming symptom follow the use of these large doses of digitalis. The only case I have lost since adopting this treatment had a tumour in the brain. In three only was other treatment adopted after digitalis had failed to procure sleep; in other words, in sixty-seven out of seventy cases digitalis was the only medicine used, and sixty-six of these patients recovered. I do not mean that these are the exact numbers of those treated; I am certain as to the death, but I may have had more recoveries. I am well within bounds in saying seventy cases in twelve years, and that all of them were well-marked cases of delirium tremens. Slight cases of nervous derangement after drinking I have seen in great numbers; but I speak here only of such cases as required active treatment. My previous experience of the results of the treatment by opium, or some of its preparations, by anti-spasmodics, etc., had certainly been much less successful; the proportion of deaths was larger, and the recovery much less rapid. Again; I have treated

more than one patient successfully by digitalis, who, in subsequent attacks elsewhere, has been treated by opium and died; and in many of the cases in which I have used digitalis successfully, opium had been previously given without any good effect.

I will only allude to one case in illustration:—On September 9, 1860, I was called to see a gentleman, 48 years of age, who was in a very alarming state, having been without sleep four days and nights, having been “muddled” for two months before, and having previously had “fits of the horrors.” He had been treated by another Practitioner by opium in moderate doses, but had become worse, and when I was sent for it was the opinion of Mr. Spencer Wells and Mr. McCrea—who accompanied me in my first visit—that the case was as bad a one as *they* had ever seen; certainly *I* never saw a worse. The pulse was almost imperceptible; the skin covered with cold, clammy perspiration; the face deadly pale; the lips blue; the hands tremulously grasping the air; the eye expressive of great fear; the mind gone; he was muttering incoherently. With some difficulty I passed half-an-ounce of tincture of digitalis down his throat in the presence of my friends. In a few minutes he became more tranquil, the pulse was felt more easily, and we left him. After four hours I found that he had not slept, but he was rather more sensible, less tremulous, and warmer. I accordingly repeated the dose. Three hours after that, as he had been still without sleep, though in other respects improving, I gave two drachms more, making ten drachms in seven hours. After this he had some sleep, and had slept at intervals during the night. The next morning Dr. Ballard saw him, with my other friends, and all of them were much pleased with the great improvement manifested. He was sensible, his fears had disappeared, he was very slightly tremulous; the skin was warm, the tongue moist, and the pulse full and regular at 90. The heart's sound and impulse were normal; the bowels had acted once, and urine had been passed in natural quantity. After this he took some broth, drank freely of imperial and lemonade, but took no stimuli of any kind, or any other medicine. He slept uninterruptedly for three hours and a-half in the afternoon, and at intervals in addition. The next night was a good one; and when he was seen by my friends again the next morning he was almost well, and calling out for a mutton-chop.

I trust that this narrative of the results of my experience may induce others to follow what I believe to be a very valuable practical lesson; but I must warn those who do so not to try, as I have done, any smaller doses than those I have recommended. They would not only lose valuable time by so doing, but I believe would do harm. Doses of half-a-drachm or a drachm do no good whatever; and the pulse, in some cases where I tried them, became intermitting. I have never seen this effect from the larger doses; on the contrary, a feeble intermitting pulse has generally soon become fuller and more regular, proving, I think, as I said before, and as I again wish to impress on the Profession, that the curative action is on the nervous system primarily, and not on the organs of circulation.—*Medical Times*.

THE LARYNGOSCOPE: ITS VALUE IN HEALTHY AND DISEASED CONDITIONS OF THE THROAT AND WINDPIPE.

By GEORGE D. GIBB, M.D., M.R.C.P.

PROFESSOR CZERMAK, lately of Pesth, but now of Prague, in Bohemia, paid a short visit to London in the last week of August, and took advantage of the opportunity to demonstrate the use of his laryngoscope at some of the hospitals, and at several private sittings, to many members of our profession. I spent the evening of the last day of the same month with the Professor, by special appointment, in company with Dr. Thudichum, and he favoured me with a complete description of his most valuable instrument, and showed the use of it upon his own person, a brief account of which I thought of sufficient importance and novelty to bring before the readers of *THE LANCET*. I must premise by stating that M. Czermak does not take to himself the credit of hav-

ing been the first to invent the laryngoscope, for he was fully aware—as, indeed, he states in his work—that Mr. Liston had contrived something of the kind in 1840, and more lately M. Garcia (1855). He was not acquainted with Mr. Avery's instrument, which has been known to the profession, as I am informed, for many years. But he has perfected the instrument in every way, and has shown its application in the most satisfactory manner to both physiological and pathological researches. There are many instruments in London which are called Czermak's; some of these were shown to him, and he informed me that they were not his invention, and were widely different in their construction from his own. It is of importance to state this, because any one anxious to use the proper laryngoscope can obtain it from Weiss, in the Strand.

It consists of a circular mirror, perforated by a round hole in the centre, (indeed like that of the ophthalmoscope, only that its diameter is greater;) and a small looking-glass reflector, on a stem and handle for introduction into the pharynx. The light employed may be either that of the sun, or of a good moderator lamp in a dark room; the latter is always at command. Clear daylight will answer. With a good light, the whole of the pharynx can be illuminated by the aid of the mirror, when the next step is to introduce the small reflector, previously warmed, into the pharynx, gently pressing it against the anterior part of the *velum palati* and *uvula*. This proceeding was carried out by M. Czermak in his own throat; and he regulated his movements by the aid of a second reflector, by means of which he himself saw what was being exhibited to the spectator. On his first introducing the small reflector, he repeated the ejaculations "Ah ah!" "Eh, eh!" continuously, which permitted the epiglottis to be elevated during the expiratory efforts, and a good view of the interior of the glottis, with its vocal cords to be obtained. The lips of the glottis would occasionally close and expand like a fan, the pivot being situated anteriorly; this, to my mind, is one of the most remarkable and striking features connected with the larynx in its healthy state. This movement was effected by the utterance of the sounds mentioned, and the rapidity with which it was accomplished was truly interesting and remarkable, and affords an idea of what this part of the vocal apparatus undergoes during speaking and singing. He showed me all the different parts of the larynx in a quiescent and active condition, and concluded this part of his demonstration in closing the glottis, by bringing the lateral surfaces of the cords together, and then gliding the arytenoid cartilages forwards into apposition with the base of the epiglottis. This last feature as he assured me, was one of considerable difficulty to accomplish and I could perceive that it cost him an effort to do it. It is represented in fig. 10 of the second plate of his work on the Laryngoscope published this year in Paris.

Having rested himself for a few minutes, and partaking of a glass of sherry—an example which we all followed, as our own throats were shortly to be inspected,—he reintroduced the reflector, and altered the position of his neck and throat so as to permit of a view down the larynx. With some little arrangement a good posture was gained for the passage of the light downwards, and I saw clearly the rings of the trachea, and afterwards, lower down, the right and left bronchi, with the intermediate septum of a yellowish-white colour, presenting a distinct light object between two apparently circular dark spaces. This is also engraved in his book—fig. 7 of plate 2. I must confess that, familiar as I had been with the idea of the actual passage of a probang so far down by Dr. Horace Green of New York—a feat which I knew was quite possible in such experienced hands,—I little dreamt of the possibility of actually being able to see thus far down the larynx. There was no disbelieving the evidence of one's senses, but it was sometime before I could certainly realize in my mind the fact of having seen, from the mouth, the bifurcation of the trachea in a living and healthy person. Whilst observing all these, I was fascinated with the intense interest of this novel subject, and was only afraid that I was taxing the good nature of the Professor.

He now showed me the posterior nares and Eustachian tubes, and all the parts in con-

nexion with the former. The posterior edge of the septum of the nose stood out quite distinct, and the posterior terminations of the middle and inferior turbinated bones were well seen. The orifices of the Eustachian tubes presented circular concavities with raised margins, and certainly seemed different from what they are generally described. The upper part of the pharynx was shown by simply introducing a reflector looking upwards at the same time holding the soft plate downwards and forwards.

These illustrations were confined solely to the examination of the healthy parts; but a great field is opened out with the aid of the laryngoscope, for the examination of various internal and hidden diseases of the larynx of which we at present have scarcely any conception. The Professor told me that with its aid he has been enabled to introduce the solid caustic and touch an ulcer within the larynx. If tracheotomy has been performed for laryngeal disease, a reflector can be introduced into the trachea opening, and a view of the internal disease will be at once afforded from below upwards. Much as the ophthalmoscope has done for hidden and obscure diseases of the eye, it is probable that even more may be expected from the laryngoscope in many terrible, intractable diseases of the larynx. But it appears to me that it is an instrument that cannot be commonly applied, unless by very delicate and steady hands; and it requires a special experience in its use. My own throat was submitted for examination, and the little reflector was delicately and gently applied by M. Czermak in front of the soft palate; I did not feel the slightest uneasiness although my faucial mucous membrane is irritably sensitive, and I was able to sustain a good, prolonged examination. The Professor declared, however, that I knew how to disport my throat for examination; and he said that he saw the laryngeal structures more distinctly and with greater facility than is his custom. Dr. Thudichum was not so fortunate in applying the reflector to my throat, for it rather tickled the uvula, and I felt disposed to cough. After a little practice with this instrument, I feel persuaded that I shall be enabled to demonstrate its use pretty satisfactorily to others.

There are other peculiarities in connexion with the laryngoscope besides those I have described. It is not necessary, however, that I should do more on the present occasion, than to draw attention to the use of this most valuable auxiliary. No one in any way familiar with the delicate structures of the throat should be without it.

Portman-street, Portman-square, Sept. 1860.—*Lancet*.

QUININE : A PROPHYLACTIC OF INTERMITTENT AND REMITTENT FEVERS.

By H. W. DESAUSSENE, M.D.

(*Read before the South Carolina Medical Association.*)

I desire to record a few observations on the power of quinine to protect the constitution against attacks of fever in those habitually exposed to malarious influences. A case which came to my knowledge years ago, and which I shall hereafter relate, first drew my attention to this subject. Subsequent facts, obtained from experiments on the African coast, have confirmed the experience derived from this individual case; and I think that I have been able to collect a sufficient number of data to render the opinion plausible, if not conclusive that quinine possesses the power of protecting the white man from attacks of intermittent and remittent fever, or its collaterals, when exposed for even long periods to malarious influences; and, moreover, that its daily use is in no-wise injurious to health; nor does its habitual use render the system insusceptible of its remedial powers.

