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## Original Communications.

### MEDICAL EVIDENCE IN COURTS OF LAW.\*

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Anyone who has paid even a superficial attention to medical evidence given in courts of law, must have noticed, from time to time, how easily medical witnesses can be procured to give evidence on both sides of a case. It matters not how clear may be the merits of the question, nor how little grounds exist for difference of opinion, yet medical men are found who will give positive testimony on either side, at the shortest notice, and on very flimsy premises. Lawyers take advantage of such conflict of opinion, and set up one medical man against another, until both judge and jury value the evidence by the reputed credibility and professional standing of each, and virtually neutralize the evidence of all by a system of offsets. This only refers to medical opinions, for in respect to facts all witnesses—lay or professional—stand on common ground, and state what are matters of observation, "without note or comment." It is true, medical science gives great room for difference of opinion, seeing it has not the exactness of mathematics. Herein lies the error in dogmatizing on much which is so obscure. Many of these varieties of opinion arise from a vain endeavor to explain everything connected with causes of litigation. In the presence of a court and the assembled multitude, it may not be pleasant to pronounce our ignorance; yet, in the endeavour to give answers hedged round with vain hypotheses of all kinds, the medical witness is apt to have unpleasantly forced upon him a display of how little he knows under a cross-examination, and thus what would have been re-

ceived as competent testimony, if it had been confined to sure opinion, is marred and doubted by pretending to know too much. In this plethora of opinion, lies one reason for so much contradictory evidence. It is well never to say more than the question covers, and to be guarded in even doing that, if the interrogation happens not to be relevant to the case at issue.

Another reason is in supposing ourselves as being witnesses for one side only, because we happen to be subpoenaed by one of the parties. The prosecutor or defendant, who calls a medical man, expects him to give *ex parte* evidence. He is paid a miserable pittance, to cover railway and hotel expenses. Is his testimony not bought and paid for, to be used on the disburser's behalf? This feeling, often involuntary, gets hold of the witness, and immediately the examination begins, he is on the alert against the wiles of the opposite lawyer, and often unconsciously is put upon the defensive to the injury of the truth. We have all felt this tendency. This position is not intentional, but the badgering of an indiscreet lawyer, may drive a medical witness to defend opinions which may give a coloring to a case not intended at the outset. This bias has to be guarded against. The witness is in court to tell *all and only* the truth, as far as in him lies. It is not for him to think of the result, consequent thereon, to any party. In giving evidence, it is not safe to weigh what will be the consequences flowing from its acceptance. "Let justice be done though the heavens fall." Unfortunately medical witnesses, giving opinions based on experience, are looked upon with suspicion by the courts. J. H. Balfour Browne, in the last edition of "The Medical Jurisprudence of Insanity," says: "That medical testimony, when received, should be received as of very *inferior worth*." Medical witnesses are said to be "rash," and to have expressed crude generalizations with an imperturbable effrontery," and that alienist physicians ask to be believed, "with an implicit faith, which was only compatible with the grossest ignorance; lawyers should assert the utter uselessness of the evidence of scientific witnesses in relation to questions of insanity." Lord Campbell says that "hardly any weight should be given to the evidence of skilled witnesses." Judge Davis declares in cases of insanity, "men of good common sense would give opinions worth more than

\* Read before the Canada Medical Association, at Hamilton, Ont. September 12th, 1878.

that of all the experts in the country." A book might be filled with such choice quotations. If those who have made this branch of medical research a life-long study, are such ignorant and unreliable witnesses, what shall be said of the intelligent thousands and tens of thousands in general practice?

It is also to be remembered that in cases of damages for malpractice, each surgeon may have a mode of treatment distinct from any other, but sufficiently practical to be approved of in general practice, by any intelligent physician or surgeon. This treatment may be denounced by some one who is not able, from experience, to test its value, and an unlettered jury may decide the merits of the case in its professional aspects, by considering one method as only worthy of consideration, and give a verdict accordingly, to the astonishment of those best capable of judging. Next to the inscrutable ways of Providence stand the verdicts of juries, in their uncertainty and unforeseen results. This selection by non-professional men, of one method of treatment, to the exclusion of all others, has been seen by me on several occasions. At one time the prosecution was because of a shortened femur, and the merits of the double inclined plane or a straight splint, were decided by a jury selected from one of the back townships. Another was decided in favor of a flap operation as against a circular, the jury being composed mostly of farmers, fresh from the harvest field. Not long since I attended a trial in this city, and the jury were treated to clinics on the *dura-mater*, *arachnoid*, *pia-mater* and their blood vessels. The jury understood the merits of the case, after several hours of medical dissertations, as much as if the Crown Council had given an address in Choctaw. I envied one jurymen who slept soundly through it all, except when elbowed by a neighbour.

Antagonisms unhappily existing among medical men, lead to conflict of opinion. A case comes from a village, a town, or even a city. Observation teaches that the smaller the area from which such evidence is drawn, the stronger are the contentions in the locality, and the more likely does it become, that sides are taken before the suit goes to court. It is a matter of every day experience that in the majority of cases, such a locality will furnish medical evidence for the prosecutor and defendant. The reasons already given, may have something to

do with this diversity of conception. I fear unfriendly feelings, of a professional nature, must sometimes be taken into account. To the honor of our profession, it is seldom that false testimony is given from motives of revenge. Animosity against a professional brother seldom reaches perjury, yet, a love of establishing proof on a different basis from that of a rival, often leads to false conclusions, not intended by the witness. If this itching for novelty leads to wrong impressions, they are still farther intensified by ambiguity, which may be caused by unnecessary economy of words, or by the other extreme of profuseness of illustration, not conducive to perspicuity. Such being the case, a court refuses to reconcile contradictions among those who are supposed to know the merits of the case.

The late Lord Campbell said to three intelligent physicians, "you may go home to your patients, and be more usefully employed there than you have been here!" An equally learned judge said of another doctor, who was well qualified to give good evidence, "you might as well have staid at home and attended your patients." A Vice Chancellor of the Empire stated "that his experience taught him there were very few cases of insanity, in which any good came from the examination of medical witnesses. Their evidence sometimes adorned a case, and gave rise to very agreeable and interesting scientific discussions; but, after all, it had little or no weight with a jury." All judges do not sneer in the same manner, nor indulge in irony and sarcasm at the expense of the medical profession, but the weight given to a physician's or a surgeon's testimony, is not commensurate with his capability to give intelligent and experienced medical opinions. I can see, however, indications of a better understanding between medicine and law. The study of the obsolete is giving place to the practical, and metaphysical distinctions to pathological conditions, in considering many of the exciting causes of human conduct, coming under the head of jurisprudence. It will be seen how medicine and law are considered from different standpoints, and as a consequence the conclusions are diametrically opposite to one another. Medicine holds that all insane persons are afflicted with bodily disease. Law says this is not always the case. Medicine draws a necessary line between idiocy and insanity—the one being congenital, and

the other pathological. Law says they are one. Medicine declares that insanity, being a morbid state, no layman can properly pronounce judgment upon a patient's condition, nor in respect to facts that rise therefrom. Law asserts that a jury can, and should decide on the mental condition of the insane, based upon personal observation, just as an ignorant man would pronounce on the kind of disease a person had, from appearances alone. Medicine can show from living examples, that the sense of right and wrong, the possession of delusions, and many other tests propounded by the disciples of Coke and Blackstone, can have no value to discover insanity, when taken alone, for many insane have a keen sense of the former, and many not insane are troubled with the latter. Law says possession of the first is evidence of a sound mind, but the presence of the other shows insanity. Medicine extends the hand of charity to the mentally diseased, and asks that such be kept in durance for the purpose of cure or safety to themselves or others. Law applies its ironclad tests, and punishes all who can not pass the crucial ordeal. Medicine seeks after causes of action. Law deals out justice on the groundwork of appearances. Experts are called into court to testify in cases requiring the special aid of knowledge in chemistry, mechanics, or any other branch of science and art, and such testimony is accepted in its entirety; but medical men who make a special study of mental diseases, must have their opinions measured by the mental capacity of twelve jurymen, or worse still, by the dicta of judges, who accept rules laid down a century ago, when medical research was still in its infancy. Germany, France, and many of the States of the Union have accepted the medical basis of proof. It is expected that the British and Canadian courts will not ignore a system, that in every day practice will be found to be none the less effective in punishing the guilty, while it will save many a poor wretch from the infliction of a punishment which he had not deserved, as an irresponsible being, any more than a child unborn.

Judge Doe, of New Hampshire, in addressing the jury, *State vs. Pike*, says:

The legal profession, in profound ignorance of mental disease, have assailed the superintendents of asylums, who knew all that was known on the subject, and to whom the world owes an incalculable debt, as visionary theorists or sentimental philosophers, attempting to overthrow settled

principles of law; whereas, in fact, the legal profession were invading the province of medicine, and attempting to install old, exploded medical theories, in the place of facts established in the progress of scientific knowledge. The invading party will escape from a false position, when it withdraws into its own territory, and the administration of justice will avoid discredit when the controversy is thus brought to an end.

Judge Wharton, in his work on "Criminal Law," says:

No jurymen, if properly tender of his conscience and of public opinion, will base his verdict upon other evidence than that of those best able, from long training, and close attention, to understand the features of the case. In some cases the difference between a scientific, or technical opinion, and that of a layman, is not so much in the results attained, as in the guarantee afforded by the superior attainments and more minute expertness of a man of science. The declaration of such a man is insured against the possibility of error, to the full extent of the protection of science in its present state of development. *Pro foro*, this degree of certainty is sufficient, because it is the highest attainable; but the same can not be said of any other."

I make these few general observations, to show that our position in court would be much improved did caution, consistency, discretion, good judgment and candor prevail to a greater extent among ourselves. This would more readily be the case were all medical men, who might be subpoenaed upon a case, to meet together before being called as witnesses and in a calm, judicial way, discuss the different medical points bearing upon the approaching trial, and then go into the witness box, not as partisans "coached" for the occasion by counsel, but as unbiased witnesses, who "nothing extenuate nor set down aught in malice." These qualities are needed very much in the witness who gives evidence in cases of insanity. In most of such found on the criminal docket the disease is obscure, and to "make haste slowly" is very necessary that judgment may be just. The defendant may be a malingerer or a monomaniac, who cunningly hides his peculiarities (as many of them do). Such may be afflicted with melancholia, giving intelligent answers to questions, yet possessing homicidal or suicidal tendencies. The medical witness is often asked to give an opinion of the mental condition of such a person after a few minutes observation and conversation, or at most after one or two interviews of short duration. There

would be no difficulty in doing this, were a patient maniacal and indulging in all kinds of "fantastic tricks," but any one who has passed through the wards of an asylum knows, that a very large proportion of the patients are not of this class. Visitors and grand juries often mistake patients for attendants, and *vice versa*. A few weeks ago an intelligent banker of Toronto wrote me a letter beginning with these words, "The *housekeeper* mentioned to me yesterday." He had been a visitor to the ward every few days for weeks to see a sick friend; yet he mistook one of the most cunning patients in the ward for the housekeeper, and had been consulting him about matters connected with the patients. He was somewhat astonished when told that the *housekeeper* was at times one of the most intractable patients in the ward. A short time ago one of our city lawyers, who prides himself on his power to read almost intuitively the hieroglyphics of character, and who, in his own estimation, could tell an insane person at sight, mistook one of my clinical assistants for a lunatic, and commiserated him on his unfortunate condition. He afterwards came to me for information about "the poor fellow," as he had taken a deep interest in his forlorn and apparently hopeless condition. His pride had a fall when the truth came out. A prominent government official, not long since, mistook one of my most intelligent looking attendants for a patient. I am prepared at any time to select say twenty-four intelligent attendants or citizens, and twenty-four patients out of Toronto Asylum, and present them to any court of law before our most eminent judges, lawyers and jurymen. They will be allowed to make the same superficial examination which is often accorded to medical men in similar circumstances. The selection of patients shall be made from paretics in the early stage of the disease, from those afflicted with remittent insanity, from the melancholy and taciturn, and from monomaniacs. The judgment given of the mental condition found in each case, by such an intelligent and acute board of examiners, would show in a comical light what a travesty of justice it is, to ask even an expert to give an opinion of mental unsoundness, or sanity, after a cursory examination of a prisoner. About a year and a half ago, I was called to attend the assizes in a neighboring county, and asked to decide in a few hours the *mental status* of a prisoner, who had attempted to take the

life of his neighbor by shooting him. The houses of the two parties were near together, being situated on opposite sides of a country road. The prisoner cut a hole in the gable end of his house, and being a bachelor living alone, there was no one saw him cut the hole or shoot. He shot twice at his neighbor, the last shot taking effect in his lung, but not fatally. Every one of the prisoner's acquaintances, lay and medical, thought him eccentric, but perfectly sane. The first two interviews I had with him, I was led to suppose the same. He could talk intelligently on every topic of conversation that was introduced, but would give no reason at first for the attempted homicide. At the last interview I had with him, we began to discuss religious matters. Suddenly he asserted with great solemnity, and with a request to keep it a secret, that he was more than human. I suggested that possibly he might be God in human form. He asserted that I had found out the truth. He was omnipotent, and consequently could do what he wished. He had often lived sixty days at a time without food, to show that Christ's fasting of forty days was not a miracle. When he got out of gaol he intended to fast a year. He had been shot at with bullets by his enemies as he went along the road, or worked in the fields, but having an immortal body they could not harm him. We were sitting on a bed, and I suggested that he might be smothered to death, but he said that he could live without breath. If his head were cut off it would not affect him. He could make himself invisible whenever he pleased. Every one's life was in his hands, and the wife of the man he shot, was his by his divine right to her. Here it will be seen, that a morbid idea led to the attempt at homicide. Had I not happened to touch the key that opened the door to this chamber of fantasies, these aberrations would not have been developed. I was subpoenaed by the Crown, but the Queen's counsel knowing that my opinion would be, that this man showed evidence of insanity, I was not put in the witness box. The defence had not sufficient acumen to see, that this refusal to examine me by the prosecution, was presumptive evidence of my opinion being inimical to the case of the Crown counsel. The prisoner was treated as a sane man and a criminal. He is now in the Penitentiary Asylum. This case is cited to show the danger of hasty conclusions in cases of insanity, and the difficulties medical men

have to contend with, when asked to decide the mental condition of a prisoner at a few hours' notice. What shall he said of the jury, who must give a verdict based upon conflicting opinions, and not upon personal knowledge of the condition of the accused? Some time ago the Commissioners in Lunacy in Britain wisely recommended to the government that "If, upon the occasion of the trial of an indictment, the plea of insanity be set up, we are disposed to think that the question should be tried and determined by the court after taking medical and other evidence, and not by the common jury to try the facts."

An eminent English expert (Bucknill) says :

Generally the physician giving evidence can almost say that he paid *two* or *three* visits to the accused, and conversed with him in his *cell* in prison. In case of concealed delusions, or of disease affecting the propensities, no medical man ought to give an opinion on such shallow grounds. I am not ashamed, he continues to say, to acknowledge that I have observed patients *daily* for *several weeks* without being able to detect existing delusions.

The Court has too high an estimate, of the discerning power of the members of the medical profession. It must be remembered, that there is no well-defined line between sanity and insanity. No man can tell where the one begins, and the other ends. That belongs to omniscience, for we can only infer from manifestations what are the pathological conditions of the brain, and mental disturbance consequent therefrom. A witness should never give a positive opinion in obscure cases, for it must be remembered that while it is unjust to punish an irresponsible person who breaks the law, it is also not desirable that a cunning scoundrel should escape the just penalty of his crimes, under a false plea sustained by medical evidence. We are not allowed to state as to a man's responsibility. The Court decides that important point. Here lies a wide gulf between law and medicine, and, because of its existence, truth has suffered. No formula can cover all the phases of insanity, nor can a measure be found that is sufficiently accurate to map out the boundaries of responsibility, and say to it "hither shalt thou come and no further." All the conditions, physical and mental, of each individual must be known before the springs of action can be gauged with certainty in the shadowy borderland of insanity. "Is there insanity?" asks the Court of

the medical witness. "Is he responsible?" is an enigma for the judge and jury to solve.

Bucknill, in his monograph on Lunacy, quotes a vigorous writer in the *London Times* on this point :

Nothing can be more slightly defined, than the line of demarkation between sanity and insanity. Physicians and lawyers have vexed themselves with attempts at definition, in a case where definition is impossible. There has never yet been given to the world anything in the shape of a formula upon this subject, which may not be torn to shreds in five minutes by any ordinary logician.

Make the definition too narrow, it becomes meaningless; make it too wide, the whole human race are involved in the drag-net. In strictness, we are all mad when we give way to passion, to prejudice, to vice, to vanity; but if all the passionate, prejudiced, vicious, and vain people in this world are to be locked up as lunatics, who is to keep the key of the asylum? As was very fairly observed, however, by a learned Baron of Exchequer, when he was pressed by this argument, if we are all mad, being all madmen, we must do the best we can under such untoward circumstances. There must be a kind of rough understanding, as to the forms of lunacy which can't be tolerated. We will not interfere with the spendthrift, who is flinging his patrimony away upon swindlers, harlots and blacklegs, until he has denuded himself of his possessions and incurred debt. We have nothing to say to his brother madman, the miser, who pinches his belly to swell the balance at his banker's—being seventy-three years of age and without family—but if he refuses to pay taxes, society will not accept his monomania as pleadable at the bar.

Dr. Forbes Winslow, in his "Anatomy of Suicide," says :

A man may allow his imagination to dwell on an idea, until it acquires an unhealthy ascendancy over his intellect. Surely, if under such circumstances, he were to commit a murder, he ought to be held as a murderer, and would have no more claim to be excused than a man who has voluntarily associated with thieves and murderers until he has lost all sense of right and wrong; and much less than one who has had the misfortune, of being born and bred among such malefactors.

This wide definition could not be of practical benefit, because bias, confirmed habit, hereditary wickedness, oddity and peculiarities, may be

normal and the natural out-crop of successive voluntary acts by our progenitors or ourselves. In other words they are not the products of physical or mental disease, and are more or less the inheritance or acquisition of every one. This law of interpretation would include a large number of the insane as responsible beings. There are times in the lives of many lunatics, when they not only know right from wrong (the distinctive Shibboleth of so many judges to the present day), but also when they can refrain from wrong doing, for fear of punishment, as rational beings do in every day life. They can curb the insane impulse, by volitions which are within their control. Should they be exempt from penal consequences? The asylums are full of inmates, who for weeks together, are—as far as human knowledge goes—comparatively sane. Their insanity is periodic. In the intermissions of sanity such have full control over all their acts, and are cognizant of their relationship to society. The equilibrium of the mind at such times, as far as we can judge, is maintained, and such are quite capable to transact business, to bear injuries with equanimity, and forbear from any overt acts as any perfectly sane citizen. If at such times, and during such intermissions the individual commits a felony, should he be held responsible and punished for his crime? I am well aware that objection may be raised that during these so called "lucid intervals" the mind does not fully recover its normal tonicity. This may be true to some extent in many cases, but if the mind have not all the strength of a totally sane man, in vigorous mental health, it has sufficiently recovered, at these times, to perform all its necessary work in the same manner and within the same control as the great majority of mankind. It is proposed to medical men, in view of these difficulties, to confine the definition of insanity to mean brain disease. In this way the question of responsibility would still remain with the Court. If by disease is meant organic lesion, then would the definition be too limited; for functional derangement will dethrone reason for a time. This is seen in the inhalation of anæsthetics, in drunkenness, in the wild delirium of fever, and in the effects of many other topical agents. The brain may become affected functionally, because of excitement in one or more distant organs of the body. This is seen in the kleptomania of women

at certain menstrual periods. The woman who revels in wealth, will become a thief at such times, but would revolt at the thought when the frenzy passes away. It is the love of stealing, not the pleasure of possession alone, that prompts the act. We see the same eccentric causes in puerperal mania, at the climacteric of female life, hysterical mania, nymphomania and such like, which may in their initiatory invasion be excitants, and the cause of permanent lesion of the brain in the long run, but none can say that the mischief has not begun outside of the brain. Disease of the brain will cover the large majority of insane. Disease of the body, outside the brain, will show an efficient cause in many. The two combined make a good majority in our asylums, but to say that lesion of the brain only, is a complete definition of insanity would not be in accordance with experience. *Post mortems* often show extensive adhesions inside the skull, and serious invasion of disease in the substance of the brains of those who have died of other bodily diseases, but sane to the last. Also many an insane person dies, and leaves no evidence of mischief in the head. The exciting cause may affect the encephalon from without, or it may be beyond the research of the pathologist, and cannot be a basis to support the definition above given. Even if this definition were correct, it would be impossible to state when it existed except by mental and physical manifestations; then why not accept a formula like that of the German Penal Code, viz.: "An Act is not punishable when the person at the time of doing it was in a state of unconsciousness, or of disease of mind, by which the free determination of the will was excluded." This does not reject the idea of bodily disease, but it takes the outward manifestation as an indicator of the mischief within, just as the hands of a watch point out the condition of the machinery within. It is a question of *will not* and *can not*—of voluntary or involuntary action—or, in other words, had the accused in any particular act sufficient mental strength to control his actions at any time he wished, or was he led blindly and irresistibly, from any cause, to conduct unnatural and unusual for him to do? Properly speaking none are absolutely free. Inherited predisposition, educated bias, confirmed habit, hobby-riding, well-fed ambition, and such like, are manacles to impede volition. The free will of a sane man must always be considered

in a modified sense, for the ball and chain are hanging at our limbs, as we are paying the penalty for the transgressions of ourselves and ancestors.

The medical witness is to remember, however, that it is not his province to give a general definition of insanity. He is often entrapped into an attempt to do this, in order to give a counsel an opportunity to hold him and his opinions up to ridicule. He is asked in derision, "what is insanity?" but he can retort, by demanding the catechist to define one of the terms of his own question. The discussion of insanity, in the abstract, must be left to essays and text-books. Only facts and legitimate opinions, deduced from them, are asked for, to enable the Court to decide for itself, whether they are such as to warrant the plea of insanity on behalf of the person under consideration. The witness is to guard against being led into defining the insanity of any one, as being a want of power to distinguish *right* from *wrong*. True, many insane people have not that discrimination, but on the other hand, a large percentage of lunatics, have that power, as fully as the sound in mind. No jurist, who has the slightest experience of insanity, now holds that view, because it flies in the face of accepted facts. An illustrious race of English judges, for centuries past, and down to this hour, pronounce verdicts based on this inadequate judgment. On examining recent charges to the juries of Canada, I see indications of change of opinions, in this respect, among our judges, which are more in keeping with the truths of modern investigation.

In the Toronto Asylum there is an estimable lady, who is afflicted with religious melancholy. She has made several attempts at suicide. She never loses her sense of "the wickedness of the attempt," as she calls it, but the uncontrollable impulse is too strong for her. On one occasion recently she felt the strong desire coming on, and begged to have the leather muff put on her hands, lest she might be forced otherwise to accomplish her design. The courts would hold her to be an accountable being, seeing the sense of right and wrong had not been extinguished. A powerful mulatto is in the refractory ward, who is constantly persecuted with spirits. He has, intermittently, a longing to kill somebody. He knows it is wrong to ever think so, and at these times he asks the supervisor to lock him in his room. According to

the interpretations of law, should he commit homicide, he ought to be hanged. In another ward is a patient, who was at one time a prominent writer for the press. He is afflicted with chronic mania of the most pronounced kind. On a recent occasion he told me that he "felt like wanting to kill" one of the patients against whom he had taken a dislike. He said he knew it was wrong to think so, but cunningly added, "you know I am crazy, so they wouldn't hang me." If, unfortunately, such homicide should take place, he should be hanged according to law. Dozens of such cases could be cited in any of our asylums. Dr. Hammond, a reputed expert on insanity, an extensive writer on the subject, at one time Surgeon General of the United States Army, and now associate editor of *The Journal of Nervous and Mental Disease*, said recently in a discussion which took place on this subject, at a meeting of the "Medico-Legal Society, of New York," "that he is in favour of punishing insane people, just as he would a tiger who went about destroying people. If a lunatic had a homicidal mania he would hang him."\* He would not only hang *any* and *all* insane people who killed any one, but he would hang them if they had a mania to kill, even were the deed not performed. This would be an effectual way to make vacancies in our asylums, and would remove perplexing problems from our courts of law to the scaffold and the grave. I am sure such a brutal idea will never prevail where humanity exists. One of the theories of the transmigration of souls was, that some one died when each mortal was born, and the soul of the dead one, was immediately translated to the new-born child. I am afraid no one died when Dr. Hammond was born. I take this charitable view of the author of such a horrible proposal.

There is reason for caution in a witness, when he is asked to acknowledge that peculiarities of mind may mean insanity and irresponsibility. A man may do a great many strange things, and still have perfect soundness of mind. There is no common standard to measure mentality with, analagous to the yard stick and bushel in the British museum. Each man must be gauged by himself, in his antecedent conduct and individuality, for among all the sons and daughters of Adam, no two are alike in body and mind. No man can be

\* *The Journal of Mental and Nervous Diseases*, July 1878, p. 556, et seq.



justly tried by a code of laws, which indulges in vague generalities, on the one hand, or which vaunts an absurd, minute classification on the other. What may seem odd in a naturally quiet and reticent man, may be the usual conduct of him who is "boiling over" with exuberance of spirits. The temperament, peculiarity, bias, habit and mode of thought, of each person must be considered in relation to each history. To expect uniformity in humanity, and judge that one man must act like any or every other man, is the greatest absurdity. This want of sameness must forever bar the way, to finding a general definition of insanity. The conditions are too multifarious for us ever to prove mental *status*, with formulæ as definite as those of Euclid.

A witness should not allow himself to be led into a trap by having proposed to him one symptom at a time, and then be asked if each of those indicate insanity. Each symptom might not be characteristic in itself, when the aggregate might be conclusive. When details are asked for, the witness must guard himself by insisting on their accumulated weight, to enable him to form an opinion. This may not be necessary in acute cases, when the patient's actions speak louder than words, but the sum total of symptoms is of great importance when the indications are obscure. Many times it is impossible to express, in words, the gait, mode of expression, look and general demeanor of an insane person, so as to impress a court with their forcible significancy. Take an example of one of many found in any asylum. A person was once tidy in his habits, is now slovenly. He had a firm step; he has now a shuffling gait. He never decorated his person; he now makes a ring of some material for his finger, or ties it in a button-hole. He was not a keen observer of small things; he now notices and picks up pins, nails, straws, bits of glass, or any other small object that may come in his way, placing them in some corner, in his pocket, or in any other part of his clothing. He may have had distinct utterance; but he has lost that clear enunciation of words and mumbles them out. He was inquisitive at one time as to what was going on around him; he may now listen to a recital of stirring events, and take a momentary interest in them; but it is of short duration. He was active and industrious, but he is now lazy. This recital might be extended indefinitely, but, in short, there

is a perversion of the patient's whole character. The medical witness sees a case of dementia, yet, each of the symptoms taken *seriatim*, would have no significance, being without salient points, to an unobservant jury, and even the combined catalogue, would have little force or weight in many courts of law. There may be no delusion apparent; there may be a sense of right and wrong. Sharp questionings may elicit correct and intelligent answers, but a number of changes of character, such as I have enumerated, pronounce an unsound mind; or rather a physical disease has instrumentally impeded the healthful exercise of mental vigor. The ancient aphorism holds true amid all the fluctuations of mental philosophy, *i. e.*, "a sane mind in a sane body." The appearances of disease may be faint when taken in detail, but to a practiced eye, and to a matured judgment, accustomed to study the faintest outcrop of mental aberrations, those peculiarities tell a tale which may have no weight with the unskilled in the protean forms of insanity.