It is well known that during the years 1840-41, the English Government sent an expedition into Africa to explore the sources of the Niger River. The expedition consisted of two vessels, well manned and fitted with all the appliances and comforts that skill could devise for securing the health of the men about to undergo a prolonged stay in a

region well known to be deadly to the white man, from the severity of its malarious diseases. The disastrous results of that expedition are well known. Of the two ships crews, none escaped more or less severe attacks of fever; few returned alive to England; and the expedition was necessarily abandoned, after two years of struggle with the fearful endemics of the swamps of that deadly river.

More recently, in 1854-55, the British Government determined to renew the effort to explore the Niger. They again sent two vessels, to remain in the river during two years. The results of the second expedition were very different from those of the first. Few of the officers or crew were attacked with fever, and in those attacked the disease was slight and easily controlled. The apparent cause of this striking difference in the health of the crews of the two expeditions was believed to lie in the free and daily use of quinine by the officers and men of the expedition, from the time of entering the river until they left it. The quantity administered to each individual daily was five grains, which was required to be taken in the morning, before exposure on the decks of the vessel. Under this treatment it was found that no attacks of fever occurred during the time the vessels were in the river. As soon as the vessels left the river, which they were obliged to do by the annual fall of its waters, the quinine was discontinued. Some of the crew was then attacked with fever which, however, speedily yielded to renewed doses of quinine, showing that its continued use during several months had not destroyed the susceptibility of the system to its remedial action. In consequence of the occurrence of these cases of fever, the quinine was resumed as a daily allowance, and no other cases occurred. It was finally ascertained, as the result of several subsequent trips up the river, that it was necessary to continue the use of quinine for fifteen days after prolonged exposure to the malarious influences of the river, in order to ensure entire immunity from attacks of fever. It is, moreover, stated that during the time the quinine was being administered, the general health of the officers and men improved much, and their general aspect was that of men in robust health.

The importance of these facts to a country abounding, like our own, with malarious forms of disease, is undoubted. The question of how far quinine may be depended upon as a protective against malarial fever and to what degree it can induce in the white man a capability of living in health, while exposed to the fatal miasma of our swamps and cultivated lands, becomes one of deep import to us. Is quinine a prophylactic against malarious fevers? If it is, can it be taken safely without injury to the general health, and for how long periods? The last of these questions has been answered to a certain extent by the results of the Niger expedition. For two years the crews of the exploring vessels took quinine daily for a period of from three to five months, not only without injury, but with absolute benefit to their general health. And not only was their general health benefited, but if they were attacked with fever from discontinuing the remedy too early after exposure the curative powers of the drug were as marked, as if it never had been used before. For how long a period this may be continued, a fact within my own knowledge may tend somewhat to show. I was much interested in the statement made to me at the time, but as it was then only an isolated case, not sufficient of itself to justify positive conclusions, it was retained as a subject for future investigation. The results of the second Niger expedition now give to this case a vastly enhanced value.

An overseer agreed to take charge of several rice plantations in one of the sickliest regions of rice culture, undertaking to spend the summer months on one of the plantations. He made no inquiry as to the health of the one chosen as his residence; it was selected from its convenient locality. When warned of the danger of his residing there in summer, he said he would not have the fever. His own confidence in his capacity to resist malarious disease seemed unlimited. The result fully justified this confidence. He lived ten years or more in that neighbourhood, spending every summer on the plantation, varied only by an occasional visit to the healthy pine land where his family resided during the summer. He visited his rice fields without hesitation at any

day or night, that his business required. He never had an attack of fever during that time. I saw him after he had been there several years; a finer specimen of robust health would have been difficult to find.

It was ascertained on inquiry, that it was his habit to take quinine daily, during the summer, before leaving his house! the quantity he did not know, for he never weighed it. He died finally of apoplexy, which any one who saw him would have predicted as the probable cause of his death. His entire and complete confidence in his ability to resist fever in so malarious a region, is strong evidence that he had been in the habit of using it, and was well satisfied of its prophylactic virtues. This case, in conjunction with the statements from the officers of the Niger expedition, would appear to prove that quinine may be used under exposure to malarious influences for an indefinite period, not only without compromising the general health of the individual or injuring the constitution, but as surely protecting the system from the inroads of malarious disease.

Some other facts tending to show the prophylactic powers of quinine were collected during the past summer. Two white men were employed during the whole summer in a malarious region at the head of one of the rice rivers—the one to superintend plantation work, and the other to bring produce down the river in a coasting vessel. The latter of course was much exposed in his passage up the river in the midst of a rice growing region. He was urged to take quinine daily; he did so during the early part of the summer; but judging his health perfectly good and himself free from fever, he discontinued its use, considering it no longer necessary. He was soon afterwards—within fourteen days—attacked with a mild form of malarious fever, this attack was easily cured by quinine: he took it daily during the remainder of the summer and escaped any further attacks of fever. The other man, who was employed on the plantation, had lived all his life in the city, was entirely unaccustomed to malarious influences, and, therefore, according to all our reasoning a fit subject for a severe attack of the disease. His occupation, moreover, required him to be exposed late in the evening and early in the morning, being frequently wet up to his waist from the dews lying on the rank vegetation, through which he had to wade passing to and from his business. During the early part of the summer he went to reside in an unhealthy pine land, occupied by some overseers, with their families. Warned of the unhealthy nature of his daily occupation and the risk he incurred at his summer residence, he took daily five grains of quinine before he went out of the house, and endeavoured to persuade those around him to pursue the same course, which they refused. By August he was the only individual of the settlement who had not had an attack of fever. Satisfied of the immunity secured to him by the quinine, he then determined to return and live on the plantation, as being nearer to his business. This he did in the latter part of August, and there he remained during the rest of the summer and fall, without suffering from fever. On the morning in November on which the first hard ice occurred, he discontinued the quinine, thinking it no longer necessary; ten days after, he had a pretty smart attack of remittent fever, which, however, yielded readily to a few large doses of quinine.

This case is one of great importance. A man accustomed to city life goes into a malarious region, resides among those who from long habit were in a manner acclimated to its influence, and as far as our experience teaches, less liable to its inroads; he alone, under the daily use of quinine escapes the fever; all the others, including women and children, are more or less severely attacked. It serves further to confirm the experiences of the second Niger expedition. They found it necessary to continue the use of quinine for fifteen days after exposure to the sources of malaria. This man ceased its use the very first day he saw ice on the ground; in ten days he had an attack of fever. His entire exemption during the summer almost certainly proves that had he continued his prophylactic doses a few days longer he would have entirely escaped. Another fact illustrated by this case is, that the daily use of quinine does

not so habituate the constitution to its effects, as to deprive it of its remedial powers in the treatment of remittent fever. This man was as easily cured by quinine as if he had never taken a dose of it before. It may also be stated that he went into the country in very feeble health; during the summer he became strong, robust, and perfectly healthy. In the same neighbourhood in which this man lived there came three men to reside with a view of collecting turpentine; they were advised to take quinine daily as the region was a very unhealthy one. Two declared themselves accustomed to a malarious atmosphere, and declined to do so; the third consented, and used it daily during the summer. The three men lived in the same house, went to and returned from their occupations together, and were in all respects similarly situated. The man who used quinine daily was perfectly well during the whole summer; the others who did not had very severe attacks of fever. I was called in August to see one of the contractors on the Charlestown and Savannah Railroad, labouring under a very severe attack of remittent fever, contracted during the superintendence of his contract between the Ashepoo and Combahee Rivers, notoriously a very unhealthy region. During his convalescence he informed me that he would have to return to his work on the road, where he had a large number of hands employed (150), that they were negroes brought from healthy regions in North Carolina and he expected all of them to be more or less sick as they were entirely unaccustomed to a malarious climate. I advised him to take quinine daily himself, and to give it to all his hands, white or black. Late in the fall, I met him in the city, he looked healthy and well. He thanked me for the advice I had given him; told me he had carried up some pounds of quinine; and used it himself daily, and compelled all his *employées* to take it also; that he himself had never had another attack of fever, that his health was better than it had ever been, and that not a single one of the 150 hands he employed had been attacked by fever. In fact, he said "the only case of sickness I had was in a negro who came from North Carolina sick." The last instance which I shall bring before you, though less conclusive than the others, is of some importance as, corroborating the testimony derived from the preceding facts. A gentleman more than ten years ago purchased a rice plantation under very disadvantageous circumstances. He was necessarily compelled to give it a great deal of his personal supervision, during the process of clearing out old ditches, and digging new ones and opening canals, being thus exposed to the most fertile sources of malaria, remaining in his rice fields frequently, during summer, until long after nightfall, occasionally until midnight. Although not professedly taking quinine daily, he virtually did so, as he never felt the slightest derangement of his general health without resorting to ten-grain doses of quinine. This was repeated so frequently as almost to amount to its daily use. He has never in the ten or twelve years during which he has led his life of exposure had the slightest attack of fever.—*Charleston Med. Jour.*

DIPHTHERITIC PARALYSIS.

M. Maingaul, who a few years since wrote a thesis upon this subject, as the result of further experience, comes to the following conclusions: 1. Numerous cases prove that there is a variety of paralysis which deserves the title of diphtheritic paralysis, coming on during the convalescence of diphtheritis and croup; it is evidently the consequence of the primary affection. 2. This paralysis may be local, as paralysis of the *velum palati* and of the pharynx. 3. Frequently it is also seated at distant parts, sometimes being limited to the lower limbs, and at others extending successively to the various muscles of the body, thus exhibiting a generalized and progressive form. 4. A simple mild case of diphtheria may give rise to a severe and extended attack of this paralysis. 5. Albuminuria is not the determining cause of this paralysis, as in some cases the urine has contained no albumen whatever. 6. It seems to be the result of a disturbance of the nervous system, without any appreciable lesions of the nervous centres. 7. It may terminate fatally, but usually recovery takes place in a space of time occupying from two to eight months.—*Archives Gén.* tome xiv. p. 716.

MIDWIFERY.

ON THE CAUSE OF SUDDEN DEATH IN PARTURIENT WOMEN.

Read before the Boston Society for Medical Observation and communicated for the Boston Medical and Surgical Journal.]

BY WILLIAM READ, M. D., FORMERLY PHYSICIAN TO THE BOSTON LYING-IN HOSPITAL.

In the recent volume of transactions, published by the Obstetrical Society of London (Vol. I., page 214), may be found a short article on this subject illustrated by two cases. In one, a *post-mortem* examination was made, and a firm clot was found in the heart and pulmonary artery. The other case was similar in its symptoms, but no examination having been made, no verification of the cause was obtained. The Reporter, Dr. Draper Mackinder, states that no satisfactory conclusion has been arrived at, with respect to the nature of the affection; and that upon communicating with Prof. Simpson he received no additional information, the latter being then engaged in investigating the subject.

That these cases should have made a deep impression upon the reporter's mind, is not to be wondered at when we consider the facts. Two mothers who had survived the ordinary dangers of childbirth, long enough to apparently place them beyond the reach of complications arising therefrom, were, with scarcely a moment's warning stricken down by death. Instances of like nature have occurred to many of the readers of this Journal, and reports of cases in which the same train of symptoms has occurred, have been made to the writer but with no satisfactory explanation of the cause. Believing that the principle, upon which the avoidance of such accidents is based, is sound, and from a conviction that the subject is one of the very first importance in the treatment of women subsequently to labour, the following article has been prepared, with the hope that by a dissemination of the knowledge of the *cause* of this most untoward result, its occurrence may be prevented. Prof. Meigs of Philadelphia has borne the amplest testimony on this point in his treatise on Obstetrics, in which, under the term *Heart-clot*, he has treated of the effect of the parturient hæmorrhage in producing the condition which to so great an extent predisposes the patient to this affection. ("Obstetrics; the Science and the Art." Philadelphia, 1852. P. 348 *et seq.*)

The effect of depletion in any way, by general or local bleeding, to increase the crassamentum of the blood and its disposition to coagulate, is well known. The mere amount of blood lost is no measure of this aptitude, for some constitutions will resist its effects to a degree greatly exceeding that which others can endure. This fact every obstetrician is fully cognizant of. The longer the hæmorrhage goes on, the greater also becomes the liability to it, so that either by the quantity lost, the length of time the flow lasts, or by the peculiarity of the individual case, every woman in childbirth becomes more or less obnoxious to its effects.

Fainting is caused by the diminished tension of the vessels in the sensorium, and loss of blood by inducing this condition, brings it on. "But—and this is the danger—if she faint badly, while her blood is become thin and highly coagulable from hæmorrhage, the scarcely moving current partly stops in the heart, and when she comes out of the deliquium she sometimes does so with a *clot* in the auricle and ventricle—she has got a false polypus in the heart and she will surely die." This is Prof. Meigs's way of stating the case, and it is pregnant with meaning to every one who assumes the charge of the lying-in room.

What are the conditions? A woman is taken in labour—hæmorrhage to a greater or less extent goes on through its course, and at last produces all the effects of a slow draining of the vessels—symptoms of lassitude, faintness and disturbance of the circulation. These vary in every case, but of the general fact of their presence, there is no doubt. The blood that remains in the system has been brought by this cause, to a degree of coagulability, that needs only a temporary stop to its flow through the vessels

to precipitate it into a clot. Anything, which brings on this cessation of the heart's action, will be sufficient to produce it. But of all nothing is so likely to induce it as raising the patient into an upright posture, not necessarily on the feet, but to such an extent, that the vessels of the brain lose their tension, by the gravitation of the blood to a lower part of the body. With the loss of nervous power at the centre of vitality the action of the heart stops enough to complete the mischief, and the deed is done. For the sake of more definitely fixing the diagnosis of this affection, the following cases, taken from Prof. Meigs, are here appended.

"A lady was confined, and with a natural labour, giving birth to a healthy child at term. She had lost a good deal of blood with the expulsion of the placenta, which left her weak and pallid. The physician directed her to be kept quiet, so that she had a good day and following night. On the following morning the physician found her in all respects as well as could be wished. Very soon after he had withdrawn from her chamber, she became alarmingly ill, and he was sent for and returned, having been absent about one hour. The pulse was now extremely frequent, weak, and small, and it continued so until her death, which took place on the eighteenth or nineteenth day. It was upon the eighteenth day that I was invited to the consultation, and at once formed the opinion that she had a heart-clot as the cause of all her dreadful symptoms, and which acting as a tampon of the heart deranged the circulation, respiration and innervations of the dying lady. After her decease which occurred the next morning, a white fibrinous coagulum was found in the right auricle, nearly filling it and projecting through the tricuspid valve into the right ventricle, the tail of the clot whipped into cords by the threshing action of the chordæ tendinæ of the ventricle. The pleura of the right cavity contained a large quantity of serum.

When the physician left his patient's chamber on the morning of the attack, she was well enough; when he returned after an absence of only one hour he found her alarmingly ill. She had lost blood in the labour. He had no sooner gone than the nurse took her up, and sat her upon a vessel in the bed to pass the urine. She fainted; the blood coagulated in her heart. She did not die outright, but carried on an imperfect circulation outside of the clot, and betwixt it and the walls of the heart. The red matter of the blood was gradually squeezed out from the clot, and hurried into the pulmonary artery, together with the numerous fragments of the remaining mass of immovable fibrine. Such concrete elements of the blood could not possibly pass through the pulmonic capillaries, whence there arose pulmonary obstructions, pneumonia, pleuritis and hydrothorax as the last consequences of the heart-clot. So she died about the nineteenth day.

"Towards the end of the year 1848, a primipara gave birth to her child. She was a tall slender and very delicate woman. The placenta was not removed. She lost a good deal of blood; probably, a large quantity. Between forty and fifty hours after the birth of the child, I was called in and removed the placenta from the grasp of the cervix which alone detained it. It was so putrid, that the stench of it could not be removed from my hand by any means that I could employ for full twenty-four hours. She was pale and her pulse was somewhat frequent but not enough so to annoy me. The next day I found her comfortable; the milk had come, and she was doing well, though very pale. On the seventh day, she was put into a chair and set before the fire. Immediately she felt sick, was put to bed very ill, and I, being hastily called, told her friends that she had formed a heart-clot, because she had been imprudently taken out of bed, set up, and thus made to faint. In that fainting fit the blood lost the vital induction, and coagulated as it died. She died, as any woman may be expected to do, who is so treated, under such circumstances of debility and exhaustion.

How important, then, that the period succeeding labour, should be watched with the utmost vigilance—so as to prevent those *performances* which nurses, and patients themselves even often insist on, against the most direct and positive commands of the attending physician—restraints which they attribute to dogmatism and old bettysism, and which

it seems to be, in many cases, a mark of good sense and heroism to infringe. Heroism, indeed! but at what a risk!

The calls of nature press—discomfort from the foul linen and bedclothes induce a desire for comfortable appliances—ignorance of the condition of the system, a desire to be considered more *smart* than her friends, or various reasons, prompt the patient to a change of position. She may not suffer, for, by good fortune, her temperament may be one that is not easily affected by the circumstances of her position, and she may escape. But no one can predict this immunity, and wise precaution is not less needful, on account of the exceptions which may occur. No fixed time can be determined, after which the danger of this complication is passed, for this reason—that it is impossible to exactly measure the effect of the hæmorrhage, in any given case, without subjecting the patient to the test—the very thing of all others to be avoided.

The recumbent position, therefore, should be insisted on for such a length of time as will enable the system to recover from the shock of hæmorrhage, resulting from the labour; until we are satisfied by the concomitant symptoms, that no danger will result from assuming any desired position. And in this connection, it may be well to consider whether a longer oversight, than is generally given to patients in childbed, is not called for by the exigencies of the situation. There may be no need of active medication, but the continued visits of the medical attendant will at least impress on the mind of the patient a necessity for greater caution, than if she was left to her own guidance, and that of the nurse—oftentimes the source of much mischief, by routine habits, and ignorant wrongheaded notions of treatment.

From the connection in which the article noticed comes to us, as one of the printed transactions of a Society numbering among its members some of the most eminent obstetricians of the British empire, and from the nature of Prof. Simpson's answer to Dr. Mackinder's inquiry, it is fair to infer, that but little is there known, definitely concerning it, and that the author of the paper is not alone in his want of information regarding its history and cause. It is upon this very point that Prof. Meigs's work will be found to answer every need. The practitioner will there find the whole subject amply and clearly set forth, and with a degree of detail that leaves little to be desired. It is with both pride and pleasure that we point to him as an American authority, and have at this length endeavoured to bring the subject before the profession more prominently than it has been heretofore, with the belief, that under Providence, it needs only an appreciative knowledge of the cause of this fatal result, so much to be dreaded, to avoid its occurrence.—*Boston Medical Journal August 9th, 1860.*

MATERIA MEDICA.

TO PREPARE PILULÆ HYDRARGYRI.

It is usually prepared by drug millers and chemical manufacturers, by triturating together, in appropriate mechanical contrivances, mercury, conserve of roses, liquorice root in powder, and some rather moist viscid material as powdered althea root, in such proportion, that three parts by weight of the mass shall contain one of mercury, thoroughly divided and partly oxidized.

“To my friend and former pupil, Thomas Weaver, the reader is indebted for the suggestion of the following good extemporaneous process for the preparation of this heretofore troublesome mass. It is adapted equally to producing a soft or a pulverulent article, and is so rapid and easy, as to supersede the necessity for the use of machinery for small quantities. Its importance, as a practical improvement, will be appreciated by those, who have attempted to prepare blue mass with the pestle and mortar by the offi-

cial process, and by such as have been disappointed in the quality of the manufactured article as met with in commerce.

“To make three ounces of blue mass extemporaneously:—Take of mercury, $\frac{3}{4}$ j., powdered liquorice root $\frac{3}{4}$ ss., powdered rose leaves, 5 vj., honey 3 vj. Triturate the honey, liquorice-root, and mercury rapidly together for three minutes, or until all the globules of mercury disappear, then add the rose leaves, and work the whole into a uniform mass; if it is too stiff, moisten with a little water—*Chemist and Druggist*.”

GLYCERINE PASTE.

“Recommended as suitable for fixing paper to glass and other surfaces and as keeping very well. Take of gum arabic one ounce, boiling water two fluid ounces, glycerine two fluid drachms. Make a solution.”—*Chemist and Druggist*.”

MISCELLANEOUS.

ON THE MANNA OF THE HEBREWS.

BY M. O'RORKE.

ALL commentators upon the Scriptures have, until now, regarded the substance, upon which the Israelites were nourished in the wilderness for forty years, as a true *manna*. From the recent investigations of Dr. O'Rorke it becomes evident that this manna was a kind of Lichen and, very probably, analogous to a species which he has shown in Paris, which was derived from Algeria.