It is sometimes insisted upon that a categorical answer be given to every question put to a witness. It may be impossible truthfully to do this, because of the form in which the interrogation is put. The examiner is well aware of this fact, hence the bait cunningly thrown out to catch the unwary. For example, were it asked about a patient, "Did he then refrain from speaking nonsense?" Were the answer "yes" it would imply that he had been speaking it, but had ceased to do so. Were the answer "no" it would mean that he had spoken nonsense, and continued to speak in the same strain up to the time under discussion. Neither answer might be true, for if the patient had not spoken at all, as indicated, the fallacy lay in an assumption which had no existence. It would be begging the whole question, and neither a positive nor negative answer could cover the ground. This is only one specimen of a legion of such questions which often perplex beginners, and are propounded with that object in view, and a negative or positive answer demanded with legal pertinacity. When such traps are set and baited with sagacious design a state of "masterly inactivity" is best, until the questioner goes back to legitimate interrogation. A medical witness should never quote authorities, nor should he be entrapped into endorsing or refuting such, if they should be presented by counsel for his consideration. No published books on

medical subjects are competent witnesses in court, nor is a witness compelled to give an opinion about the views the authors may advance. The writers themselves are the only legitimate persons who can testify to their theories and beliefs. I have often seen witnesses caught in this way, even before the opposing counsel could put a veto on the irregularity. "Do you agree with Maudsley in his view on this point?" How does it happen that Bucknill and you differ in this respect?" "Can you give me Tuke's opinions on the subject under discussion?" "In Ray's Jurisprudence such and such theories are advanced, what do you think about them?" "You have read Taylor, will you state what he says about insanity in respect to competent wills, or suicide, or homicidal mania?" These are specimen interrogations which may be put, but need not be answered. A refusal to do so will be sustained by the Court. If a witness begins to air his medical lore by quoting authors, he may be able to show his possession of a good memory, but he will not contribute any *facts* of which he is cognizant, through giving lectures on the opinions of others.

The most difficult position a medical man can be put in, is when called upon to give evidence in cases of contested wills. The capacity of a testator to make a will and the soundness of mind requisite to make a valid one, are often questions of great difficulty. It should be held generally as essential, that the testator should have sufficient mental capacity; to comprehend perfectly the condition of his property, his relation to the persons who were or might have been the objects of his bounty, the scope and bearings of the provisions of his will, and a memory of an activity sufficient to collect in his mind, without prompting, the particulars or elements of the business to be transacted, and to retain them in his mind for a period sufficient to perceive at least their obvious relations to each other, and to be able to form some rational judgment with relation to them. (*Vide* Rokenbaugh on Testamentary Capacity, *Journal of Nervous and Mental Disease*, July, 1878.) This test will cover all the ground. It does not assert incapacity to eccentric testators, nor those who may be laboring under delusions of facts. Esquirol says: The brain may be affected, but it does not necessarily mean an impairment of the understanding. On the other hand, it was strongly asserted by Lord

Brougham, and is now by a certain class of thinkers, that *any* insane delusion entirely destroys the mental capacity of a testator to make a competent will. Lord Brougham tells us, that when travelling in the north of Europe, he at one time was taking a bath at his hotel. As he came out of it he saw a friend in the room, who at that time had died in India. He says he became insensible immediately afterwards. This apparition was doubtless the premonition of a fit. His lordship would not have agreed to have the rule of incapacity applied to himself, on account of this hallucination. Lincoln had many delusions, so say his biographers. Sir Walter Scott was not exempt from them, when he was in the zenith of intellectual vigor. Dr. Johnson heard his dead mother calling out "Samuel." Lord Castle-rough, the brilliant but corrupt statesman, often saw a beautiful child in his chimney corner. Goethe also positively asserts "that on one occasion he saw distinctly his own double"—or himself outside of himself. General Rapp tells us that Bonaparte saw a star of great brilliancy above his head. Napoleon said. "It has never abandoned me; I see it on all great occasions; it orders me to go forward, and it is a constant sign of good fortune." Malebranch, Des Cartes, Luther, Wesley, Knox, Pascal, Loyola, and many of the most remarkable men of the past ages were the victims of all kinds of delusions and illusions. Yet, these children of genius could not be properly called lunatics, even if genius be said to be nearly allied to madness. There is no doubt, in my own mind, that all such deceptions of the intellect or senses often exist without mental aberration being present of sufficient intensity to invalidate a will.

"At the same time in the consideration of every case, imbecility, delusions, monomania, or hallucinations, intoxication, lucid intervals, undue influence or fraud, and presumptions arising from the character of the act itself, the age of the testator, and such bodily infirmities as deafness, dumbness or blindness," must be well weighed in considering testamentary capacity. Eccentricity is said to be the lowest form of insanity. It is seldom, however, that a will is made invalid because of its existence in the testator. In 1861, a wealthy Portuguese died in Paris. He left a will with seventy-one codicils. One of which read "I leave for the Athenæum of Paris 10,000 francs, and the half of the interest shall be paid to a professor of natural history, who

shall lecture on the colors and patterns of dresses and on the characters of animals," Another was, "My funeral shall take place at 3 p.m., the hour at which the rooks of the Louvre come home to dinner." The will was held to be valid, the Court saying "that these peculiarities were but the absurdities of a vain man." The peculiarities of the eccentric are as varied as are the phases of the mind, and it has been well said by Redford, in his "Treatise on Wills," that "The *eccentric* man is aware of his peculiarity and persists in his course from choice, and in defiance of popular sentiment; while the *monomaniac* verily believes he is acting in conformity to the most wise and judicious counsels; and often seems to have lost all control over his voluntary powers, and to be a dupe and victim of some demon like that of Socrates."

Without entering into details, which would need a volume to elucidate fully, it is well in every case to consider whether the aberrations are such as would warrant us to sign a certificate of insanity to commit to an asylum for treatment and safe keeping. If we do not consider such to be safe at large, they are not responsible beings. We should examine as to delusions and ascertain if they are sufficiently strong to warp the judgment and seriously affect the conduct of the individual; or, if they are of such an insulated nature as not to interfere to an appreciable extent with volition, and are not joined with morbid emotions and sentiments. It is also important to observe if the moral feelings and passions are perverted, if measured by a common standard, or better still by the patient's former temper and character, and if these are sufficiently morbid to affect the power of self-control. The impulsive form of insanity is to be examined with great care, for under its guise real culprits take shelter to avoid just penal consequences. The strongest evidence of its existence should be made manifest to a medical witness before he testifies to the presence of mental disease in such cases. If these cardinal points are kept in view, an aid to intelligent testimony will be the result.

#### TREATMENT OF DIPHTHERIA BY SALICYLIC ACID.

BY W. F. JACKSON, M.D., C.M., BROCKVILLE, ONT.

Diphtheria is one of the most dreaded diseases of our climate, and justly so. Hitherto the treat-

ment of it has been, to say the least, unsatisfactory. I feel certain that any remedy which will act upon it in a curative manner with any degree of certainty, will be hailed with delight both by the members of our profession and by the laity.

I think that in *Salicylic Acid* we possess such an agent. I am not aware that it has been reported in any of our journals in this connection, and a feeling of its great worth impels me to make known my experience of its use. The theory of its action is probably to be explained by its anti-putrefactive properties, both topically and generally. In practice it will be found to prevent decomposition of the false membranes in the fauces, the consequent fetor, and the blood-poisoning due to the ingestion and inhalation of putrid matters. It also seems to exert a special *tour de force* against the diphtheritic poison in the blood, for, the patients in whom I have exhibited the remedy, became immediately much brighter, and lost the great inertia so constantly observed in this disease.

The way in which I have given the remedy is in *small but frequently repeated* doses. By this means an immediate local effect is produced and maintained, and within a reasonable time the constitutional action of the drug is manifested.

R. Acidi Salicylici . . . . .	ʒ i
Pulv. Acacie . . . . .	ʒ ij
Syr. Simp. . . . .	ʒ ij
Aquæ puræ ad. . . . .	ʒ iv—M

Mix the powders together in a mortar, add the syrup, and when these are thoroughly incorporated, add the water in successive portions. This makes a creamy mixture which is taken readily by children. The dose of the above is a teaspoonful every hour, to patients between 3 and 10 years of age. I also swab the throat twice or thrice a day with a solution of carbolic acid and glycerine. 1 to ʒ. The dietary of course should be of the most nourishing and easily digestible order, and in considerable quantities.

During the past month, I have had five cases of undoubted diphtheria in all its gravity. Under the treatment here indicated, they all recovered without a bad symptom. The average age was 4½ years. The average confinement to bed was three days, and to the room five days. The patients were allowed to sit up, as soon as their throats were completely free from false membrane. During the progress of the disease, the acid produced no

smarting in the throat until after the separation of the exudation. Beyond slight swelling of the parotids there were no sequelæ, and these yielded readily to the inunction of the iodide of ammonium in the form of a liniment.

I am anxious to give the carbolic acid its fair due in the success of my treatment in these cases, but I am sure salicylic acid would do quite as well were it not for its insolubility.

I do not look upon this or any other drug in the light of a *specific*. Probably the number of cases I have quoted, is too small upon which to base any firm opinion of the real merits of salicylic acid in the treatment of this disease. But these cases behaved so differently, and progressed so much more favorably than any I ever had before under other remedies, that I shall continue this plan of treatment until either I find a better, or experience some good reason for its disuse. During the progress of these cases, I used this drug in a case of scarlatina anginosa—that step-brother to diphtheria—and with the happiest results. In this case the hypso-sulphites had been administered without other effect than to produce vomiting. Aside from any therapeutical value, salicylic acid has the following points to recommend it. 1st, When reasonably pure it is taken without disgust or difficulty. 2nd, In any ordinary quantity it is not poisonous. 3rd, It is cheap; and lastly I would urge, if this drug be used *give it frequently*, from the invasion until convalescence is fully established.

#### ON BASEDOW'S (GRAVES') DISEASE.\*

BY ADOLF ALT, M.D., TORONTO, ONT.

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Although a number of authors, among whom *Graves*, had described cases, which we now count among those of Basedow's disease, before Basedow's elaborate paper appeared, the latter was the first one to recognize the combination of palpitation of the heart, swelling of the thyroid gland and exophthalmus (protrusion of the eyeballs) as a separate form of disease. Since Basedow's first communication in 1840, a large number of such cases have been described, and although up to this

date we do not really know the origin of this disease, its ensemble is fully established.

Basedow's disease begins always with an acceleration and intensification of the action of the heart. The symptoms are most pronounced when the patient stoops or exerts himself in any way or after mental excitement. Although there is very seldom any fever combined with Basedow's disease, the pulsations number from 120 to 200 a minute. The heart's shock is much stronger than normal, and may often be seen through the clothes. The dulness of the heart is often considerably increased; however this symptom may be wanting. Although organic disease of the heart is as a rule not present, there are often systolic noises at the apex or base of the heart. The carotid arteries are enlarged and beat fiercely, and the patients often complain of hearing this beating constantly. While the pulsations of the carotid arteries and often also of the abdominal aorta are so intense, those of the radials are generally very weak and small. The jugular veins are also enlarged, overfilled and pulsating. Sooner or later the thyroid gland begins to swell. The struma, however, seldom becomes very large and is often of an intermittent character. The right lobe seems to be earlier, and more frequently and strongly attacked than the left. The struma is soft in the beginning, but becomes often harder as the disease advances. The blood-vessels of the thyroid gland, especially its arteries are dilated and tortuous. In some cases systolic noises can be heard in them.

The symptoms which are often the latest developed are those concerning the eye, among them the exophthalmus is the most marked. The protrusion of the eyeballs varies very much in degree, and it is often more pronounced in the right eye than in the left. Another important eye symptom which was first detected by *Von Graefe*, concerns the eyelids. In the normal condition the upper lids follow the movements of the eyes, so that when the latter are turned downwards, the lids make the same movement, all the while covering the ball to the corneal margin. In Basedow's disease this co-ordinate movement of the eyeballs or upper lids is nearly, or totally abolished, and when the eyes are turned downwards the upper lids will remain behind so as to leave a strip of sclerotic tissue free to view between the upper margin of the cornea and the ciliary margin of the upper lid. A similar lack of

\* Read before the Toronto Medical Society.

motion is often found also in the lower lids. Where the protrusion of the globes is not well pronounced or symmetrical on both sides, this lack of motion of the lids is a valuable symptom with regard to the diagnosis. The movements of the eyeballs themselves are often restricted in all directions and a slight degree of divergent strabismus is not unfrequent. If the protrusion of the eyeball is so excessive, that the eyelids no longer cover the cornea (especially during sleep), ulceration of the latter is apt to occur, the result of which may of course greatly diminish the patient's sight, or even as in some unfortunate cases lead to perfect destruction of one or both eyeballs. The pupils are mostly of normal size and reaction, and but seldom found to be dilated. The retinal arteries are in many cases enlarged, as broad as the veins. Arterial pulsation in the retina has also been observed in this disease (O. Becker.) Furthermore the patients suffer often from pain in the orbit, the ophthalmic branch of the fifth pair, and in the occipital nerve.

Although these symptoms of the heart, thyroid glands and eyes are the chief symptoms of the disease, a number of others are seldom wanting. The palpitation of the heart may cause a feeling of pressure upon the chest, and dyspnoea, which may sometimes be aggravated into a real orthopnoea and angina pectoris. The digestion is nearly always impaired, and vomiting is frequently observed; in a few cases only the patients, are on the contrary, troubled by an excessive appetite. The patients are frequently very anæmic and become utterly exhausted. This exhaustion is often followed by hydropic symptoms in the lower limbs. In female patients, who as we will see, constitute the majority of subjects of this disease, there is most always, if not always, some deformity or disease of the sexual organs to be found, and the menses are irregular or wanting entirely. Headache and sleeplessness are seldom missing and the patients are frequently very excited and nervous. They are thus rendered unable to do any work, and become either utterly depressed in spirits or so desperately gay, that they seem, and may become really insane, at least, the latter result has been reported in one case.

The disease is seldom acute, its development mostly lasts several years. The three chief symptoms come on as a rule in the following succession :

(1) palpitation of the heart, (2) struma, and (3) exophthalmus. In some cases the three chief symptoms are not well pronounced, when the disease is at the acme; sometimes one of them disappears after all have been developed, and this is mostly the case with the struma. Temporary improvements are frequently observed.

The diagnosis of Basedow's disease is not difficult, as soon as two of the three chief symptoms are well developed. With regard to the lack of motion in the upper eyelids, combined with the exophthalmus, I may mention here, that it is pathognomonic of this disease, and not found in any case of exophthalmus from any other cause. Basedow's disease is seldom fatal. When it is observed to be so, the patients die from hydropic symptoms, sometimes causing gangrenous inflammation of the lower limbs. Hemorrhage in the brain, softening of the brain and meningitis have also been observed. In most cases however, other diseases were present, and the question remained, whether death resulted from these, or from Basedow's disease. On the other hand lasting improvement and entire cure of the affection, have been seen only in about 25 per cent. of the cases, according to Von Dusch. The prognosis *ad vitam* is therefore not a bad one; it depends, however, greatly upon the general condition of the patient and the degree of marasmus he is found in, when first seen by the physician. In women, the return, or beginning of menstruation is a favorable symptom. The prognosis is, however, less favorable in male than in female patients. Why it is so is not known. Perhaps the age of the patient may have some bearing upon this point, since the disease attacks men, later than women. According to recent statistics one out of every 12 patients is a male, *i.e.*  $\frac{1}{8\frac{1}{3}}$  of all the cases.

With regard to the etiology, we know very little. The disease is often preceded by some other acute or chronic disease, or by a great loss of blood or by over exertion. It seems to be beyond doubt, that in women the disease is dependent upon some trouble in the sexual apparatus. Whether this is so in men, is not so certain. Forster recently reported a case, where a disease of the sexual organs was existing. The case was that of a young man, 21 years of age, in whom Basedow's disease came on a short time after the patient had been fighting with a woman for half an hour, in

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order to force her to sexual intercourse, without the wished for result. When Forster saw the patient, Basedow's disease was well developed, and both epididymes were swollen and painful. More careful observation may, perhaps, in future establish in the male the same connection between troubles in the sexual sphere and Basedow's disease, as is acknowledged by all the authors on this subject, to exist in women. It is not impossible also, that perhaps, hereditary influence may come into play in the development of this disease. At least, there is one instance on record, in which two sisters suffered from it. The post-mortems on individuals, who had during life been subject to Basedow's disease, have revealed the following pathological conditions. In some cases the heart was perfectly normal, in most of the cases also free from any valvular deformity. In the large majority, however, the heart was found to be hypertrophic, especially the left ventricle. Its muscular tissue showed sometimes fatty and sometimes amyloid degeneration. The struma was mostly found to be caused by simple hypertrophy of the glandular tissue or by colloid metamorphosis. In some cases there were fibrous nodules and deposits of chalk present in the tumor. In other cases the tissue of the thyroid gland was found perfectly unaltered, and the struma could only be explained by an over-filling of the blood-vessels during life. This latter condition applies especially to cases where the struma was intermittent. The eyeballs were as a rule found normal, at least where no ulcerations of the cornea etc., had taken place. In a case I once had occasion to examine, I found central choroido-retinitis in one eye. Von Recklinghausen found in one case the tissue of the external ocular muscles undergoing fatty degeneration. In all other cases, also in mine, this condition did not exist. The fatty tissue of the orbit is in most of the cases hypertrophic to a varying degree. These pathological conditions, of course would never explain the clinical symptoms. The pathologists therefore looked for some other changes in the body, and lately great attention has been paid to the anatomical condition of the nerves in this disease, especially the cervical portion of the sympathetic nerves. Trousseau and Peter, found the lowest cervical ganglion enlarged, reddish and hyperæmic. Its nervous elements were reduced in size and number, whilst the fat and connective tis-

sue were greatly increased, and the latter very fibrous. These and similar changes in the sympathetic nerve have been found nearly in every case, since the attention of the pathologist was first drawn to them.

What, now, is the real nature of Basedow's disease? Certain it is, that the three chief symptoms, *i.e.*, *palpitation of the heart* with hypertrophy and enlargement of the carotid arteries and jugular veins, struma and exophthalmus with the loss of co ordination in the movements of the eyeball and lid must spring from some common cause. The sympathetic nerve seems therefore to be the centre of the disease. A number of hypothesis were brought forward to explain the nature of the disease. I mention here only one, which is the most plausible and at the same time based upon the few facts the pathologists have found in examining such cases. Paralysis of the cervical part of the sympathetic, due to the pathological changes found in its course, would explain very well the dilatation of the carotid arteries and jugular veins, the vascular struma and the exophthalmus, if we assume that the latter is due to relaxation of the walls and consequent dilatation of the orbital bloodvessels. By the experiments of Claude Bernard, however, it has been proven that cutting the cervical part of the sympathetic nerve produces dilatation of the pupils, contraction of the orbicularis palpebrarum muscle and, instead of exophthalmus as in this disease, retraction of the eye-balls. To explain the symptoms in Basedow's disease, *i.e.*, normal pupil and protrusion of the eye-balls, we would therefore expect rather an irritation of the sympathetic nerve. The difficulty is overcome by another experiment of the same author, by which he has proven that after cutting the so-called oculo-pupillary nerve-fibres and irritating the peripheral end, widening of the palpebral fissure, protrusion of the eye-balls and contraction of the pupils will ensue. These oculo-pupillary nerve-fibres form a part of the cervical portion of the sympathetic, and originate from the anterior root of the second dorsal nerve. We come thus to the hypothesis that the main portion of the cervical part of the sympathetic nerve is paralyzed in Basedow's disease, while a smaller part of it, *viz.*, the oculo-pupillary fibres are in a state of irritation. The palpitation of the heart may, of course, be caused either by a diminished action of the tenth nerve (*vagus*) or an increase of

action in the sympathetic fibres which go to the heart.

The therapeutic measures applied in Basedow's disease have been manifold. Digitalis, iron, quinine, bromide of potassium, cold water, strychnia, and lately arsenic and galvanism have all been used with some success. It will, of course, greatly depend upon the condition the patient is in, when first seen, what remedy should be employed. Arsenic and iron internally, and galvanism together have lately been highly recommended by some French authors and I had occasion to give this method a trial.

Miss A. F., 25 years of age, sister of a medical man, consulted me in November last on account of protrusion of the eye-balls. She had been suffering from palpitation of the heart for many years, and for four years she had noticed a gradual protrusion of the eyes, after having been aware of an intermittent swelling of the thyroid gland for some time. When I saw her she was a very thin, anæmic, little individual; she had no appetite, vomited frequently, and could not do any work, the least exertion bringing on very fierce palpitation of the heart. The patient was very nervous and excitable and was very restless at night. Her pulse was 130 a minute; the carotid arteries and jugular veins were dilated and beating fiercely. Besides the protrusion of the eye balls, there was a slight degree of divergent strabismus. The loss of co-ordination in the downward movement of the eyes and upper lids was very marked. The movements of the eyes were a little restricted in all directions. No struma was present. Patient had never menstruated. I diagnosed Basedow's disease, and treated her according to the method recommended by the French authors, by giving her liquor potassa arsenitis, and tincture of iron internally, and applying the constant current of 5 to 8 elements to the eyes and sympathetic nerve. Increased the dose of arsenic rather rapidly, and when after 4 weeks treatment, the first sign of poisoning, a severe conjunctival catarrh, put in an appearance, I left it off altogether, and went on giving iron alone.

Twenty two sittings of from 5 to 15 minutes at a time, sufficed to improve the patient very considerably, so much so, that no further treatment but iron internally, was deemed necessary. When I saw the lady some time ago, she was

as well as when she was discharged from treatment. There was no more exophthalmus, the lid-symptoms had disappeared, palpitation of the heart was very rare, and came on only after over-exertion. Appetite and general feeling were good. Although this case so far, is considerably improved, I doubt whether this improvement will be durable. The patient certainly is suffering from a great disorder of her sexual apparatus; what it is, I cannot tell, since she refused to have any physician examine her. The removal of this trouble, would in my opinion, be a necessary condition for the cure of Basedow's disease. I may add yet, that Von Graefe advised tarsoraphy, *i.e.*, partial closure of the palpebral fissure in cases of excessive protrusion of the eye and expansion of the cornea during sleep. This operation has so far met with great success. It not only prevents the ulceration of the cornea, which is caused by exposure of that membrane, but it seems to have moreover, a direct healing effect upon the protrusion of the eyes. Later on Von Graefe advised tenotomy of the levator palpebrarum muscles, this operation however has not been adopted, the opinion of the professor being highly in favor of the tarsoraphy.

THE THEORY OF GERMS, AND ITS APPLICATION TO MEDICINE AND SURGERY: BY DRS. PASTEUR, JOUBERT, AND CHAMBERLAND.\*

(Translated from the Portugese,)

BY JOSEPH WORKMAN, M.D., TORONTO.

"All the sciences profit by mutual support. When, in consequence of my first communications on fermentations, in 1857 and 1858, it could be admitted that ferments, properly so-called, are living beings; that germs of microscopic organisms abound on the surfaces of all objects, in the atmosphere and the waters; that the hypothesis of a spontaneous generation is actually chimerical; that wines, ale, vinegar, blood, urine, and all the liquids of the economy undergo, in contact with pure air, none of their common alterations, medicine and surgery presented new aspects under these lights. A French physician, Dr. Davaine, made the first happy application of these principles in medicine in 1863.

\* Translated into Portugese from the *Gazette Medicale de Paris*, by the editor of the *Gazeta da Bahia*, in the numbers for June, July and August, 1878, and to be continued.

Our investigations of last year have left the etiology of putrescence, or septicæmia, much less advanced than that of carbuncle. We have shown that it was very probable that septicæmia depends on the presence, and the multiplication, of a microscopic organism, but the vigorous demonstration of this important conclusion had not yet been accomplished. In order to establish experimentally, that a microscopic organism is in reality the morbid agent in contagion, I see no other means, in the present actual state of science, than to submit the *microbio*, (the new and happy term proposed by Dr. Sedillot) to the method of successive cultures." (dilutions?) "outside the economy. We may here state that in a dozen of cultures, each of the volume of ten cubic centimeters, the original drop has become as far diluted, as if it had finally been in a volume equal to the size of the earth." (Is not this homœopathic reduction, if not something more, *usque ad rogatum alieni*? Translator.)

"Precisely to this kind of test have we submitted the carbuncle bacteria, both Joubert and myself. After having cultivated it a great number of times in a liquid deprived of every virulence, each culture (dilution), having for its seed only one drop of the preceding one, we established the fact, that the product of the last culture was capable of multiplying, and of working in the bodies of animals, giving to them carbuncle with all the symptoms of this affection. Such is, in our opinion, an incontestable proof that carbuncle is a disease from bacteria.

As relates to the *septic vibrio*, our investigations did not in so high a degree produce conviction. It was to fill up this gap that we determined to recommence our experiments. With this view, we tried the culture of the septic vibrio, drawn from an animal dead from septicæmia, and it is worthy of note, that all our first experiments notwithstanding the variety of means of culture adopted, failed: urine, fluid of the ferment of beer, water of cooked flesh, etc.

The liquids which we employed did not remain infecundate, but most times we obtained a microscopic organism which showed no relation whatever to the septic vibrio, and which had a form very commonly of rosaries of small spherical grains, and of extreme tenuity, and without virulence of any sort. There had been an impurity, sown without

our knowing it, at the same time as the septic vibrio, and whose germ, without doubt, passed from the intestines, always inflamed in septicæmous animals, through the abdominal serosity, from which in the outset we took the seed of the septic vibrio. If this hypothesis, as to the impurity of our cultures, be well founded, we should probably obtain the pure septic vibrio, by procuring it in the blood of the heart of an animal recently dead from septicæmia. This was what happened, but there arose a new difficulty. All our cultures became sterile, and still more, this sterility was conjoined with the loss of virulence in the seed of our culture.

It then occurred to us that the septic vibrio might be an organism exclusively anaërobius, (living without air,) and that the sterility of the cultured liquids might depend on the death of the vibriones from the oxygen of the air in the solutions. The Academy will perhaps remember that on a past occasion, I verified facts of the same order in the vibriones of butyric fermentation—that these creatures not only live without air, but that air kills them.\* It therefore became necessary to try the culture of the septic vibrio *in vacuo*, or in the presence of inert gases, such as the carbonic. The facts corresponded to our expectations; the septic vibrio was developed with facility in a perfect vacuum, but with less facility in the presence of carbonic acid. These results had a necessary corollary. By exposing a liquid charged with septic vibriones, to contact with pure air, they should all die, and all virulence should disappear. And this is what happens—Let some drops of a septic serosity be collected, and spread out in a thin layer on a plate placed horizontally; in less than half a day the liquid becomes, absolutely innocuous, even though it was at the outset, virulent to such a degree, as to produce death by the inoculation of the least fraction of a drop. But yet more, all the vibriones which filled, in profusion, the liquid, under the form of fine moving threads, have been destroyed, and have disappeared. Nothing is found, after the action of the air, excepting fine amorphous granulations, foreign to the whole culture, and quite incapable of the communication of any diseased state whatever. It may truly be said that the air has burned up the vibriones.

It is terrifying to think that life may be at the

\* This vibrio is not the same as the septic.



mercy of the multiplication of such infinitely small things; it is still consoling to hope that science will not always impotently confront such enemies, when it is seen almost at the outset of the study, that it shows for example, that simple contact with the air suffices often to destroy them.

But if oxygen destroys vibriones, how can septi-cæmia exist, if atmospheric air exists in every part? How could the blood, exposed to contact with air, become septic from motes floating in it?

All is occult, obscure, and matter for discussion, whilst we are ignorant of the cause of the phenomena; but all is clear when we know it. That which we have above been saying is not true, unless of a septic liquid charged with adult vibriones, in the process of generation by scission. Things are different when the vibriones are transformed into germs, that is, into those brilliant corpuscles, described and figured, for the first time in my studies over the disease of the silk-worm, called for by the occasion of the deaths of these insects from vibriones, producing the disease called *flacherie*. Only the adult vibriones disappear, are burned up, and lose their virulence in contact with air; the germinal corpuscles are in these conditions preserved, always ready for new cultures, and new inoculations. All this, however, cannot resolve the difficulty of knowing how the septic germs exist on the surface of things, and fluctuating in the air and the water. Whence can these corpuscles originate? However, nothing is more easy than the production of these germs, notwithstanding the presence of air in contact with septic liquids.

Let us take the abdominal serosity of septic vibriones, all in the way of generating by scissure, and expose this liquid to contact with the air, as we did with the especial precaution, however, of giving to it a certain thickness, if only that of a centimetre, and in a few hours behold the strange phenomenon presented. In the upper layers oxygen has been absorbed, as is manifested by the change of colour of the liquid. Here the vibriones die and disappear. In the deeper layers, on the contrary, the vibriones protected from the action of the oxygen by their brethren who die over them, continue to multiply themselves by scissure; afterwards, little by little, they pass into the state of corpusculous germs, with resorption of the residue of the body of the filiform vibrio. Then instead of the moving threads of all linear dimensions,

whose bulk exceeded many times the field of the microscope, nothing is to be seen but a dust of brilliant points, isolated or envolved in a formless rout hardly visible. Behold now formed, living, the hidden life of germs, fearless of the destructive action of oxygen,—behold, I say, formed, the septic dust (*poeria*), and see us prepared for the intelligence of that which but a little ago appeared so obscure; we can now understand the insemination of putrescent liquids by atmospheric dusts (poerias), and we can comprehend the permanence of putrid disease caused on the surface of the earth.