The following is an abstract of Dr. O'Rorke's communication:—

We read in the 16th chapter of the book of Exodus, that “The Israelites took their journey from Elim, and came into the wilderness of Sin. God came to the succour of his people. At even the quails came up and covered the camp; and in the morning a thick dew lay round about. *It was a kind of white grain suitable for making bread. It had the taste of the purest flour mixed with milk.* When the children of Israel saw it, they said one to another, *Manhu!* What is this?” From this exclamation arose the word manna.

“It covered the camp at the dawn of day, and melted at the first rays of the sun. *This manna, when pounded, could be formed into a paste and baked as bread, or made up in several ways in pastry.*”

The Israelites speedily took a dislike to this food, for a little further on (Numbers, chap. xi. v., 6-8) we read again: “But now our soul is dried away; there is nothing at all besides this manna before our eyes, and the manna was as coriander seed and the colour thereof as the colour of bdellium.” The people went about in quest of it, and having gathered it *they ground it in mills, or beat it in a mortar*, and baked it in pans and made cakes of it, which had the taste of unleavened bread *kneaded with oil*.

Dr. O'Rorke remarked that, the various translators of the Hebrew text differ amongst themselves as to the taste of the manna. One version of the 31st verse of the 16th chapter of Exodus is thus rendered: This manna was like coriander seed, it was white, and it had a taste resembling *the purest flour mixed with honey*. The translators have evidently confounded the expressions *sweet, little sapid, insipid, and sugary*, since they refer the flavour of manna to that of milk, of honey, and even of oil.

Now, in all the European languages the word *manna* is employed to designate a kind of sugary gum,—a concrete sap, which exudes from certain trees, in Sicily, Calabria, and Spain, either spontaneously or by the puncture of insects, or by artificial incisions. The officinal manna is obtained from a species of ash (*Fraxinus Ornus*

and *rotundifolia*), and is collected in June and July. The Sicilian manna is purgative, and it is clear that this manna is not that of the Hebrews.

But there are many other kinds of manna known; it is certain even, that this name has been extended to some sugary or resinous substances, and to true honeys. In Europe the larch (*Larix europææ*) yields a concrete juice called *manna of Briançon* or *manna of the larch*. The juniper also, and in Sweden the *Pinus picca*, yield some at the extremities of their highest branches.

The East also furnishes several kinds of manna, derived from several plants in Syria, Persia, and Arabia. These are obtained from the Cedar, from a leguminous plant (*Hedysarum Alhagi*), from the Oriental oak, (?) from the Tamarisk, and from several other undetermined species of plants.

All these masses are collected upon the branches and the leaves of the trees which produce them, or upon the ground beneath the same trees. They assume the form of little seeds like to coriander, sometimes as white as snow, which the inhabitants collect in June and August before the sun rises; for when the sun has risen, these little masses melt, and form a honey-coloured coating which does not separate spontaneously from the branches. Rauwolf, Gmelin, Niebuhr, and especially Burckardt, have given very correct descriptions of these mannas, and of the plants which produce them.

Burckardt, in the account of his travels in the deserts of Sinai, which were traversed by the Israelites, mentions the *tarfu* or tamarisk as being the plant which furnished the manna of the Hebrews. It is really strange, says he, that this should have remained unknown in Europe until it was indicated by M. Seetzen. This substance is called *manna* by the Arabs, and resembles, up to a certain point, the description of manna given in the Scriptures. It may be remarked further, that this manna is only found in very wet seasons; sometimes it is altogether wanting.

In the season during which the Arabs collect it, it never acquires that degree of firmness which will allow of its pulverization. The amount of tamarisk manna really collected even in the most favourable seasons, is insignificant, and does not exceed five hundred livres for the whole of the country. It is entirely consumed by the Bedouins, who regard it as the most delicate dainty which the country furnishes.

The cedars of Lebanon also yield a manna which resembles that of the larch, called *cedrine mastichina*; in Egypt, the *Asclepias procera* also produces a farinaceous manna, and in Syria the *Apocynum syriacum* is in the same estimation.

But all these mannas, and especially that of the tamarisk, differ very much from the manna of the Israelites. The manna of the Hebrews fell from heaven, and covered the camp on the ground; whilst the real Oriental mannas are obtained from the stems, branches, or leaves of the trees from which they exude, and cannot be dispersed into the atmosphere and then fall in the form of dew. It is true that, anciently, all the mannas were designated by the expressions of *dew of heaven*, *honey of the air*, *heavenly honey*, because the ancients imagined that the sugary drops suspended from the trees were produced by the dew which hardened upon those plants. Such was the opinion of Aristotle, Pliny, and Avicenna. Matthiæus regarded it as a sort of saliva or excrement from certain stars; and it was not till 1543 that these absurd beliefs were shown to be wrong by Angus Plæa, who demonstrated that Sicilian manna, did not fall from heaven in the form of dew; he proved that it was produced directly from the proper juice of the ash, by simply covering such trees with a white cloth, and thus isolating them from external influences.

Moreover, the supply of Eastern manna often fails for one or more years in succession; it is always anything but abundant, the trees only producing it for two or three months in the year. The manna of the Bible, on the contrary, fell all the year, and continued to do so for the long period of forty years without intermission. The real manna is only employed as a condiment or dainty—that of the Hebrews served for their daily bread. Moreover, until now, no travellers have related that the Arabs really use manna to replace their bread during meals.

The manna of the Hebrews, was not, then, a true manna, and Dr. O'Rorke believes that he can demonstrate evidently that this manna was a *lichen*. The lichens are cryptogamous, and there are a great many species. They are the first plants which make their appearance on naked bodies, such as stones, rocks, and the ground. These plants have no true roots, and are not parasitic except in appearance, for they do not live at the expense of the body upon which they are applied and to which they adhere. Heat dries them up, but moisture restores them to life.

No lichen is deleterious, and all contain a nitrogeous matter in abundance and a kind of starch; they are employed, therefore, in several parts of the globe as food for man and other animals. We could even employ them everywhere for such a purpose, did we not possess more nourishing matters, and of more agreeable flavour. In Lapland the reindeer eat them; in Norway, those of the inhabitants which are nourished by them are said to be less frequently affected by leprosy than those of whom fish constitutes the principal food. The alimentary value of certain lichens would be even superior, according to some authors, to that of wheat, since a bushel of powdered lichen is equivalent to two bushels of wheat-flour. A great many lichens contain an enormous quantity of oxalate of lime. Some contain a bitter principle (*cetrarine*, &c.); which renders them febrifugal; others a rich colouring principle (*orcine*); and all contain a fecula analogous to *inuline*, which is not coloured blue by iodine.

Amongst the lichens, there is one which is called by Pallas *Lichen esculentus*, and which, according to Acherius, belongs to the genera *lecarona* and (?) *parmelia*. This lichen is found in Persia, in the deserts of Tartary, in the Crimea, in Asia Minor, &c., always on the ground, where it is carried either by the winds or by its falling from the neighbouring mountains. It there sometimes forms beds several inches in thickness. The sheep are nourished by it, and men make of it a kind of bread, which the poor consume and regard as a true manna sent to them by Providence.

Already, on the 3rd of August, 1828, Thénard had presented to the Academy of Sciences a lichen of a fawn colour, granulated, composed of broken crusts, which had fallen in the neighbourhood of Mount Ararat in Armenia, and which a Russian general of the Persian army had sent to him.

It appears that this lichen dries up during the summer upon the mountains, and is transported by the winds to a great distance, which has caused the inhabitants to say that, *this grain fell from heaven*. This shower was not rare, and under certain circumstances covered the ground, to a depth of five or six inches in several places. The sheep were fond of it, and men were habitually nourished by it.

A shower of this kind was noticed in 1845 in the Crimea at Jenis-Bechir. It covered the ground to a depth of three or four inches, and the inhabitants, following the example of Dr. Levéille, nourished themselves with it for several days.

The lichen is even more common in the Algerian Sahara, and in Arabia. Everywhere they employ it for the nourishment of men and horses.

The specimen lately shown in Paris by Dr. O'Rorke was collected by M. Bellesterot at Boghar, in Algeria, and M. Hardy, Director of the Botanic Gardens of Algeria in 1849, had sent a specimen of it to the Exposition, which was altogether unnoticed.

This lichen, called *takuout* in Arabia, and *ousseh elard* (excrement of the earth) in Algeria, is found in the form of little twisted rounded grains, the largest of the size of a pea, and of a yellowish-grey earthy colour. Its fractured surface is white and farinaceous and contains some particles of sand which crack under the teeth. In flavour it is insipid, amylaceous, and with a feeble aroma of the champignon. When boiled in water this lichen slightly swells, becomes more tender, and can be mixed with milk, butter, and salt, and forms a food which has no bad quality or disagreeable appearance.

In the Algerian Sahara, as well as in Arabia, this lichen does not adhere to any foreign body; it appears to spring spontaneously from the ground after rain; the wind collects it together in certain places in large heaps and they say of it *acquirit vires eundo*, for in its wandering course it vegetates and increases in size. Its surface is covered with

small, very apparent fructifications, from which, at maturity, the reproductive sporidia escape, which, microscopic in appearance, become dispersed over the ground, or are transported by the winds to enormous distances, in order to develop themselves, when the conditions of soil and humidity are favourable to them. Such, while it remains, is of an inestimable value to the wandering and migratory tribes of the deserts, who are preserved by it from hunger in years of famine and in certain particularly critical circumstances.

Is it not evident, says Dr. O'Rorke that this substance is the true manna of the Hebrews,—that which fed them with regularity for forty years in the wilderness? Those who desire a more complete agreement with the text of the Scriptures can yet admit this conclusion:—Moses has confounded, under the name of manna, two distinct substances, because they both resembled each other in apparently falling from heaven, that is—

1st. An amylaceous substance which could be preserved and pulverized suitable for making bread, might be collected at any time, increasing on the ground, like to coriander or bdellium in colour; that is the lichen described above.

2nd. A sugary substance, very readily alterable, somewhat rare, and collected on certain trees or shrubs during three months of the year only, and serving as a condiment or dainty to mix with the lichen bread; that is to say, the *manna of the tamarisk*, of the *Alhagi*, and perhaps of some others.

We see then, that the real bread of the Hebrews, the *manna of the wilderness*, is no other than the *Lichen esculentus* of Pallas, or the *Lecanora esculenta* of Acharius. No commentator has hitherto alluded to this.—*Journal de Pharmacie et de Chimie*, June, 1860.

HOW TO FORETELL WEATHER.