I beg of the Academy not to permit me to abandon these curious results, without bringing into prominence one of their principal theoretic consequences. In the commencement of these investigations, (for they have but commenced,) when already a new world has been revealed to us, at what should we aim with most insistence? It is the peremptory proof of the fact, that there exist morbid agencies, which are transmissible, contagious, infectious, whose real cause resides essentially and uniquely in the presence of microscopic organisms. There is demonstration, that as regards a certain number of diseases, we ought to abandon forever the ideas of spontaneous virulence, and of contagious and infectious elements suddenly born in the bodies of man and animals, and fitted to give origin to diseases which fly around and propagate themselves under identical forms; opinions all fatal to medical progress, and which have produced the gratuitous hypothesis of spontaneous generation, of albuminoid ferments, hemiorganism, archebiosis, and so many other conceptions without foundation in observation.

That which we ought particularly to investigate, is whether by the side of our vibrio, there may be an independent virulence, the property of solid or liquid matters; that, in fine, the vibrio is merely an epi-phenomenon of the disease, of which it is but a necessary companion. Now, what have we seen in the results of which I have spoken? We have seen a septic liquid, taken at a certain moment, when the vibriones were not yet transformed into germs, lose all its virulence through simple contact with the air; and, on the contrary, conserve this virulence, after being exposed to the air, with the special condition of having been in a thick layer, during some hours.

In the first instance, after the loss of virulence

from contact with air, the liquid is incapable of rehabilitating it by culture, but in the second, it preserves and can propagate anew this virulence, even after having been exposed to air. It is not therefore possible to sustain that outside of, and by the side of, the hidden vibrio, or of its germ, there may be a proper virulent matter, solid or liquid; nor can we suppose a virulent matter which may have lost its virulence at the same time that the adult vibrio dies; for this pretended matter ought equally to lose its virulence, when the vibriones transformed into germs are exposed to the air.

Since then, in this case, the virulence persists, this fact can only be in consequence of the exclusive presence of the corpuscular germs. There is but one possible hypothesis for the existence of a virulent matter in a soluble state; it is that such matter, which may have been in insufficient quantity to kill, in our experiments of inoculation, may be incessantly supplied by the vibrio itself, whilst it is in process of propagation in the body of the living animal. But what does it import, if this hypothesis supposes the primordial and necessary existence of the vibrio?

This supposition has been held, and for its confirmation, labours without number have been undertaken beyond the Rhine.

Dr. Panum, at present professor at Copenhagen, and in his train a grand number of German physiologists, have advocated the idea that putrefaction develops, in matters subject to it, a soluble poison, which neither cooking, nor distillation repeated throughout many hours, can subdue, just as chemical reactions cannot suppress the effects of morphia or strychnia. This chemical poison has been, by Dr. Bergmann and his followers called *sepsine*. We have sought for this poison in the muscles and the liquids of the bodies of animals dead from septicæmia; but up to the present we have not discovered it, and we must form our opinion from the explanation of facts observed by the German physiologists. The minutæ into which it would be necessary for me to enter, would far exceed the prescribed limits of this communication.

*To be continued.*

#### URETHRAL CALCULUS IN THE FEMALE.

BY WELLINGTON N. CAMPBELL, M.D., NEW YORK.

Early in the month of October I was called upon to treat M. S. a young girl about fourteen years of age, who was under the care of an elderly governess. Her general appearance was that of one in

perfect health, with florid cheeks and rotundity of body. On enquiry I ascertained that she had complained for the last three weeks, of severe lancinating pains referable to the lower part of the abdomen and in her groins; more especially during efforts of micturition. The attendant stated that the girl had had her menses about eight months previous, but had seen no signs of them since, and concluded that they were about to return, hence the distress. I hesitated making an examination without positive signs indicative of local trouble referable to the urethra, deeming the pain on micturition due to the turgescence of the urethral mucous membrane and ovaries, preceding the menstrual flux. I prescribed accordingly an emmenagogue of *ferti sulph. et ergotæ*, with instructions to clothe her in flannel, apply warm fomentations over the genital and pubic regions, and to bathe her feet in warm mustard water. At eight o'clock in the evening of the same day I was summoned again, and was informed that she had made several attempts to urinate, causing her intense pain. On examining the vessel used I found no urine, but pus mixed with blood. This led me to suspect an abscess or foreign substance. An examination revealed the presence of a muco-purulent discharge, which I concluded came from the urethra, as there were no signs of an abscess; and the hymen was intact. I introduced a sound into the urethra and came in contact with a stone, which I removed by the method known as *lithectomy*; by dilating the urethra with a pair of curved serrated duck-billed forceps, then grasping the stone and making gentle traction, it was removed with but little difficulty. The stone was about the size of a hickory-nut, triangular in shape, and laminated. It was of the phosphate of lime formation, having an uric acid nucleus about the size of a small bean. The adjacent mucous membrane was much swollen and inflamed from sympathetic irritation, which caused her some difficulty in micturition, arising from a spasmodic contraction of the sphincter vesicæ, but which subsided in a few days, by the internal administration of opiates, and the external application of a solution of borax and flax-seed water. The father informs me that they had resided in a lime-stone region, and that he had often observed calcareous deposits lining the kettle used for heating water, and that during the summer she frequently drank from the lime-stone brooks. I

prescribed a tonic containing nitric acid in small doses to contract the phosphatic diathesis. Owing to the numerous lime-stone regions in the Dominion, and the liability to the occurrence of stone, would it not be judicious to advise the addition of an acid to the water used for drinking purposes, to contract the tendency to its formation, especially where the lime is in such quantities as to form calcareous deposits in the cooking utensils?

### Correspondence.

#### VOMITING OF PREGNANCY.

To the Editor of the CANADA LANCET.

Sir; I enclose a short statement of a case of the vomiting of pregnancy *cured* by a single application of silver nitrate to the os uteri. I did not think it worth while to report a solitary case, until I saw a single case of Dr. Sims, reported in your last issue. M. N., a large woman, of very dark complexion, eniente in the 3rd month with her second child, was suffering extremely from vomiting and the debility consequent thereupon. She told me she "had vomited the whole nine months with her first child, and took no end of medicine without relief."

She was much discouraged and had but little hope of help. On July 14th, I cauterized the os and vaginal cervix with solid stick of nitrate of silver through an ordinary pipe speculum. She said it smarted her considerably afterwards. She has never vomited since, and is now in excellent health.

Yours truly,

Brockville Nov. 6, '78.

W. FRED. JACKSON.

### Selected Articles.

#### CLINIC ON UTERINE FIBROIDS.

By T. Gaillard Thomas, M.D., New York.

##### SUBMUCOUS FIBROID.

The first patient whom I present to-day is Margaret C., a native of Ireland, thirty-seven years of age, and unmarried. She comes to us with a very interesting ailment, and as she is unwilling to give the history of it in public, I will run briefly over it for you as she related it to me in my private room. Eighteen months ago, having previously enjoyed

good health, she was taken with a violent uterine hemorrhage without any assignable cause. It has never ceased up to the present time, excepting for very brief periods, and almost all the other symptoms from which she is suffering, and which will be mentioned presently, are referable to this long continued loss of blood. As previous to the first appearance of the hemorrhage she had subjected herself to the risk of utero-gestation, she has gotten the idea that she is pregnant, and that the flow is due to the retention of the fœtus in the uterus. Indeed, she declares that a physician distinctly told her that this was the case. This belief has naturally caused her a very great amount of mental suffering, and so much has she worried over the matter that she has become almost a hypochondriac in consequence. At present I find that her pulse is 120, and though it is, no doubt, somewhat excited by coming before you, it is probably never below 100. This is because her blood has become so impoverished by the constant drain upon the system, that the heart has to act much more frequently than it ought normally to do. She is very anæmic in appearance, and there is a systolic murmur at the base of the heart.

Suppose, now, that instead of coming here, this patient had presented herself at your office, what would have been the suggestions which would have presented themselves to your mind as accounting for the symptoms which are given? As the woman is thirty-seven years of age, one of the first ideas to occur might be that she was approaching the "change of life" and that the flowing was probably in consequence of this. But you must never take any such thing for granted; and in connection with the menopause it is well to remember that the irregularities incidental to that period are not nearly so marked as in this case. You should, therefore, insist on a physical examination before expressing any opinion whatever upon it.

Accordingly, with the view of finding out, if possible, the cause of this long-continued flooding, I proposed an examination to the patient, but found it somewhat difficult to make an account of her peculiarly excitable condition. The woman being placed on her back, when I passed my fingers into the vagina I at once felt quite a large mass protruding from the os uteri, which seemed globular in outline, and was altogether too hard for any product of conception. I felt confident that it could be one of only two things, what I show you in this model (a fibroid projecting from the mouth of the uterus), or what I show you in this one (an inverted uterus.) Now let us suppose that you were practising in some remote district, where it was impossible for you to call into consultation any expert in such matters, and this case should come into your hands. It would be very important for you to decide which of these two conditions was present, so that you might know whether to re-

move the mass or not; and the question naturally arises whether it would be possible for you to determine the matter with absolute certainty. I do not hesitate to say with the greatest confidence that it would; and I will show you in what manner it could be done. In the first place, one is not able to make out the character of the mass by grasping it with the fingers. Some authorities have declared that an anæsthetic should never be given when you are about to remove a fibroid, on account of the value of the sensations of the patient in a diagnostic point of view. I am quite sure that all manipulations would in our nervous patient cause an outcry which would render this means of diagnosis very unreliable. How then shall we settle the diagnosis? The method that I employed in the examining-room was as follows: I first resorted to conjoined manipulation, the patient still lying upon the back. Now, by this means we ought to find simply a vacant space in the ordinary position of the uterus, in case the organ is inverted; but, instead of that, I could distinctly make out a firm, solid body in this situation. Next, I placed the woman upon the side, in Sim's position, and, after the adjustment of the speculum, endeavored to introduce the uterine sound. I had no difficulty in slipping it around past the tumor into a cavity, which there could be no doubt was the cavity of the uterus, to the extent of two and a half inches, and in the normal curve of the organ. Furthermore, I rocked the sound backward and forward while it was still in the cavity, and placing my disengaged hand upon the abdomen, I could very plainly feel the fundus moving under it. Then finally, in order to make assurance doubly sure, I passed the sound into the bladder, and, introducing the forefinger of my other hand into the rectum, I could again feel the same hard mass between them, which I had detected on conjoined manipulation; while, if the uterus had been inverted, the end of the sound would have been separated from the finger only by the walls of the bladder and rectum. If you were so situated as I have intimated, and had obtained these results by your examination, you could be perfectly certain that you had a fibroid, and not an inverted uterus, to deal with, and need feel no hesitancy about operating.

Now as to the operation demanded here; what is the best method of performing it? As the patient lives in a remote part of the city, and is furthermore not altogether in a normal mental condition, I should not be at all willing to run the risk of operating at the clinic, unless I should put in a very firm tampon before sending her away, and could feel sure that she had some reliable physician to look after her when she had returned home. I want her to enter my service at the Woman's Hospital, so that I can operate under the most favorable circumstances; but she expresses herself as being entirely unwilling to go into the institution.

I fear, therefore, that she will pass from our notice, and that these profuse hemorrhages will go on, and perhaps increase, until she will finally succumb to them. The method which I should adopt is this: I would place the patient on the side, and, having introduced the speculum, seize and make moderate traction upon the fibroid by means of a pair of vulsellum forceps. Then with a spoon made of steel, nickel-plated or covered with silver, and having a serrated edge, which I have described under the name of the "serrated scoop," and which I have found exceedingly useful in such operations, I would cut through the attachments of the tumor, completely severing it at the base. The separation is accomplished with the greatest rapidity and ease in this manner, and such a sawing movement is not accompanied by much hemorrhage, for the reason that the vessels are so much bruised during their division.

This instrument is especially adapted for the removal of fibroids with very large bases, and several times I have been able to accomplish this successfully by it in cases where I had previously failed by other means.—*Med. Record.*

#### ON DIGITAL DILATATION OF THE OS IN LABOUR.

By W. STEPHENSON, M.D., F.R.C.S.E.

When in normal labour the membranes are ruptured, whilst the os is not obliterated, the posterior part of the head clears the os first, the anterior being still held back by the rest of the cervical tissue. There is a clear gain by this movement, the head is more flexed, a smaller diameter is presented, and the rotation forward of the occiput becomes easy. This is the movement we must not disturb, but if possible facilitate. In aiding labour, therefore, at this stage the support and upward pressure must be exerted only so as to push, as it were, the lip of the cervix *over the occiput*; it must never be done over the forehead. A careful diagnosis of the position of the head must be made, and the direction of the support determined accordingly. The part selected should never be the *anterior* lip, as described by our authors. In the first position of the head the part corresponds with that opposite the left thyroid foramen, and comes readily to the fingers. In the second position it is opposite the right thyroid foramen. In the occipito-posterior position the treatment is carried out less readily, but can still be accomplished, the direction of the force being towards the corresponding ilio-sacral synchondrosis. The success of the manœuvre is dependent upon aiding the occiput to descend first. If then it be practiced at haphazard, and always in the same direction, failure is certain to follow in many cases. By its

improper use the anterior portion of the head may be enabled to lead, and the normal mechanism is disturbed. If the pressure be exerted at the side of the head, as it will be if directed immediately behind the pubes, dilatation does not take place, and the head is really held back. The pressure must be exerted only during a pain, and the patient be directed to bear well down. The efficiency of the uterine action is thereby greatly increased.

This method of aiding labour need not be confined to protracted cases; gentle and properly directed support is of advantage in all. The force employed need not be more than is represented by the word support. A due amount of chin-flexion is secured, and upon this depends the facility of the subsequent rotation of the occiput. More especially is this of importance in the occipito-posterior positions; if attention be paid to secure early and full flexion of the chin, no difficulty will be experienced in the rotation. Before it is possible in the latter cases to slip the cervix over the occiput an initial degree of chin-flexion is necessary. If the forepart of the head is on a level the occiput is beyond the range of the fingers, and the manœuvre is impossible. Aid may then be extended by pushing the forehead upwards during the interval of the pains and retaining it as far as possible in that position by pressure during the contraction of the uterine walls, and repeating this manœuvre until the posterior fontanelle can be felt.

Greater precision may be given to our opinions regarding the use of digital dilatation by the more recent advances of our knowledge regarding the changes which occur in the body and cervix of the uterus during the first stage of labour through the researches of Litzmann, Bandi, Braune, and Luschka. The lower uterine segment of the body of the uterus and the tissues of the cervix both undergo dilatation; but in the former the transverse expansion is associated with marked shrinking or shortening of its longitudinal diameter, whilst the latter is greatly stretched or lengthened. The division between uterine segment and the cervix, is what is known as the internal os, whilst the external os is what we recognize as the os of ordinary obstetric language. The distance between these, as shown by Braune's frozen section, may be as much as four inches. In normal labour the dilatation of the internal and external os go on simultaneously, the former slightly in advance of the latter. This relation, however, may be deranged. The internal os may be fully dilated whilst the external is very small. We cannot, however, get any degree of dilatation of the external os without the previous opening of the internal. The opinion I would advance is this, that digital dilatation can exert a beneficial action only upon the cervical tissue, we cannot by this means aid the

expansion of the lower segment of the uterine walls. So long, therefore, as delay is associated with incomplete dilatation of the external os, digital interference should not be employed; but when delay is due to want of dilatation of the external os whilst the expansion and retraction of the internal has well advanced, we may expect benefit from artificial means. The degree of dilatation of the internal os I believe we can estimate by the condition of the upper portion of the vagina. When the former is complete the latter also is fully expanded and drawn upwards. If the external os has not been simultaneously dilated, the cervical tissue will be felt stretching across like a diaphragm, with a varying degree of thickness and resistance. If, however, the internal os be not fully dilated the upper portion of the vagina will be found lax and attached near the os, or curving in towards it. Digital dilatation will then have no beneficial effect unless it be by stimulating the uterine contraction. But when the diaphragm is developed it will yield to judicious gentle manipulation; if the os be small by a rotatory action of the fingers; when once half-way dilated, and the head in actual contact, by support and gentle pressure of the lip in the direction of the occiput. A clear conviction should also be established that the cause of delay is in the cervical tissue only, and not due to want of rupture of the membranes, or to malposition of the head, to abnormal direction of the uterine axis, or to narrowing of the pelvic brim. Many cases of tardy dilatation are due to these causes, and of course cannot be aided by artificial dilatation.

By care in diagnosis the time when digital dilatation may be employed with advantage can be readily determined, and if practiced as I have indicated, with due regard to the mechanism of labour it may be employed with precision and safety. It affords material aid, increases the effective character of the pains, insures and facilitates the normal movements of the head, and if properly employed, is free from all danger to the patient. It is a proceeding, therefore, which merits recognition at the hands of obstetricians, more than it has hitherto received. By extending our aid in the first of labour by watching and furthering the normal mechanism, I am confident that we may very materially lessen the frequency with which in recent times instrumental interference is deemed necessary.—*Obstet. Journal.*

## MANAGEMENT OF BREECH PRESENTATIONS.

BY PROF. THOMAS, NEW YORK.

Now comes the important point which I wish to make in connection with the case; and that is, that if you treat your breech presentations properly, you will seldom lose the child. If you will examine

the authorities on obstetrics, you will find that some give the proportion of deaths at one in six cases, others at one in five, others at one in four, and still others, if I remember rightly at one in three. I do not wish to boast about the matter; but I can truthfully say that out of twenty-five cases, I have not lost a single child. In this list there are none of version by the feet; but all are genuine original breech cases. This happy result is not to be attributed at all to any special skill on my part, but simply to the method of treatment I have adopted, and which any one can employ.

Of course, there are some cases of breech presentations which are necessarily fatal, and among the conditions causing such a result, I may mention deformed pelvis, narrow vagina, and unusually large head. But aside from cases where such conditions exist, I am convinced that a vast number of children's lives are needlessly sacrificed in breech cases.

The plan which I would advise in these cases is the following: As soon as you have discovered that the breech is presenting in any particular instance, at once make every preparation for the delivery. Then wait quietly until the breech comes down into the vagina. If the ordinary course is pursued, the chances are very great that the child will be lost. In vertex presentations the head distends everything, and the child is practically independent of the mother as soon as the external air reaches the nose and mouth. But the case is very different when the breech comes first, for by the time it is born the uterus is exhausted, or if it continues to contract, is very likely to cast off the placenta. It may be that one minute more will finish the delivery, but that one minute is quite enough to finish the child also. The above is one great factor in ordinarily causing the death of the child. The other is furnished by the physician himself. When the child comes down, the accoucheur works at a great disadvantage, on account of his position in relation to the patient. In such cases, if you listen carefully, you will not infrequently hear a little crack, which is nothing more or less than the breaking of the child's neck. The *prolassus dentatus* enters the spinal cord, and the life is forever destroyed. But to resume the recital of the method advised. Do not hurry the early stages of a breech case, and never put your finger (and still less a blunt hook), around the child's groin. At this period the breech is aiding you very materially, all the time, by its action in dilating the parts. But the instant that you find it distending the perineum you should change your tactics entirely. Having placed the patient on her back across the bed, with her feet resting on two chairs, give one limb into the care of the nurse, and the other into that of a competent physician, whom you previously summoned, and who should always keep one of his hands free, so that he may assist you as required. The chief principle in the delivery is this, that the

force that is to expel the child must come from above, and not from below. Therefore, now give a large dose of ergot hypodermically, in order that it may produce a powerful effect instantaneously upon the uterus. As soon as the cord comes within reach, get hold of it; and then ask the physician who is assisting you to press down upon the head with all his force. The patient, if she is a woman of any force of will at all, ought not to be under the influence of any anæsthetic, and you should call upon her to bear down as strongly as she possibly can; telling her that the life of her child depends upon her exertions. When all these forces are called into play, the result is usually a very speedy delivery. In a second or two you can get two fingers into the child's mouth, and thus make traction by means of the inferior maxilla.

When this patient came to me as I have mentioned, I told her that I thought she could be delivered of a living child, even though it should present by the breech, as seemed altogether likely. Her fifth labor, like the two which had preceded it, really proved a breech. I was unable to attend her myself, but my assistant, Dr. Walker, did so, carrying out the plan which I have indicated, and the result was a living child, to the great joy of the mother. It is quite probable that the laceration of the cervix which we have found present here was the result of this delivery; but a human life once destroyed can never be restored, which is certainly not the case with a human cervix.—*Med. & Surg. Reporter.*

AFTER TREATMENT OF TRACHEOTOMY.—Dr. Vogt, quoted in the *Medical Press and Circular*, proceeding from the fact that with the present methods of treating tracheal croup most children perish, even after operation, from continued formation of the membrane, suggests glycerin as a means of hindering the formation. It is known that when this substance is applied to the mucous membrane a profuse watery serous secretion is excited; and this is relied upon by Dr. Vogt to remove or prevent the adhesion of the false membrane. In the case of a little six-year-old girl treated in this way a cure resulted. Glycerin mixed with an equal quantity of water was inhaled, by means of an inhalation apparatus connected with the tracheal tube, every half-hour. Dr. Vogt has also used this treatment in recent cases of croup, where tracheotomy has been thought unnecessary or inadvisable. Disinfection of the original patch in the pharynx by means of chlorine or bromine water preceded the use of inhalation.—*Med. & Surg. Reporter.*

EXAMINATION QUESTIONS ROYAL COLLEGE OF SURGEONS, ENGLAND.—The following questions were given at the primary examination for the diploma of member on November 1st:—1. Describe the minute anatomy of a Peyer's Patch, and

contrast the structure of the small and large intestine. 2. What is the average amount of fluid required by the body daily? Mention the chief circumstances by which the demand for it may be modified; the several channels by which fluid is eliminated, and the condition which may lead to variation in the amount discharged by each channel. 3. Describe the Occipito-Atlantal joint, and all the ligaments which unite the Skull to the Vertebral Column. 4. Describe the dissection required to expose the Transversalis Abdominis and the Fasciæ connected with it. 5. Give the dissection required to expose the Radial Artery from the Styloid process to its termination. 6. Describe the Fornix and its relations.

REMOVAL OF THE ASTRAGALUS, SCAPHOID, AND CUBOID BONES.—Mr. West presented at the meeting of the British Medical Association a paper on this subject, relating a case in which he performed this operation. The case was one of aggravated talipes equino-varus in a woman aged 23, on whom Mr. West operated by the plan suggested by Mr. Richard Davy, of the Westminster Hospital. Models of the limb taken before and subsequently to the operation, and also the tarsal bones, the cuboid, astragalus, and scaphoid removed at the time of the operation (May 19, 1878), were shown. The result, as seen ten weeks after the operation, was eminently successful. Mr. West considered that, although tenotomy was the most suitable operation in infants and young children, in adults, or in cases where tenotomy had been tried and failed, resection of a wedge-shaped portion of the tarsal bones was an excellent operation; and that in future no case of talipes, whatever might be the age of the patient or the severity of the deformity, need be looked upon as hopeless. The use of Esmarch's bandage, and the antiseptic method of subsequent treatment, in operative procedures of this kind, deprived them of the risks which such an interference with the tarsus and its numerous articulations would otherwise involve.—*The British Medical Journal*, August 24, 1878.—*Med. Record*.

PRAYER AS A MEANS OF STAYING EPIDEMICS.—We are far, as has been already said, from condemning the appeal to religious considerations and influences in an extremity like this, but it should be put on enlightened grounds, and become a means of incitement to nobler action. Prayer is efficacious just in proportion as it reacts upon the supplicant to inspire a higher activity, and in this way it may become a potent agency for moving men in great emergencies. This being the true point of view, in place of the proclamation issued by Governor Bishop, we should have preferred to see something like the following: "Whereas, a plague is desolating various Southern cities, which all means hitherto adopted have failed to arrest,

let the devout people of Ohio gather in their several places of worship without delay, and, reverently recognizing the Divine wisdom in this fearful dispensation of suffering, humbly confess their sins of neglect and omission, their ignorance, carelessness, and culpable apathy in regard to all sanitary matters, and their want of quickened sympathy with the afflicted communities, and register solemn vows to Heaven that they will at once enlarge their measures of help to the devastated towns, and will in future be more vigilant and faithful in discharging the religious duty of guarding and promoting private and public health."—Prof. Youmans, in *Popular Science Monthly* for October.

THERAPEUTICS IN THE VIENNA SCHOOL.—A correspondent of the *Chicago Medical Journal and Examiner* writing from Vienna says that, after listening for some time to the lectures of Prof. Bamberger and hearing but little said of therapeutical measures, he asked a German physician why Prof. Bamberger did not tell something about treatment. The reply was, that physical diagnosis was his only forte; that if he encountered a case in the diagnosis of which there was doubt, his great fear was that the patient, before his death, might pass from under his observation, and that he might be unable to clear up the mystery by a post-mortem examination.

Prof. Duchek, he says, although perhaps not so widely known as Prof. Bamberger, is far the better clinical teacher, and it is from him that one gets most of the practical hints in therapeutics that are to be obtained there. In the general résumé that Prof. Duchek gave at the end of the winter semester of his plan of treatment, he began by laying down the following maxim: "Give no medicines that will materially disturb the functions of life in your patient." He said further that in the early years of his practice, he had used a wide range of remedies, and was ever ready to make trial of all the new and much-vaunted preparations that were brought forward, but having been almost invariably disappointed in their use, he had now settled down to the employment of about one dozen remedies, seldom giving any others. Of these, the principle are quinia, digitalis, iodide and bromide of potassium, opiates, the salicylates, the acetate of ammonia, the mineral acids, ipecac. castor oil, the saline cathartics, and occasionally calomel. He never uses either aconite or veratrum. He believes that the influence that these last remedies exert in lessening the muscular force of the heart, as well as the blood-pressure in the arteries and veins, is, in the vast majority of cases of febrile and inflammatory disease in which they are prescribed, absolutely injurious.—*New Remedies*.

A case of hydatids of the right lung simulating pneumothorax is reported by W. H. Broadbent, Physician to St. Mary's Hospital, in the *London Lancet* of October 27th.

# THE CANADA LANCET.

A Monthly Journal of Medical and Surgical Science

Issued Promptly on the First of each Month.

Communications solicited on all Medical and Scientific subjects, and also Reports of Cases occurring in practice. Advertisements inserted on the most liberal terms. All Letters and Communications to be addressed to the "Editor Canada Lancet," Toronto.

AGENTS.—DAWSON BROS., Montreal; J. & A. McMILLAN, St. John, N.B.; Dr. C. W. BERNACKI, 271 W. 22nd St., New York; GEA. STREET & Co., 39 Cornhill, London, Eng.; M. H. MAHLER, 16 Rue de la Grange Bateliere, Paris.

TORONTO, DEC. 1, 1878.

## SCIENCE VERSUS TRADE.

We continue to receive regularly, the *Revista Medico-Quirurgica*, an excellent semi-monthly periodical, published in Buenos Aires, S. A., for which we tender its talented conductors our warmest thanks, with the assurance that we never fail to peruse, with earnest attention, its interesting and instructive contents, and did our space permit, we should present our readers more copious extracts than we hitherto have appropriated. In the number for Sept., we have read, with not unmingled gratification, the correspondence of Dr. Dupont, of Buenos Aires, under date 11th August, 1878, in which he gives a succinct summary of the proceedings of the *Universal Exposition* then in progress in Paris. As a matter of course Dr. Dupont's observations are mainly devoted to the medical department of the exposition. We commend to our readers, the following rather caustic allusions to some of the exploitations of certain members of our fraternity, merely premising that it is not outside the range of probability, that similar indiscretions are occasionally fallen into, in the medical assemblages of this country. Dr. Dupont writes thus: "All the sessions have passed in accordance with the announcements. A few members seemed to have come solely for their own benefit, or for that of others, to read their reclamatory productions, whether for the greater glory of such or such a one, or in favour of the pecuniary interests of some other aspirant to notoriety, or such and such a laudable enterprise.

In the Thursday session, the true lovers of science itself, and not of science as the basis of mere trade, more or less legitimate, were constrained to listen to an English member of the Congress giving a long

and bombastic lecture on the *salicylates*, as the best and only reliable disinfectant; not, however the salicylates in general, of commerce, but on those which a certain English company, (which I shall take care not to name) were pushing into notice. If one must believe in this worthy son of positive and egotistic Albion, there can be neither health nor hygiene outside the use of the salicylates of his extolled company. Many of the members were surprised that French amiability and courtesy towards strangers, prevented the president from prohibiting this puffing exhibition. Having however tolerated it, there was a unanimous silent determination to pass the subject unheeded."