THE following manual of the barometer has been compiled by Rear-Admiral Fitzroy, and published by the Board of Trade:—

Familiar as the practical use of weather-glasses is, at sea as well as on land, only those who have long watched their indications and compared them carefully, are really able to conclude more than that the rising glass* usually foretells less wind or rain, a falling barometer more rain or wind, or both; a high one fine weather, and a low the contrary. But useful as these general conclusions are in most cases, they are sometimes erroneous, and then remarks may be rather hastily made, tending to discourage the inexperienced.

By attention to the following observations (the results of many years' practice and many persons' experience), any one not accustomed to use a barometer may do so without difficulty.

The barometer shows whether the air is getting lighter or heavier, or is remaining in the same state. The quicksilver falls as the air becomes lighter, rises as it becomes heavier, and remains at rest in the glass tube while the air is unchanged in weight. Air presses on everything within about 40 miles of the world's surface like a much lighter ocean, at the bottom of which we live, not feeling its weight because our bodies are full of air,† but feeling its currents, the winds. Towards any place from which the air has been drawn by suction,‡ air presses with a force or weight of nearly 15lbs. on a square inch of surface. Such a pressure holds the limpet to the rock when, by contracting itself, the fish has made a place without air§ under its shell. Another familiar instance is that of the fly, which walks on the ceiling, with feet that stick. The barometer tube, emptied of air, and filled with pure mercury, is turned down into a cup or cistern containing the same fluid, which feeling the weight of air, is so pressed by it as to balance a column of about 30 inches (more or less) in the tube, where no air presses on the top of the column.

* Glass, barometer, column, mercury, quicksilver, or hand.

† Or atmosphere, or the atmospheric fluid which we breathe.

‡ Or exhaustion.

§ A vacuum.

The words on scales of barometers should not be so much regarded for weather indications as the rising or falling of the mercury, for if it stand at "changeable" and then rise towards "fair," it presages a chance of wind or weather, though not so great as if the mercury had risen higher; and, on the contrary, if the mercury stand above "fair" and then fall, it presages a change, though not to so great a degree as if it had stood lower, besides which, the direction and force of the wind are not in any way noticed. It is not from the point at which the mercury may stand that we are alone to form a judgment of the state of the weather, but from its rising or falling, and from the movements of immediately preceding days as well as hours, keeping in mind effects of change of direction and dryness or moisture, as well as alteration of force or strength of wind.

By a thermometer the weight of air is not shown. No air is within the tube. None can get in. But the bulb of the tube is full of mercury, which contracts by cold and swells by heat, according to which effect the thread or metal in the small tube is drawn down or pushed up so many degrees, and thus shows the temperature.*

If a thermometer have a piece of linen round the bulb, wetted enough to keep it damp by a thread or wick dipping into a cup of water, it will show less heat than a dry one, in proportion to the dryness of the air and quickness of drying.† In very damp weather, with or before rain, fog, or dew, two such thermometers will be nearly alike.

For ascertaining the dryness or moisture of air, the readiest and surest method is the comparison of two thermometers, one dry, the other just moistened and kept so. Cooled by evaporation as much as the state of the air admits, the moist (or wet) bulb thermometer shows a temperature nearly equal to that of the other one when the atmosphere is extremely damp or moist; but lower at other times, in proportion to the dryness of air and consequent evaporation—as far as 12° or 15° in this climate, 20° or even more elsewhere. From 4° to 8° of difference is usual in England, and about 7° is considered healthy for inhabited rooms.

Briefly, the barometer shows weight or pressure of the air; the thermometer, heat and cold, or temperature; and the wet thermometer, compared with a dry one, the degree of moisture or dampness.‡

It should always be remembered that the state of the air foretells coming weather, rather than shows the weather that is present—an invaluable fact too often overlooked, that the longer the time between the signs and the change foretold by them, the longer such altered weather will last; and, on the contrary, the less the time between a warning and a change, the shorter will be the continuation of such foretold weather.

To know the state of the air, not only barometer and thermometers should be watched, but the appearance of the sky should be vigilantly noticed.

If the barometer has been about its ordinary height, say near 30 inches (at the sea level),§ and is steady, or rising, while the thermometer falls, and dampness becomes less, north-westerly, northerly, or north-easterly wind, or less wind, less rain or snow may be expected.

On the contrary, if a fall takes place with a rising thermometer and increased dampness, wind and rain may be expected from the south-eastward, southward, or south-westward.

A fall with a low thermometer foretells snow.

Exceptions to these rules occur when a north-easterly wind, with wet (rain, hail, or snow) is impending, before which the barometer often rises (on account of the direction of the coming wind alone), and deceives persons who from that sign only (the rising) expect fair weather.

* Thirty-two degrees is the point at which water begins to freeze, or ice to thaw.

† Evaporation.

‡ The two thus combined making a hygrometer; for which some kinds of hair, grass, or seaweed may be a makeshift.

§ It differs, or stands lower, about a tenth of an inch for each 100 feet of height directly upwards, or vertically, above the sea; its average height being 29.04 inches at the mean sea level in England. Allowances must therefore be made for barometers on high land or in buildings.

When the barometer is rather below its ordinary weight, say down to near 29½ inches (at the sea level), a rise foretells less wind, or a change in its direction towards the northward, or less wet; but when it has been very low, about 29 inches, the first rising usually precedes or indicates strong wind; at times heavy squalls from the north-westward, northward, or north-eastward,—after which violence a gradually rising glass foretells improving weather if the thermometer falls; but, if the warmth continue, probably the wind will back (shift against the sun's course), and more southerly, or south-westerly wind will follow, especially if the barometer rise is sudden.

The most dangerous shifts of wind, or the heaviest northerly gales, happen soon after the barometer first rises from a very low point; or, if the wind veers gradually, at some times afterwards.

Indications of approaching changes of weather and the direction and force of winds are shewn less by the height of the barometer than by its falling or rising. Nevertheless, a height of more than 30 (30.0) inches (at the level of the sea) is indicative of fine weather and moderate winds; except from east to north, occasionally.

The barometer is said to be falling when the mercury in the tube is sinking, at which time its upper surface is sometimes concave or hollow; or when the hand moves to the left. The barometer is rising when the mercurial column is lengthening; its upper surface being convex or rounded, or when the hand moves to the right.

A rapid rise of the barometer indicates unsettled weather; a slow movement the contrary; as likewise a steady barometer, which, when continued, and with dryness, foretells very fine weather.

A rapid and considerable fall is a sign of stormy weather and rain (or snow). Alternate rising and sinking indicates unsettled and threatening weather.

The greatest depressions of the barometer are with gales from S.E., S., or S.W.; the greatest elevations, with wind from N.W., N., or N.E., or with calm.

Though the barometer generally falls with a southerly, and rises with a northerly wind, the contrary sometimes occur; in which cases, the southerly wind is usually dry with fine weather, or the northerly wind is violent and accompanied by rain, snow or hail; perhaps with lightning.

When the barometer sinks considerably, much wind, rain (perhaps with hail), or snow will follow; with or without lightning. The wind will be from the northward, if the thermometer is low, (for the season)—from the southward, if the thermometer is high. Occasionally a low glass is followed or attended by lightning only, while a storm is beyond the horizon.

A sudden fall of the barometer, with a westerly wind, is sometimes followed by a violent storm from N.W., or N., or N.E.

If a gale sets in from E., or S.E., and the wind veers by the S., the barometer will continue falling until the wind is near a marked change, when a lull may occur; after which the gale will soon be renewed, perhaps suddenly and violently, and the veering of the wind towards the N.W., N., or N.E., will be indicated by a rising of the barometer with a fall of the thermometer.

Three causes (at least)* appear to affect a barometer:—

1. The direction of the wind—the north-east wind tending to raise it most—the south-west to lower it the most, and wind from points of the compass between them proportionally as they are nearer one or the other extreme points.

N.E. and S.W. may therefore be called the wind's extreme bearings (rather than poles).

The range of difference of height shown, due to change of direction only, from one of these bearings to the other (supposing strength or force, and moisture to remain the same), amounts in these latitudes to about half an inch (as read off).

2. The amount—taken by itself—of vapour, moisture, wet rain, or snow in the wind, or current of air (direction and strength of wind remaining the same), seems to cause a change amounting in an extreme case to about half an inch.

* Electrical effects are yet uncertain.

3. The strength or force alone of wind, from any quarter (moisture and direction being unchanged), is preceded or foretold by a fall or rise, according as the strength will be greater or less, ranging in an extreme case to more than two inches.

Hence, supposing three causes to act together—in extreme cases—the height would vary from near 31 inches (30.9) to about 27 inches (27.0), which has happened, though rarely (and even in tropical latitudes).

In general, the three causes act much less strongly, and are less in accord; so that ordinary varieties of weather occur much more frequently than extreme changes.

Another general rule requires attention; which is, that the wind usually appears to veer, shift, or go round with the sun (right-handed or from left to right),† and that when it does not do so, or backs, more wind or bad weather may be expected instead of improvement.

It is not by any means intended to discourage attention to what is usually called "weather wisdom." On the contrary, every prudent person will combine observation of the elements with such indications as he may obtain from instruments; and will find that the more accurately the two sources of foreknowledge are compared and combined, the more satisfactory their results will prove.

A barometer begins to rise considerably before the conclusion of a gale, sometimes even at its commencement. Although it falls lowest before high winds, it frequently sinks very much before heavy rain. The barometer falls, but not always on the approach of thunder and lightning.‡ Before and during the earlier part of settled weather it usually stands high and is stationary, the air being dry.

Instances of fine weather, with a low glass, occur, however, rarely, but they are always preludes to a duration of wind or rain, if not both.

After very warm and calm weather, a storm or squall, with rain, may follow; likewise at any time when the atmosphere is heated much above the usual temperature of the season.

Allowance should invariably be made for the previous state of the glasses during some days, as well as some hours, because their indications may be affected by distant causes, or by changes close at hand. Some of these changes may occur at a greater or less distance, influencing neighbouring regions, but not visible to each observer whose barometer feels their effect.

There may be heavy rains or violent winds beyond the horizon, and the view of an observer, by which his instruments may be affected considerably, though no particular change of weather occurs in his immediate locality.

It may be repeated that the longer a change of wind or weather is foretold before it takes place, the longer the presaged weather will last, and, conversely, the shorter the warning the less time, whatever causes the warning, whether wind or fall of rain or snow, will continue.