We cannot refrain from endorsing the decision, in the above instance, of the Paris medical congress, and we would strongly recommend to all our Canadian societies, to pursue a similar course, whenever it may appear to be the purpose of the reader of a paper, to advertise his own merits and singular achievements, rather than to bring under notice original and practically valuable facts, and we would here take the liberty of observing, that the reader should be careful as to the actuality of his adduced facts. Cullen has said, with too much truthfulness, "there are more false facts than false theories."

## CEREBRAL LOCALIZATION.

Broca was among the first to investigate the subject of how far the brain exercises an influence on the motions of animals, and the exact location whence the power exerted over the various faculties was derived. One of the facts demonstrated was that when a person is deprived of the faculty of speech by a stroke of apoplexy, there invariably exists a lesion at a certain spot in the brain, viz., in the anterior region and on the posterior side of the third frontal convolution to the left. This led to the conclusion that the seat of the faculty of speech in man was located at this point, and from this has been inferred a special place for every intellectual action.

The method pursued is to remove part of the skull of an animal, then to apply electric wires to different parts of the brain thus laid bare, and observe the motions produced. No response is received from certain points, so that it was inferred that it is not the whole brain that acts upon the



muscular system but only special parts. Ferrier operated on monkeys in presence of the London Royal Society, and according as he touched various parts of the cerebrum, the ape would shake his fist at the audience, raise or stretch out a leg, or make grimaces. He showed that in the monkey, the centre of motion of the tongue corresponds exactly with that to which the faculty of speech pertains in man.

The advantage of this knowledge is that the surgeon may know precisely the point of the skull over which to apply the trephine, and in illustration of this a case is reported of a man who was brought into a French hospital after having received a severe blow upon the left temple. On coming to himself he could only speak with difficulty, and would call a fork an umbrella, a lamp a hat, etc.; his right arm was partly paralyzed. The surgeon at once applied the trephine over the spot indicated by the symptoms resulting, and hit upon a piece of bone that compressed the brain. The splinter was removed, and the use of the right arm was at once regained. A few days later the impediment to his speech disappeared, and he left the hospital cured.

#### MEDICAL EDUCATION IN THE UNITED STATES.

Dr. Frank H. Hamilton, of New York, has been delivering an address at the American Academy of Medicine, Easton, Pa., on "Medical Education," which was ordered to be published, and a copy is now before us. The founders of the Academy seek to aid in the remedying of a great and universally admitted evil—namely "imperfect preparation for the study of medicine, and its almost inevitable sequence, imperfect qualification on the part of those who are admitted to practice." The Dr. in dealing with the subject under consideration, first addresses himself to the nature and extent of the evil complained of; next, its causes and consequences; and in conclusion, the remedy to be applied. With 4 or 5 exceptions, the licensing boards, and medical colleges in the United States, require no preliminary education or examination; there are no examinations during the course of study, the term of which never exceeds three years; and the actual attendance at college is never more than 10 months, often much less. The examinations are conducted

by the professors, and the latter are dependent on the size of their classes for their remuneration. The colleges license about 3000 annually and there are already about 70000 physicians in the United States, or about 1 to every 600 of the population. This is not alone the case in sparsely settled districts, but even in the state of New York, there is 1 to every 642 of the population. Dr. Hamilton also deplors the fact, that notwithstanding the large excess of production there is no foreign demand for the article. On the contrary, most governments have forbidden its introduction and use. The sources of the evil are to be traced he thinks, to the plan or system of dependence upon the tuition fees alone, for the support of the teachers, and which necessarily demands that the conditions of admission and licensing, shall rest mainly or exclusively with the teachers. He has no hope that the Federal Government will ever attempt to regulate medical education; and as for the State Governments, he very properly does not wish to see any union of medicine and state, which is as much to be dreaded as church and state. Nothing he says, is to be expected from state endowments, and very little from state legislation. He pays a high compliment to the intelligence and practical experience of the professors and teachers in the various schools and colleges, and their sincere desire to raise the standard of medical education, nevertheless the fact remains, that these colleges graduate and license to practice a great number who are totally unqualified. He does not however lay the blame at their door, but rather apologizes for this seeming inconsistency. The remedy which he proposes for this state of affairs is the "creation of a sound public sentiment which shall in some measure influence medical colleges and medical men" but above all, the young men, who are contemplating the study and practice of medicine. The latter must be persuaded that it is unbecoming for them to enter upon the study of a learned profession, without suitable preliminary education, and that it is shameful for them to enter upon the practice of medicine, without a competent knowledge of their profession. All this seems very well on paper, but it is expecting too much of human nature as at present constituted. No good will ever be accomplished in this way. We would advise our friends over the line to try our Ontario Medical Act in several of the States and test it for

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themselves. It has worked well in Ontario, and we do not see why it could not be made to apply to the various States of the union. The grand feature which commends it is, that there is no state interference, but the profession has the regulating of medical education, and the conferring of the licenses entirely in its own hands. Improvements might also very easily be made in its application to the wants of the profession of the United States.

#### TRINITY MEDICAL SCHOOL. ANNUAL DINNER.

—The annual dinner of the above school was held at the Rossin House, Toronto, on the 28th ult. The Chair was occupied by Mr. McIlhargey; the Vice-Chairs by Messrs. D. McTavish and A. Ferguson. The attendance was very large, about 120 sat down. Among those present, in addition to the Medical Faculty and Students of Trinity Medical School, were the Hon. A. McKenzie, Hon. Geo. Brown, Chief Justice Moss, Dr. Daniel Wilson, Mr. Justice Cameron, Revds. Dr. Topp, A. J. Broughall, A. H. Baldwin, and Prof. Jones, (Trinity University), Lieut.-Col. Durie, Professor Ramsay Wright, Mr. Vankoughnet, Dr. Strange, M.P., Drs. Canniff, Ellis, D. Clark (Asylum), O'Reilly, and Mr. Gillespie of the Toronto General Hospital.

The tables were beautifully and tastefully decorated. On the centre one, among the handsome pyramids was a memorial monument in sugar, surmounted with the bust of Hippocrates and bearing on its sides the names of departed worthies. On one side was engraved "To the memory of Hon. Dr. Rolph, Canada's greatest medical teacher"; on the other "To the memory of Dr. E. M. Hodder, our late lamented Dean." Immediately in front of the chairman, was a design of the amphitheatre and dissecting room of Vesalius, and on each side a biscuit basket in the form of a pestle and mortar. The band of the 10th Royals as present, and discoursed some excellent music suitable to the occasion.

After toasts to the "Queen," "Governor-General, and Lieutenant-Governor," the Chairman proposed "The Army and Navy," which was responded to by Lieut. Col. Durie and Dr. Thorburn. The "Dominion and Local Legislatures" was next proposed by the Vice-Chair, and was responded to by the Hon. A. McKenzie, Hon. Geo. Brown, and Dr. Strange. Mr. McKenzie in responding

said that the Legislatures were a credit to the country, and notwithstanding the ups and downs of political life the machinery of Government went quietly on. He also paid a high compliment to the services of the Hon. M. C. Cameron, who has been recently elevated to the Bench. In regard to Sanitary matters, while the Local governments should initiate measures, he thought the Dominion Parliament had also power to deal with that subject. He was pleased that Trinity Medical School enjoyed so great a measure of prosperity. The "Learned Professions" was responded to by Rev. A. H. Baldwin, Justice Cameron and Dr. Canniff. The next toast was the "Universities with which we are affiliated," responded to by Prof. Jones for Trinity University; Vice-Chancellor Moss and Dr. Daniel Wilson, for Toronto University; and Mr. McKinnon for Halifax University. Vice-Chancellor Moss said in the course of his remarks, that he had been reported as saying at the dinner of the Toronto School of Medicine, "that he hoped that school would always be represented on the Senate of Toronto University." He repudiated that statement, and said that they knew no representatives of schools, as such, but that all were there for the advancement of the interests of their fellow-graduates. Dr. Wilson expressed his sympathy with the Trinity Medical School. He also alluded humorously to the spurious medical science which was supported by the advertising columns of the daily papers.

The "College of Physicians and Surgeons of Ontario" was responded to by Dr. D. Clark. "General Hospital and Trustees," by Dr. O'Reilly and Mr. Gillespie. The latter expressed a hope that the Government would see their way to make the Hospital entirely free. "Trinity Medical School" was responded to by Dr. Geikie, on behalf of the Faculty. He alluded to the prosperity of the school, and its relations to the affiliated Universities. At the close of last session, there were 35 students of this school up at the various examinations in the University of Toronto, and at the last convocation of Trinity University, 36 entered as matriculants. There were in attendance during the present session, close upon 150 students. The "Sister Institutions" was responded to by Dr. Thorburn. A number of songs and choruses were interspersed among the speeches. After toasts to the "Ladies," "Press," &c., the company broke up.

GASTROTOMY.—A successful case of gastrotomy has lately been reported in the *Lancet*, (August, '78.) The operation was performed by Prof. Tren-

delenburg, of Rostock. The patient was a boy 8 years of age, who had swallowed sulphuric acid by mistake, resulting in complete constriction of the œsophagus. The operation was performed on the 28th of March, 1878, and the patient is alive and well. The stomach was made fast to the margin of the wound by 14 stitches of silk thread, surrounding a space of about  $\frac{1}{4}$  of an inch in diameter. An incision was then made through the walls of the stomach, and a drain pipe inserted, through which nourishment has since been introduced. An unsuccessful case is also reported in the *Lancet* (Nov. 2) by Dr. Bradley of the Manchester Royal Infirmary. The patient, a boy 14 years of age, died apparently of inanition, on the 28th day following the operation.

ROGERS' GROUPS OF STATUARY.—These groups of statuary are now so well known that any lengthened allusion is quite unnecessary. They are made of clay-colored material, and for beauty and life-like expression cannot be excelled. The "charity patient" or "playing doctor" are favorite groups for physicians' offices, but there are a large number to select from. As works of art, Rogers' groups are beyond criticism. A number of historical and other groups have been placed in the museum of the Normal School, Toronto, and are universally admired for their correctness and beauty of finish. One of these groups would be very suitable for a Christmas box. Send to Mr. Rogers, 1155 Broadway, New York, for Catalogue of portraits of groups, prices, &c.

TAPE-WORM IN CUCUMBERS.—Dr. Leidy, of Philadelphia, has announced the discovery that cucumbers are liable to be infested with tape-worm. At a meeting of the Academy of Sciences, Philadelphia, he exhibited a specimen of tape-worm taken from the inside of a large cucumber. It is said to have had all the characteristics of a true tape-worm, but belonged to an unknown species, the peculiarity being that the ovaries, containing the round yellow eggs, are confined to the anterior extremity of the segment.

TRINITY COLLEGE CONVOCATION.—The following gentlemen received the degree of Doctor of Medicine in this University on the 14th ult. A. J. Sinclair, of Paris, and W. McKay, St. Thomas.

TORONTO SCHOOL OF MEDICINE ANNUAL DINNER.—The annual dinner of the Toronto School of Medicine was held in the Rossin House on the 8th ult. In addition to the Faculty and students, the following gentlemen were present; Chief Justice Moss, Prof. Goldwin Smith, Prof. Nelles, of Victoria College, Prof. Croft, Prof. Ramsay Wright, Dr. O'Reilly, Messrs. T. McCrosson and J. Gillespie, Hospital Trustees; Lieut. Col. Otter, Drs. Langstaff, White, Cameron, Kennedy, Pollard, Nevitt, A. H. Wright, D. Clark, (Asylum), Strange, M.P., J. McConnell and W. Clark.

The chair was taken by Rev. Mr. McConnell; the first and second vice-chairs by Messrs. A. Anderson and L. M. Sweetnam, students of the School. The dining room was tastefully decorated. After the removal of the cloth the usual loyal and patriotic toasts were proposed, and duly honored. The "Active Militia" was responded to by Lieut. Col. Otter and Dr. Thorburn. The "Dominion and Local Gov'ts," by Dr. Strange, M.P. The "Toronto University" by Vice-Chancellor Moss, Dr. Richardson and Prof. Croft. Justice Moss alluded to the recent changes in the curriculum, and believed that all would approve of it in the long run. He also recommended a more intimate study of the physical sciences, if we were to keep pace with our brethren in Europe, especially in Germany. The "College of Physicians and Surgeons" was responded to by Dr. Clark. The "Toronto School of Medicine," was responded to by Drs. Aikins and Barrett. The "Toronto General Hospital" by Dr. O'Reilly and Mr. Gillespie. The "Sister Institutions" was responded to by Prof. Goldwin Smith, Dr. Nellis, for Victoria College, Prof. Ramsay Wright, for Toronto University, and Dr. Kennedy for Trinity Medical School. Songs and humorous recitations were interspersed among the speeches. After toasts to the "ladies" and the "press," the meeting closed, having spent a very pleasant evening.

TORONTO UNIVERSITY MATRICULATION.—Medical students who have passed the matriculation examination of the College of Physicians and Surgeons of Ontario prior to the 1st of October, 1878, will have their certificates of examination accepted by Toronto University, and may register the same on or before the 1st of March, 1879—the time having been extended to this date.

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**MONTREAL COLLEGE OF PHARMACY.**—We have received notes of an address delivered by Prof. Bemrose at the opening of the eleventh session of the Montreal College of Pharmacy. We must express our admiration, both of the matter and the arrangement of this address. That the pharmacist should be properly educated to fill the onerous position he occupies, must be manifest. No one knows this better than the physician. The most skilfully devised and best adapted treatment is utterly powerless, if the preparation of the medicine has been careless or uncertain. The bold outline sketched by Prof. Bemrose, will, we have no doubt be completely filled up by the class lectures and practical work. The College has done good service in the past. The students educated here have been most successful in passing their examinations, and have taken a good stand among their confrères. Prof. Bemrose was connected with it only we believe for the past session, but judging from the address, we feel sure that the portion of instruction which falls to his care, will contribute to the advancement of the students in the way best calculated to make them efficient pharmacists.

**SCRIBNER'S MONTHLY,**—conducted by J. C. Holland. The American edition of this periodical is more than 70,000 monthly, and it has a larger circulation in England than any other American magazine. Every number contains about one hundred and fifty pages, and from fifty to seventy-five original wood-cut illustrations. Several illustrated articles descriptive of Canadian sports and scenery have recently appeared in its pages, and the magazine during the coming year will devote much space to matters of special interest to the Canadian public. For subscription, see our commutation rates.

**St. NICHOLAS**—Scribner's Illustrated Magazine for girls and boys. Messrs. Scribner & Co., in 1873, began the publication of St. Nicholas, an illustrated magazine for girls and boys, with Mrs. Mary Mapes Dodge as editor. Five years have passed since the first number was issued, and the magazine has won the highest position. It has a monthly circulation of over 50,000 copies. It is published simultaneously in London and New-York, and the Transatlantic recognition is almost as general and hearty as the American. See our commutation rates.

**THE SANITARY JOURNAL.**—We are in receipt of the Sanitary Journal for Nov., edited by Dr. Playter, and find it as usual, full of interesting and valuable papers, and suggestions regarding sanitary matters. The price has been reduced to one dollar per annum, so as to bring it within the reach of a larger number of subscribers. Its pages may be found useful to many of our readers, in view of the probable appointment of district Health Officers by the government, in the event of legislation during the approaching session.

**PUBLIC PROSECUTOR.**—The public prosecutor appointed by the Ontario Medical Council, has been instrumental in preventing a number of unlicensed practitioners from practising in the Province, and for so doing he deserves the thanks of the community. He complains however, that in several instances he has been hampered by the issuing of a stay of proceedings by the President. We can conceive of the necessity for a little leniency in certain cases, but it would save expense and trouble to all parties, if Detective Smith were informed of this fact in advance.

**HONORS TO CANADIANS.**—Dr. Osler of Montreal lately passed the examination of the Royal College of Physicians, London, and obtained the membership of that body. Drs. J. A. Dafoe and J. P. Rankin, of Trinity Medical School passed their final examination and were admitted to the L.R.C.P. and L.K.C.S., Edinburgh. Dr. A. Davidson of Trinity Medical School passed the final examination of the Royal College of Surgeons, England, and was admitted a member.

**REMOVAL OF THE LOWER END OF THE RECTUM.**—The successful removal of four inches of the lower end of the rectum and sphincter ani, for epithelioma was recently performed by Dr. Fenwick, of Montreal. The patient, a lady of seventy years, was reported as doing well at last accounts. There was inability to retain the fæces, but the sense of their presence was sufficient to enable her to make the necessary preparations for cleanliness.

**COMMUTATION RATES.**—By arrangements which we have made with publishers of medical and other periodicals, we can offer most advantageous terms to our subscribers. See our commutation rates for 1879, among advertisements.

VACCINATION IN MONTREAL.—The insane opposition to vaccination amongst the French population in Montreal, has happily subsided of late, and many that were formerly most bitterly opposed to it, are now ready and most anxious to have their children vaccinated. The influence of the Clergy has done much in bringing it about, coupled with the use of vaccine virus direct from the cow.

LAW OFFICE.—Mr. T. T. Rolph, son of the late Hon. Dr. Rolph has been recently called to the Bar, after a most successful and highly creditable examination. He has opened an office in Toronto at No. 30 Adelaide St., East, and will be pleased to transact any business for members of the medical profession or others, with which he may be entrusted.

The Hon. Dr. Rolph's widow still continues her boarding school for young ladies at 20 Gerrard St, West, and we are quite sure she will be happy to receive the daughters of any of the Dr's. old pupils.

Dr. J. A. Carlyle, of Dumfries, a Doctor of Medicine and of Laws of the University of Edinburgh, has placed the sum of £1,600 in the hands of the Association for the Better Endowment of the University of Edinburgh, for the endowment of two bursaries in the Faculty of Medicine.

APPOINTMENTS.—The friends of Dr. G. T. McKeough, M.D., Trinity College, Toronto, will be pleased to learn that he has been appointed House Surgeon to the Royal Free Hospital, London, Eng.

Dr. J. Brodie has been appointed Demonstrator, and Dr. J. A. Hutchison Assistant Demonstrator of Anatomy, in Bishop's Medical College, Montreal. Dr. Ross has been appointed Resident House Surgeon, Protestant Hospital, Ottawa.

REMOVAL.—Dr. J. A. Meek of Three Rivers, Que., has lately removed to New York. On the occasion of his departure his friends in Three Rivers presented him with a very complimentary address, accompanied with a gift of considerable intrinsic value.

Dr. D. Fraser has returned home, after an absence of upwards of two years spent in the Hospitals of Europe.

The death of John Hilton F.R.S., of London Eng., in the 74 year of his age is reported in our British Exchanges.

### Books and Pamphlets.

THE ANTAGONISM OF THERAPEUTIC AGENTS AND what it Teaches. By J. Milner Fothergill, M.D., London Hospital. Philadelphia: H. C. Lea. Toronto: Willing & Williamson.

We have very great pleasure in noticing this very admirable essay, to which was awarded the Fothergillian Gold Medal of the Medical Society of London for 1878.

The modern therapist directed by the lights of modern pathology and physiology, assisted by vivisection, studies the nature, character and products of lesions, and considers the symptoms no further than as enabling him to arrive at a knowledge of the seat of the lesions producing them. The lesions however, sought by the therapist are not entirely those presented by the dead body, but those also revealed by the symptoms, and accounted for by the laws of physiology which the therapist should study, as it is these he is called upon to treat. He should be thoroughly acquainted consequently with the power of medicinal agents, particularly with those that by accumulation or overdoses are liable to act as poisons; with what they can really do, as also with the antagonising agents with which for safety they should be combined. Though there are entire classes of medicines, which influence all the organs with tolerable uniformity, still on the other hand it is not to be denied, that the most important medicinal substances exert if not their exclusive, at least, their principal action on certain individual organs. Thus nux vomica exerts its chief action on the spinal cord; opium principally affects the brain; digitalis and tobacco the heart; cantharides the genital and urinary organs; atropine on the brain and spinal cord; prussic acid on the respiratory centres of the medulla; chloral as a sedative to nervous centres and secondarily to the heart; physostigma or calabar bean, on the spinal motor tract; veratria primarily exciting, and secondarily paralyzing muscular action.

In short the most important medicinal substances act specifically on certain individual organs. To the practice of vivisection we are indebted for these

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findings. Dr. Fothergill's essay, principally taken up with an enquiry into the antagonism of "Toxic Agents," embraces seven chapters 1st, Experimental Inquiry; 2nd, Practical Inquiry; 3rd, The Rhythmically Discharging Centres; 4th Action of Drugs on the Circulation; 5th Action of Drugs on Respiration; 6th Use of antagonism of Drugs in Actual Poisoning and 7th Use of antagonism of Drugs in Ordinary practice. Cases are given of the poisonous effects of physostigma neutralized by atropine; of the effects of chloral hydrate neutralized by strychnine; of morphine antagonized by atropine; of bromal hydrate by atropine; of picrotoxin the active principle of *Cocculus Indicus* by chloral hydrate etc. The converse however does not always hold good, the lethal action of chloral is not arrested by picrotoxin.

Aconite while not found to be antagonized by digitalis, was controlled by belladonna. Pilocarpine, the active principle of *jaborandi*, is counteracted by atropine. A series of experiments as to the antagonism of strychnine and nicotine have been made, but with results not as yet absolutely conclusive. Dr. F. remarks—"The lessons taught by the examination of the antagonistic action of certain toxic agents may be summed up as follows: We possess in digitalis, belladonna, and strychnine, agents which distinctly act upon the heart and produce more perfect ventricular contraction when desirable to excite it, as in cardiac debility. On the other hand in aconite, veratria, chloral, morphine and calabar bean, we possess cardiac depressants of a potent character, to be used with advantage in vascular excitement. In like manner agents affecting the respiration are to be arranged." We have been much gratified with this work, and our readers we are sure, will derive pleasure and profit from a perusal of it.

A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY—by W. S. Playfair, M.D., F.R.C.P. London. Philadelphia: Henry C. Lea; Toronto: Willing & Williamson.

The issue of a second revised edition of this work in less than two years from the publication of the first, is sufficiently significant of the universally recognized merits of the book, both as an excellent manual for students, and a valuable work of reference for practitioners. Every one acquainted with this branch of medicine is aware of the fact, that the very worst case that can possibly happen

may be the first which a young practitioner may meet with, therefore the more need for him to furnish himself with a work that besides giving due attention to first principles, comprehends all the necessary information requisite for the successful management of difficult cases. In the six hundred and twenty four pages of the work, the author has done full justice to the various subjects treated. The information is conveyed in an energetic and agreeable manner, and no better work we conceive can be read by either student or practitioner. There are a few procedures in this work, represented as easy of accomplishment, when the abnormal position of the fœtus is detected before labor has commenced, which, excepting in the hands of the author, Dr. Hicks, Matthew Duncan and a few others, we should take the liberty of questioning as simple and easily managed, more particularly as the success of the operation depends on being able to ascertain the positions of the head and breech through the uterine walls. We refer to cephalic and podalic version. Dr. Playfair describes cephalic version in Dr. Braxton Hicks' words, yet we imagine there are but few who could follow the rules. Podalic version in the four stages, is well represented by wood-cuts. Simple, however, as it appears on paper, we apprehend the generality of practitioners will yet have to depend upon introducing the hand into the uterus for the accomplishment of podalic version.

THE PHYSICIAN'S VISITING LIST FOR 1879. By Lindsay & Blakiston.

This is the twenty eighth year of publication of this excellent visiting list, which is so well known and highly appreciated. It comes in the same form as that of previous years, well bound in leather, with tucks, pocket and pencil. It is compact, of a reasonable size, convenient in form, and easily carried in the pocket. No physician can afford to be without one.

A GUIDE TO THE PHYSICAL EXAMINATION OF URINE, Second Edition, pp 175. By James Tyson, M.D., Philadelphia: Lindsay & Blakiston. Toronto: Willing & Williamson.

A careful examination of this little work, fully justifies us in recommending it to our readers. It is a very practical and concise work, and will be found of great value as a guide to the examination of the urine. The text is clear and comprehensive,

and includes much in the way of recent observations. It is also illustrated by wood engravings where they have appeared to the author necessary.

**THE THROAT AND ITS DISEASES WITH 100 ILLUSTRATIONS IN COLOR AND 50 ENGRAVINGS ON WOOD, (pp., 316)—**by Lennox Browne, F.R.C.S., Ed. London: Balliere, Tindall & Cox; Toronto; Willing & Williamson.

Dr. Browne is one of the great English authorities on throat diseases, and his work will be read with interest by the profession. The work, however, is intended more as a guide for the general practitioner than as an exhaustive treatise adapted for specialists, and as such it will be a welcome addition to the library. It is printed on good paper with bold type, and is well illustrated.

**ANATOMY, DESCRIPTIVE AND SURGICAL,** by HENRY Gray, F.R.S., with an introduction on general anatomy and development by T. Holmes, to which is added "Landmarks, Medical and Surgical," by L. Holden, F.R.S. Eighth edition. Philadelphia: H. C. Lea. Toronto: Hart & Rawlinson.

We gladly welcome the new edition of this well-known standard work on anatomy. The minute anatomy of the ear and kidney has been corrected, and also the introductory chapter, but the most important change consists in the addition of Holden's "Landmarks Medical and Surgical." This will be found of great practical use to the general practitioner.

**BARNES ON THE DISEASES OF WOMEN.** SECOND Edition, pp. 784. Philadelphia: H. C. Lea. Toronto: Willing & Williamson.

**MEDICAL AND SURGICAL USES OF ELECTRICITY.** By Geo. M. Beard, A.M., M.D., and A. D. Rockwell, A.M., M.D., New York. Second edition, revised and enlarged, with nearly 200 illustrations. New York: William Wood & Co.

**LACTOPEPTINE.**—This preparation which has the merit of being considerably cheaper than the best kinds of Pepsin, has been found by actual experiment to possess a decided and uniform solvent power, greater, weight by weight, than Pepsin is usually prescribed. It is a combination of Pepsin, Sugar of Milk, Pancreatine, Ptyalin, and Lactic and Hydrochloric Acids. We have administered Lactopeptine in a number of cases where Pepsin was indicated, and have been fully satisfied with the result.—*New York Medical Journal*, Feb. 1878.

**MUSKOKA AS A HEALTH RESORT.**—The Editor of the *Forster*, Huntsville, in reference to our article on the climate of Manitoba, in the October number, claims a similar immunity from lung diseases in Muskoka. He says "that for healthfulness it cannot be surpassed by any country. After a four years' residence in Muskoka, and having a personal acquaintance with every neighborhood in a circle having 150 miles for a circumference, we have never observed but two cases of phthisis, and they were not indigenous to Muskoka. Nor are malarial diseases, as ague, &c., of frequent occurrence. It is a commonly received theory, that tubercles first deposit themselves in those air cells of the lungs that are least distended. Now, an inhabitant of Muskoka must of necessity distend his lungs more than a resident of southern Ontario, on account of the rarity of our atmosphere from the greater elevation above the sea level. To this fact we attribute our immunity from consumption. Our numberless streams of non-alkaline water, may account for the rarity of malarial diseases.

While pecuniary matters would prevent many Ontario invalids from visiting Spain, the Canary Islands, Florida, Colorado, California or Manitoba, there are few who could not take advantage of the invigorating climate of Muskoka.

**STRANGULATED HERNIA REDUCED BY ESMARCH'S BANDAGE.**—M. Chapelle, of Paris, reports two cases of strangulated hernia that were reduced by means of Esmarch's bandage, after all other means of reduction had failed. The first case was one of scrotal hernia in a patient 72 years of age, and the other was a femoral hernia in a woman.—*L'Année Médicale*.

### Births, Marriages, Deaths.

On the 29th Oct., J. E. Eakins, M.D., L.R.C. & L.R.C.P., Edin., to Nettie, eldest daughter of Sidney Warner, Esq., Wilton.

In Toronto, Oct. 31, Irwin Bridgman, M.D., the 34th year of his age.

In Hamilton, on the 2nd ult., of heart disease, C. F. Bullen, M.D., in the 42nd year of his age.

In Montreal, on the 2nd ult., A. Malhiot, M.D. formerly of St. Hyacinthe, Que.

On the 29th Oct., Dr. Waddell, of Truro, N.S. formerly Medical Superintendent of the Asylum for Insane, St. John, N.E.

On the 17th ult., Dr. H. R. Haney, M.P.P., Fenwick, aged 43 years.

\* \* \* The charge for notice of Births, Marriages, and Deaths is fifty cents, which should be forwarded in postage stamp with the communication.