Sometimes severe weather from the southward, not lasting long, may cause no great fall, because followed by a duration of wind from the northward, and at times the barometer may fall with northerly winds and fine weather, apparently against these rules, because a continuance of southerly wind is about to follow. By such changes as these one may be misled and calamity may be the consequence, if not duly forewarned.

A few of the more marked signs of weather, useful alike to seaman, farmer, and gardener, are the following:—

Whether clear or cloudy—a rosy sky at sunset presages fine weather; a red sky in the morning bad weather, or much wind (perhaps rain); a grey sky in the morning, fine weather; a high dawn, wind; a low dawn, fair weather.§

† With watch-hands in the northern hemisphere; but the contrary in south latitude. This, however, is only apparent; the wind is actually circulating in the contrary direction.

‡ Thunder-clouds rising from north-eastward, against the wind, do not usually cause a fall of the barometer.

§ A "high dawn" is when the first indications of daylight are seen above a bank of clouds. A "low dawn" is when the day breaks on or near the horizon, the first streaks of light being very low down.

Soft looking or delicate clouds foretell fine weather, with moderate or light breezes; hard edged, oily looking clouds, wind. A dark, gloomy, blue sky is windy; but a light bright blue sky indicates fine weather. Generally, the softer clouds look the less wind (but perhaps, more rain) may be expected; and the harder, more "greasy," rolled, tufted, or ragged, the stronger the coming wind will prove. Also, a bright yellow sky at sunset presages wind; a pale yellow, wet:—and thus by the prevalence of red, yellow, or grey tints, the coming weather may be foretold very nearly, indeed, if added by instruments, almost exactly.

Small inky-looking clouds foretell rain:—light scud clouds driving across heavy masses show wind and rain; but, if alone, may indicate wind only.

High upper clouds crossing the sun, moon, and stars, in a direction different from that of the lower clouds, or the wind then felt below, foretel a change of wind.

After fine clear weather, the first signs in the sky of a coming change are usually light streaks, curls, whisps, or mottled patches of white distant cloud, which increase, and are followed by an overcasting of murky vapour that grows into cloudiness. This appearance, more or less oily, or watery, as wind or rain will prevail, is an infallible sign.

Usually the higher and more distant such clouds seem to be,—the more gradual, but general, the coming change of weather will prove.

Light, delicate, quiet tints or colours, with soft, undefined forms of clouds, indicate and accompany fine weather; but gaudy or unusual ones, with hard, definitely-outlined clouds, foretel rain, and probably strong wind.

Misty clouds forming or hanging on heights show wind and rain coming—if they remain, increase, or descend. If they rise or disperse, the weather will improve or become fine.

When sea-birds fly out early, and far to seaward, moderate wind and fair weather may be expected; when they hang about the land, or over it, sometimes flying inland, expect a strong wind with stormy weather. As many creatures besides birds are affected by the approach of rain or wind, such indications should not be slighted by an observer who wishes to foresee weather.

There are other signs of a coming change in the weather known less generally than may be desirable, and therefore worth notice; such as when birds of long flight, rooks, swallows, or others, hang about home, and fly up and down, or low—rain or wind may be expected. Also, when animals seek sheltered places instead of spreading over their usual range; when pigs carry straws to their sties; when smoke from chimneys does ascend readily (or straight upwards during calm), an unfavorable change is probable.

Dew is an indication of fine weather; so is fog. Neither of these two formations occurs under the overcast sky, or when there is much wind. One sees fog occasionally rolled away, as it were, by wind—but seldom or never formed while it is blowing.

Remarkable clearness of atmosphere near the horizon, distant objects, such as hills, usually visible, or raised (by refraction), and what is called "a good hearing day," may be mentioned among the signs of wet, if not of wind, to be expected.

More than usual twinkling of the stars, indistinctness or apparent multiplication of the moon's horns, halos, "wind-dogs,"* and the rainbow, are more or less significant of increasing wind, if not approaching rain, with or without wind.

Near land, in sheltered harbours, in valleys, or over low ground, there is usually a marked diminution of wind, during part of the night, and a dispersion of clouds.

At such times an eye on an overlooking height may see an extended body of vapour below (rendered visible by the cooling of night) which seems to check the wind.

Lastly, the dryness or dampness of the air, and its temperature (for the season), should always be considered, with other indications of change or continuance of wind and weather.—*Pharmaceutical Journal*.

* Fragments or pieces (as it were) of rainbows (sometimes called "wind-galls") seen on detached clouds.

THE
British American Journal.

MONTREAL, NOVEMBER, 1860.

THE LATE A. F. HOLMES, M.D. AND P.

Having in our last number briefly stated the particulars connected with the death of this esteemed member of the Profession, we now address ourselves to a detail of his life, which cannot be deemed otherwise than one of unremitting labour for the advancement of that Profession, of which he was a distinguished ornament, as of general beneficence to that public by which he was surrounded. It is a confessedly difficult task to do justice to a theme like this, but imperfectly executed though our task may be, we feel nevertheless bound to discharge the duty.

Dr. Holmes was born in Cadiz, whither his parents had been taken prisoners of war in a vessel, which had been captured by a French frigate, on its passage to this country. This occurred in the year 1797, and in 1801 the family reached Canada, his father first setting himself up in business in Quebec, from which city he afterwards removed to Montreal, where the son was sent to the school of the late Dr. Skakel, which afterwards became the Royal Grammar School, and which in conjunction with like schools, in Quebec and Cornwall, under the charge of the late Dr. Wilkie in the former place, and in the latter of Dr. Strachan, now the venerable and venerated Bishop of Toronto, who was succeeded by the Rev. Dr. Urquhart, —turned out a bright galaxy of scholars, whose classical attainments have not been since surpassed if equalled by any educated in this country. After pursuing in this school, for a number of years, his classical studies, he was articled as a pupil to the late Dr. Arnoldi, one of the late principal physicians of this city, and in due time left for Edinburgh for the completion of his professional studies. Here with that conscientiousness for which he was so characterized, he prosecuted his studies with unexampled ardour, and on August 2nd, 1819, he graduated at that celebrated University, then and for many subsequent years, the "prima inter pares," after having previously obtained his Surgeon's Diploma from the Royal College of Surgeons of the same city, on the 23rd March, 1818. During the year 1818, he was admitted a member of the Royal Physical Society of Edinburgh, and on the 12th July, 1819, in anticipation of his leaving that city, he was chosen an extraordi-

nary member. Botany, Geology, and Mineralogy, were during this period of his life, Dr. Holmes' favorite pursuits or studies, and he brought with him to this country a very extensive herbarium of plants, emblematic of the Flora in the neighbourhood of Edinburgh, and a large collection of minerals and geological specimens, which formed the nucleus of the splendid collection, which he, a few years ago, made over to the University of McGill College, and which now constitutes so striking an ornament of its museum.

Shortly after his return to Canada, he entered into partnership with his former instructor Dr. Arnoldi, which was continued for several years, becoming at length finally dissolved, since which Dr. Holmes continued his practice alone, to the period of his decease. During the early period of his practice here, he was not unmindful of his early loves, and a rich mineralogical and geological collection, and a very complete herbarium of the Flora of Montreal, perhaps without exception the largest and most extensive private collections in the Province, attest his zeal in these departments of Natural Science. Indeed his indefatigable industry in Mineralogy was so conspicuous as to have led the late Dr. Thompson of Glasgow, to apply his name to a new mineral obtained, we believe, in the neighbourhood of Ottawa, and, we believe also, of Kingston, and which was sent to him for analysis. Dr. Thompson called this mineral *Holmesite*. In conjunction with a number of other scientific gentlemen of Montreal, he applied to the Legislature for an Act to Incorporate the Natural History Society of Montreal, which was obtained in the year 1827, we believe, and of this Society, he was for a long period one of its most active members, fulfilling at various and long periods, the duties of corresponding member, curator of museum, and President. If this Society possesses anything of value, its chief acquisitions are its cabinets of mineralogy and geology, and its zoological cabinet, the latter of which is particularly rich in its quadrupeds and birds, of local habitudes. To the formation of a catalogue of the minerals and geological specimens Dr. Holmes especially addressed himself, while Dr. Hall, at his request, undertook the same duty in regard to the mammalia and birds. Dr. Holmes' labours are a monument of his untiring assiduity, and the evidence of his labour is still extant. Until his death, Dr. Holmes took a deep-felt and warm interest in the progress of the Society, which, in the earlier part of his career, was manifested in the labour and time spent in its behalf.

About the year 1823 or 1824, conscious of the want, experienced in this Province by Medical students, of lectures on the different branches of medical study, Dr. Holmes, together with Drs. Robertson, Stephenson and Caldwell, organized themselves into a body; and, under the name of the Medical Institution of Montreal, they delivered, for the first time in 1824, forming the session of 1824-25, a course of lectures, which were recognized by the University of Edinburgh afterwards, on the principle of two courses for one of that University. These early courses of an Institution, which became in 1828 merged into the University of McGill College, and was the means of retaining to this Institution the benevolent bequest of its founder, were delivered as follows:—Dr. Holmes, on Chemistry and Materia Medica, Dr. Stephenson, on Ana-

tomy, Physiology, and Surgery, Dr. Robertson, on Midwifery and the diseases of women and children, and Dr. Caldwell, on the Principles and Practice of Medicine. The death of Dr. Caldwell, in 1832, necessitated a change, and Dr. Robertson was appointed Professor of Medicine, the late Dr. Racey of Quebec was annexed as Professor of Surgery and Midwifery, Dr. Stephenson still continuing to discharge the duties of the chair of Anatomy and Physiology. On the retirement of Dr. Racey from this city to Quebec in 1835, Drs. Campbell and Hall were associated, the former lecturing independently on Surgery and Midwifery, and the latter sharing Dr. Holmes' duties, and delivering under him the course of *Materia Medica*, after which session that course was delivered over exclusively to the latter.

During this period of time, the annual attendance of students was gradually augmenting, and this fact, together with the further division of the branches of medical study in Great Britain, determined at the decease of Dr. Robertson in 1844, a further augmentation of lecturers correspondent with an increased number of chairs. We accordingly find at this juncture, Dr. Holmes called to the chair of the Principles and Practice of Medicine; Dr. Charles Sewell, appointed to the chair of *Materia Medica*; Dr. Bruneau, to the chair of Anatomy; Dr. Hall, to the chair of Chemistry; Dr. Crawford, to that of Clinical Medicine and Surgery; Dr. McCulloch, to that of Midwifery, and Dr. Fraser, to that of Institutes of Medicine, while Dr. Campbell still retained his chair of Surgery. Since that period, with the exceptions which now appear in the staff of Professors, few alterations of magnitude have taken place, and Dr. Holmes continued to discharge until the day of his decease the various duties which devolved upon him with a rare fidelity. Since the new organization of the University he was appointed and acted as Dean of the Faculty, a position eminently his due from his long and faithful services to it, but to this he voluntarily associated the duties of treasurer, librarian and registrar, and moreover superintended in his own person all the details connected with the delivery of the courses of lectures, and the economic management of the rooms; and so strict was he in his outlays or disbursements, that his papers when handed over to Dr. Campbell, the recently appointed Dean, contained the account of the expenditure even of a *six pence*. To the Library of the Faculty he devoted especial attention, and its present condition of excellence is entirely due to his superintending care.

In his lectures the style of Dr. Holmes was not generally pleasing, but still all admit that they were characterized by minuteness of detail, and that he exhausted every subject upon which he dwelt. He was always a hard and indefatigable student, and his lectures bore evidence of that fact, in the richness and copiousness of their detail, and no new theories were broached without being brought fully under examination in his class room. It was always his desire to give the latest views, to minutely criticize them, and while separating the chaff from the wheat, to lay before his hearers things as they are, or should be, not as what many wished them to be. Hence he was, for the sake of his lectures, a laborious student. Few have longer burned the midnight oil: he seldom retired to rest, after his daily work was over, before two or three in the morning. This is a fact personally known to ourselves.

With the Montreal General Hospital, Dr. Holmes was connected since its establishment in 1823, either as an attending or consulting Physician. When this fine Institution was first organized, we find his name associated with those of Drs. Robertson, Caldwell, Lœdel, Stephenson, and Lyons, as forming its first staff. He served for upwards of 20 years as an attending physician, and then availed himself of a by-law, established by the Governors, and retired upon the consulting staff, which now numbers the following retired officers:—Drs. Bruneau, Hall, and Campbell, to which during his life time was added the name of Robertson.

In his practice Dr. Holmes was characterized by sound judgment, and acute discrimination. As a consulting physician his opinion was eagerly sought, as one upon which reliance could be placed, both as regards the nature of the morbid actions going on, and as to the line of practice to be pursued. He was sensitively alive to the amœnities of the profession, and spurned the advantages which his consulting practice afforded him. He was therefore the friend and confidant of the younger members of the profession in this city, who had no hesitation in confiding to him their doubts and difficulties. His footstep will be missed in many a private family, for his patients regarded him with feelings of the fondest affection.

Dr. Holmes was the author of no work on the medical or collateral sciences. Besides controversial writings on medical subjects, he was the author, however, of several important papers, which from time to time appeared in the medical periodicals. His first paper was "on the intra-uterine crying of the child," published we believe, in the year 1822 or 1823, in the *Edinburgh Medical Journal*, and of which but two or three instances are on record, demonstrative of the fact, that the child may cry and have insufflation of its lungs before its birth. He was the first to direct attention to this very important fact, one of immense interest in a medico-legal point of view.* In the *Montreal Medical Chronicle* he published some interesting cases of "heart disease;" and an elaborate paper on "fatal jaundice." In the first series of the *British American Journal*, he was author of the following papers. "On fleshy tubercle of the uterus," and "a case of wound of the heart without rupture of the pericardium." These were published in the first volume. In volume 2, appeared from his pen, "a case of femoral hernia," and a paper on "Obstruction of the appendix vermiformis," and in vol. 3, "a case of the employment of chloroform." All these papers shew great research, especially those on "fatal jaundice," and "fleshy tubercle of the uterus."

He was a member of the following societies: Extraordinary member of the Medico-Physical Society of Edinburgh, (1819); Non resident member of the Wernerian Society of Natural History of Edinburgh, (1820); Corresponding member of the Lyceum of Natural History of New York, (1825); Corresponding member of the Medico-Chirurgical Society of Edinburgh, (1823); Member of

* We are informed that he was the author of several important papers, which appeared in the *Boston Medical Journal*, before any medical periodicals were originated in Canada. We are not acquainted with the titles of these papers, nor can we get access to them.

the Natural History Society of Montreal, (1827); Member of the Connecticut Academy of the Arts and Sciences of New Haven, (1830); and Corresponding member of the Literary and Historical Society of Quebec, (1830).

In 1853, Dr. Holmes was elected President of the College of Physicians and Surgeons of Lower Canada, a duty which he fulfilled with marked ability during his triennial period. This was a well rendered tribute to his merits, the highest honour which could have been conferred upon him by the Profession of the Lower Province, which thoroughly recognized them.

Here we might pause, but if we did we should omit all allusion to what was Dr. Holmes' most striking characteristic. In every sense of the word he was the Christian gentleman. He carried into all his acts a most devout sense of the presence of his Maker, and what he did, was always to His glory. To use the words of a contemporary journal, "But high as was the position he attained in his profession, and as a medical man, he was not less distinguished as the Christian gentleman, ever actively employed in the service of his Divine Master. He was a member of the Church of England, and an active member of the Church Society, and of the Local Committee of the Colonial Church and School Society. He was also President for some time, and always an active member of the Montreal Auxiliary Bible Society, labouring most earnestly to promote its objects."

Such then were some of the works, and such the character of our deceased friend. We little thought when we commenced this biographical sketch, that it would have extended to the length which it has. We give it however as a tribute of sincere friendship to one, whom we loved as a brother while living, and whose worth will long

" . . . Linger^{*}ing haunt the greenest spot
On memory's waste."

SMALL POX.

This loathsome disease has been more than ordinarily prevalent in the suburban districts of this city for some time past, and we regret to observe, that it has been even more so in Ottawa, where it has been propagated and fostered by inoculation. We have also cognizance that it exists, and has been spreading in the neighbourhood of Phillipsburg and the country surrounding that locality. This is much to be regretted, when so simple a means as vaccination would completely arrest it. So long, however, as this remedy is not made compulsory by the government, so long will this loathsome pest continue its ravages. The late Hon. Mr. De Blaquière, at the last session of the Legislature, introduced a bill entitled, "An Act for the more general adoption of the practice of vaccination," based upon the English act of the same tenor. This, had it passed, would have prevented the misery and suffering now experienced. We do trust, that at the ensuing session of the Legislature, some member will be found, who will take the measure up, and see it carried. Such a man would deserve well of his country. A law does exist rendering the practice of inoculation penal; this act went only half way. We require one to make vaccination compulsory, and this

necessary step in our advancing civilization must be taken. With regard to the inoculation said to have been practised in Ottawa and its surrounding country, we feel surprised that no attempt has been made to put in force the inoculation act, passed some years ago by the Legislature; by that act, inoculation is penal, and an example or two of punishment would soon arrest the practice.

THE MEDICAL CLASS AT MCGILL COLLEGE.

We are happy to announce that the class in the Faculty of Medicine in this University promises this winter to be an uncommonly large one. The dissecting class is unusually large, upwards of sixty having already given in their names to the Demonstrator of Anatomy. Dr. Howard, so lately appointed to the chair of Medicine, vacated by the demise of the lamented Dr. Holmes, is performing his duties with marked ability.

In the original department of this number, to the exclusion of several papers, we have given the Introductory Lecture of the course as delivered by Professor MacCallum, on the 5th November. It will be found amply to repay perusal.

MONTREAL GENERAL HOSPITAL.

Dr. Craik, Demonstrator of Anatomy in the Faculty of Medicine of McGill College, has been appointed one of the Attending Physicians, in place of Dr. Sutherland, resigned, and placed upon the Consulting Staff. We have no doubt that Dr. Craik, who for many years performed the duties of House Surgeon to the Hospital, will discharge his trust with his wonted ability.

QUEEN'S COLLEGE.

The installation of the new Principal of Queen's College, Kingston, the Rev. Dr. Leitch, took place on the 2nd inst., in the large hall of the College; the Hon. J. Hamilton in the chair. Dr. Leitch delivered an admirable inaugural address, which was listened to with much attention, by a large audience, consisting of trustees and professors, students in arts, theology and medicine, and by a large concourse of ladies and gentlemen of the city. The address was loudly cheered. An address was also presented to the Principal, by one of the Societies of the University.

The Principal then called upon the Secretary of the Faculty of Arts and the Secretary of the Faculty of Medicine, and it was announced that Dr. Lavell had been selected by the trustees to fill the chair of midwifery, vacated by Dr. Litchfield. And the trustees further requested Dr. Litchfield to lecture on Institutes of Medicine as shall be arranged by the Faculty.

It was also announced by Dr. Stewart, Secretary to the Faculty of Medicine, that Dr. Lavell would deliver the general Introductory lecture, in the same hall, at two p.m. the same day (Friday), and the public were again invited to attend. The meeting closed with a benediction from the Principal.

Last session 95 students attended the lectures of the Faculty of Medicine of this University.

THE TOLU ANODYNE.

We have been visited by Mr. Hunnewell, an eminent apothecary of Boston, with regard to this novel preparation of the *Cannadis Indica*, or Indian Hemp. He has informed us, on the authority of the Boston physicians, that its anodyne qualities are of a high order, excelling in that respect the best preparations from opium. We have not yet seen the article, but he informed us that it was his intention to send a small quantity to the principal physicians of this city, for trial. We simply now allude to the fact, and hope in a short time to be enabled to examine the powers of this new remedial article and test it for ourselves.

THE STADACONA ELECTION.

We are far from wishing to commit this Journal to any political views or purposes whatever, but aside from politics altogether we cannot contemplate the proposal to bring forward our esteemed friend Dr. Marsden, as the representative of the Stadacona division of Quebec in the Legislative Council, but as one fraught with great advantages when regarded from a medical point of view, which is the point in which we desire to take it up. Dr. Marsden's well recognised abilities as a scientific physician, the severe industry which has marked his career, his boldness and acumen as a writer, his unswerving fidelity to the path which he deems right, and his ability as a debater, with his other accomplishments, are all auguries that if elected he will prove of immense advantage to the cause of medical science in this Province, and although politics must, if such be the case, occupy largely his time, there can be no doubt of his full attention to the necessities of his more early love. If Dr. Marsden is still willing to make a large sacrifice for the public benefit, (for such it must be in whatever aspect regarded,) while his previous life has been devoted to its best interests, and with but little thanks, it is our opinion that no better, no more accomplished advocate could the Stadacona division have. We will watch the result anxiously, looking upon his return, less as the unflinching exponent of political views than the uncompromising advocate of the best interests of that profession of which he is most unquestionably one of the most distinguished members.

We beg to renew our request to our American exchanges to be informed of the amount of fee paid to chemical experts for the analysis of the stomach and contents, with other portions of the body, in cases of suspected poisoning.

BOOKS, &c, RECEIVED.

- THE EAR IN HEALTH & DISEASE, with practical remarks on the prevention and treatment of deafness; Illustrated by wood engravings. By William Harvey, F.R.C.S., Surgeon to the Royal Dispensary for diseases of the ear. Third edition, revised and improved. London: Henry Renshaw. 12mo., 1860, pp. 239.
- AN ELEMENTARY TREATISE ON HUMAN ANATOMY, by Joseph Leidy, M.D., Professor of Anatomy in the University of Pennsylvania, &c., with 392 illustrations. Philadelphia: J. B. Lippincott & Co., 1861. Royal 8vo. pp. 663.
- AN EPITOME OF BRAITHWAITE'S RETROSPECT OF MEDICINE, in six parts, by Walter S. Wells, M.D., published for the author, by Charles T. Evans, New York. Montreal: Dawson & Sons. Parts 5 and 6, 8vo. pp. 608-919, 1860. Price, \$1.00 per part.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT MONTREAL IN OCTOBER, 1860.

By Archibald Hall, M.D.

Day.	DAILY MEANS OF THE						THERMOMETER.		WIND.	RAIN AND SNOW.			GENERAL OBSERVATIONS.	
	Barometer reduced to 32° at 10 P.M.	Temperature of the Air.	Dew Point.	Relative Humidity.	Ozone.	Amount.	General description.	Maximum read at 9 P.M.		Minimum read at 7 A.M.	Direction and Force from 0 Calm to 10 Violent Hurricane.	Rain in 24 hrs read at 10 A.M.		Snow in 24 hrs read at 10 A.M.
1	30.153	39.8	36.8	0.100	0.10	0.10	Nimb.	46.9	32.7	S. S. E.	0.10	Inch.	Inch.	Fine Lunar Halo.
2	30.072	45.2	39.9	.81	9.0	9.6	Cu. St.	50.0	33.0	W. S. W.	1.3	Inap.		
3	30.231	49.7	44.2	.82	8.5	10.0	Cu. St.	55.0	43.0	W. S. W.	0.6			
4	30.084	48.1	46.2	.94	10.0	10.0	Nimb.	50.8	46.6	N. N. E.	2.3	0.17		
5	30.935	49.5	41.3	.73	9.0	7.3	Cu. St.	56.8	45.0	W. S. W.	3.0	0.13		
6	30.083	41.5	29.0	.55	4.5	4.3	Cu. St.	48.6	37.0	W. N. W.	2.6	0.03		
7	30.847	42.3	33.0	.66	9.0	9.0	Cu. St.	47.2	36.0	S. S. E.	1.3			
8	30.293	46.2	42.2	.87	5.5	8.0	Nimb.	52.0	40.5	W.	2.0	0.54		
9	30.311	43.0	37.8	.80	6.0	6.0	Cu. St.	55.4	36.0	W. S. W.	1.0	Inap.		
10	30.561	49.0	41.0	.72	6.5	7.6	Cu. St.	53.5	37.5	S. S. W.	1.3			
11	30.580	51.4	41.2	.65	5.5	7.6	Cu. St.	62.0	43.0	S. W.	4.3	Inap.		
12	30.957	44.0	34.7	.66	3.5	3.6	Cu. St.	52.4	35.2	S. W.	2.0	Inap.		
13	30.115	43.6	34.5	.67	2.5	0.6	Cir. Cu.	50.9	39.0	W. S. W.	1.0		Fine Aur. towards midn'gt.	
14	30.27	42.8	32.7	.62	2.2	7.0	Cu. St.	49.5	36.0	S. S. E.	1.0			
15	30.971	37.8	35.7	.93	16.0	10.0	Nimb.	45.5	31.5	W. N. W.	1.0	0.07	Rain Sleet Snow, [pools.	
16	30.882	48.0	42.2	.80	7.5	5.6	Nimb.	56.3	35.3	W. S. W.	2.0	0.42	Hour frost with thin ice on	
17	30.193	43.2	35.3	.70	8.0	10.0	Cu. St.	53.0	41.0	N. N. E.	2.3	0.15	Earthquake 5.55 a.m.	
18	30.303	44.0	38.5	.81	7.0	2.6	Cir. Cu.	50.4	36.2	S. E.	1.1			
19	30.219	42.8	32.9	.81	5.0	3.0	Cir. St.	56.8	33.0	W. S. W.	1.6			
20	30.322	43.6	35.8	.74	3.5	3.6	Cir. St.	50.0	33.0	N. N. E.	3.3			
21	30.103	40.1	33.0	.92	9.0	10.0	Nimb.	43.7	36.0	N. E.	2.3	0.35		
22	30.000	46.2	41.6	.94	10.0	10.0	Nimb.	49.5	42.7	N. N. E.	1.0	0.90	Drizzly Rain.	
23	30.539	49.6	46.6	.90	9.5	10.0	Cu. St.	54.5	45.0	N. N. E.	1.3	0.01	Slight Fog early a.m.	
24	30.955	52.2	48.3	.83	5.3	8.6	Cu. St.	58.7	49.0	W. S. W.	1.3	0.02		
25	30.022	53.6	45.7	.84	6.0	9.0	Cu. St.	60.0	50.0	S. W.	1.7		Paint Lunar Corona.	
26	30.963	43.0	41.1	.78	2.5	5.3	Cu.	55.4	33.0	W.	2.3	0.35	Frost. [Lunar Halo.	
27	30.323	42.6	37.8	.78	1.0	0.0	Cir. Cu.	55.0	37.8	N. N. W.	1.0	Inap.	Faint Aur. light, imperfect	
28	30.342	45.2	37.4	.74	1.5	6.3	Nimb.	51.0	35.0	S. S. E.	3.3	0.25	Gale during night of 28-29.	
29	30.187	50.7	46.5	.83	3.0	8.6	Nimb.	55.4	47.0	S. S. W.	2.3	0.09		
30	30.249	52.6	49.9	.93	4.5	10.0	Cu. St.	57.0	49.3	N. N. E.	1.0	0.09	Fog early a.m.	
31	30.143	62.1	57.7	.87	4.0	8.6	Cu. St.	63.4	52.8	S.	1.0			
S's	30.122	48.61	40.78	7.96				53.27	40.36		3.98			

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT TORONTO IN OCTOBER, 1860.

Compiled from the Records of the Magnetic Observatory.

Day.	DAILY MEANS OF THE					THERMOMETER.		WIND.	RAIN AND SNOW in 24 hours, ending at 6 A.M. next day.			GENERAL REMARKS.	
	Barometer reduced to 32° Fal.	Temperature of the Air.	Relative Humidity.	Amount of Cloudiness.	Maxim read at 6 A.M. of next day.	Minim read at 2 P.M. of same day.	Dew Point at 3 P.M.		General Direction.	Mean Velocity in Miles per hour.	Rain.		Snow.
1	29.6722	47.20	82	0-10	49.8	37.2	48.0	N. 44 E.	2.38	0.325	Inch.	Inch.	Solar halo at 5 p.m.
2	.7063	50.25	85	10	54.2	46.4	49.0	N. 27 W.	1.11				
3	.8460	53.93	87	8	59.2	49.4	47.0	S. 54 E.	4.88	.040			
4	.6705	54.60	83	10	59.0	50.2	55.0	S. 63 E.	1.14	.005			
5	.7222	52.97	78	4	64.0	52.0	50.5	N. 29 W.	9.08				
6	.8697	37.77	78	0	53.0	29.8	34.0	N. 78 W.	4.20				
7	Sun day				53.2	33.8		N. 81 E.	2.75	.115			
8	.2347	46.68	70	8	52.6	45.0	35.0	N. 46 W.	18.13				
9	.5010	42.97	80	10	48.0	38.0	42.5	N. 79 W.	6.51	Inap.			
10	.1445	51.80	77	7	59.2	40.2	52.0	N. 39 W.	11.28				
11	.4302	42.27	65	5	61.5	43.7	32.0	N. 59 W.	11.38				
12	.7110	37.45	71	4	45.8	28.4	34.0	N. 86 W.	7.27	Inap.			
13	.8212	39.33	73	4	46.2	30.5	39.0	N. 39 W.	5.37				
14	Sun day				48.5	38.0		N. 24 E.	6.27				
15	.7575	41.57	75	6	49.2	37.5	41.0	S. 82 W.	6.38				
16	.5802	47.98	79	6	55.2	35.0	46.0	S. 75 W.	10.29	.190			
17	.8575	43.42	71	7	49.0	40.2	35.5	N. 7 E.	10.83				
18	.9010	44.20	79	10	49.0	39.0	36.0	N. 20 E.	3.91				
19	.8908	47.08	81	6	53.0	39.0	45.0	N. 10 E.	6.23				
20	.7978	47.50	75	10	52.5	44.8	43.0	N. 47 E.	11.37	.173			
21	Sun day				61.5	44.5		N. 70 E.	12.13	.220			
22	.0153	49.20	97	10	51.4	48.0	47.0	N. 85 E.	6.45	.115			
23	.4895	49.18	96	10	52.8	48.0	49.0	S. 77 E.	3.12	.095			
24	.6405	48.45	87	6	55.0	43.4	49.5	S. 75 W.	3.16	.105			
25	.6300	48.65	86	7	55.1	38.8	49.0	N. 70 W.	5.33				
26	.7463	43.02	80	1	51.0	41.0	40.0	N. 41 W.	7.28				
27	.9097	42.70	83	8	43.2	35.8	41.0	N. 74 E.	11.66				
28	Sun day				55.5	44.0		S. 69 E.	9.21	.225			
29	.7995	52.13	87	5	60.0	51.5	52.5	S. 84 W.	6.12				
30	.7430	55.55	89	8	62.4	44.0	54.0	N. 88 E.	5.81	.010			
31	.7000	58.03	87	10	68.0	52.0	57.0	N. 33 W.	4.84	Inap.			
S's									1.618				
31's	29.6711	47.25	81	7	53.65	41.38	44.57	N. 9° W.	6.93				Rainbow at 4.30 p.m. Dense fog dur. m'g, thun- storm during evening. Lunar Halo. 29th, 30th, and 31st very warm, being 10°9, 14°6, & 17°3, above their resp. av

No Aurora observed during month.