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Queen's Medical Quarterly

PUBLISHED BY THE MEDICAL FACULTY OF QUEEN'S UNIVERSITY.

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Queen's Medical Quarterly is presented to the Medical Profession with the compliments of Queen's Medical Faculty. Contributions will be gladly received from members of the Profession and willingly published.

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THE BANQUET.

THE annual banquet of the Aesculapian Society was held in Grant Hall on December 17th, and was in all respects first-class. Much credit is due the president and his energetic committees for the clock-like precision with which all the details were worked out. The toast to the Legislature was proposed by Dean Connell and responded to by the Hon. W. J. Hanna, Provincial Secretary. Mr. Hanna spoke in part as follows:

I should like to say, by way of explanation, that when I received the summons from the sons of Aesculapius to appear before them to-night, and to show cause for my coming, I felt that there was trouble ahead for me. I do not know very much about the Aesculapian family. I never had a very intimate knowledge of the inside working of the family, if I may be permitted to use the term. It is true, I have met a few of the boys, and two or three of the girls, but not having a personal acquaintance with the old man, it was certainly up to me to scurry around and find some one who had, and I found him; one who apparently knew what he was talking about, who had washed up the buckboard occasionally, and looked after the cows, and perhaps had done some chores about the house and in the garden, while the doctor was down in the blacksmith's shop talking politics. From him I found that the old man was very much like the boys. He had lived a life of service. He hadn't received very much pay for it so far as records show, and more than that, he suffered somewhat from the petty jealousy of his fellow-practitioners.

You, who are of the family, will know all about the story, how Hippocrates got into some trouble about his horse, an automobile accident, I have no doubt. He was scattered all over the road, and Aesculapius happened along, and patiently set to work to get him together and made a fairly good job of it. I think it was Jupiter who was practising at some corner (he was a bit of a dabbler at surgery himself, Dr. Anglin,); well, he was just a bit jealous of Aesculapius and picked up a thunder bolt and hurled it at him, and so had the whole practice of that neighborhood to himself. I cannot follow the story farther, but you know as a lawyer I should have been interested to know whether the widow of Aesculapius, the mother of the boys here to-night, had brought an action against Jupiter. All I have to say is that if she had consulted me I should have advised her that she had a perfectly good cause of action, but that she hadn't better bring it. Jupiter would go into court with expert evidence about thunder-bolts, and nervous shock, and complicated fractures, and the judge would at the end of two days of this kind of evidence, submit a line of questions to the jury, and the jury by this time would be so completely mixed up that they would have lost the point entirely, and come back with a statement all worth nothing, and the result would be the poor old lady would go out with a judgment against her instead of for her. I would advise her to keep her money and keep out of court.

So much for Aesculapius and so much for expert evidence. I have been at a loss to know what kind of nonsense I should talk to-night, because to attempt to be serious would perhaps be more in order if I were capable of taking part, but I cannot be serious after this luxurious dinner. It did occur to me that it might not be out of place for me just to say a few words in connection with the evidence of medical men. I would like to relate a little story or two that have the particular merit of being true if not interesting.

With regard to the evidence of medical men, I do not know what your experience has been in this part of the Province, but in Western Ontario it so happens that some ten or so years ago there were a number of very interesting cases in which medical men found themselves in considerable numbers in the witness box. However, there developed in the western part of the Province some very clever witnesses. By clever, I mean that in the proper sense of the term. Among the lot was one who was a graduate of Queen's, Dr. A. P. Harvey, of Wyoming. He was a wonderful man in the witness-box. His particular strength lay partly in his ready repartee in the

box, and largely because he confined himself pretty well to what he knew. He never attempted to overstate his case to any appreciable degree. He was equally careful, however, not to claim too little.

One case, it was an action against the London Street Railway; there had been an accident on the road. This plaintiff after a few days felt he had a very weak back, and after a few weeks his back was weaker still, and he began to feel "Oh!" and began to use such words as "railway spine," and "spinal neurasthenia," and "traumatic neurosis." You know all about these phrases, and finally he brought his action against the railway company. Dr. Harvey took a very serious view of the condition of this plaintiff, although not endorsing all that the plaintiff claimed, by any means. Our friend, the late B. B. Osler was in the case at the time. Harvey had told his story and that story meant permanent injury to the plaintiff. Mr. Osler had Dr. Harvey go over his story again, and he had Dr. Harvey fairly at variance with some very high authorities. He then commenced to quote his authorities. I recollect he went on: "Now, Dr. Harvey, who is Gower? Do you recognize Dr. Gower on nervous diseases?" "Yes," said Dr. Harvey. He then went on: "and Starr and Hammond?" "Yes," said Dr. Harvey, "they are excellent men in their line. I do not know where you would find three better men on nervous diseases." "Well, have you read these men, Dr. Harvey?" "Oh, no, I have not read them; occasionally I have looked up an authority on nervous diseases. I read the literature, but I do not pretend to have time to read all the literature on nervous diseases." Osler thought he had him and he fired the whole of them at Harvey and then said: "And you are clearly at variance with these high authorities." "Yes," said Dr. Harvey, "I am, I admit that." "And do you pretend to set up the opinion of Dr. Harvey against these?" Then Dr. Harvey said: "Dear Mr. Osler, I will tell you just how I feel about it. I think that if these three eminent men had been as busy feeding the natives as I have been, none of these books would have been written." He said more than that. He said: "I have a great respect for these eminent authorities when they are dealing with matters I am not familiar with, but when my 32 years' experience say one thing and your three eminent authorities say another, I will take my 32 years' experience every time and you can have the books." You can understand the effect of that. He was not claiming to be an expert authority in the field himself, but he confined himself to his own 32 years' experience.

I recollect another case, and I could name about a dozen, but I

am not going to. This was a case of a railway man. He had been struck by overhead brakes and was unconscious for hours. The railway doctor was called in and put some six or seven stitches in his scalp. This plaintiff was very seriously injured, unquestionably very seriously injured. There was a whole lot of talk in the case about area of vision, and that after he got around it was said the slightest jar would affect him. He went blind for a time on these occasions. Later on this was less marked, and later still only a dizziness, and all the time the case was going down to trial against the Grand Trunk. Dr. Reeves, of Toronto, examined this plaintiff some two or three times. The first time two months after the accident; then again four months after; then again ten months after the accident. I was for the plaintiff. I think Wallace Nesbitt was for the defendant. Dr. Reeves in his report went on to say that he was satisfied as to the honesty of the plaintiff, but now after ten months he couldn't find any organic trouble at all. The present condition of which he complained was due to a "vicious circle." I don't know whether that would be Christian Science or not. After a time he said that would disappear, and of course the plaintiff would eventually be all right. Harvey didn't quite agree with that. His view was in that case there was permanent injury, and in his experience he had had a case very much like it. Harvey was in the box and had given his opinion; there was likely to be permanent injury. A jar was likely to give that man trouble in the future. The doctor for the defendants had said that when he fixed up the scalp he found that there was no fracture, but that for a time if you pressed in that particular spot there was evidence of injury, but that eventually went away and the scalp was just the same as if there had been no injury at all. Nesbitt said, pointing to the plaintiff's head: "Now, Dr. Harvey, what have you got inside there?" Harvey said that no man could tell what was inside, but he expected that the inner plate was injured; that in some way there was trouble there. There was trouble there, and pressure there, which was likely to be permanent. "Now look here, Doctor, is it not an easy matter for modern surgery to deal with? Couldn't a surgeon to-day relieve the whole situation and put in a silver plate, if necessary?" "Yes, I see what you mean now. You mean that a modern surgeon should take a hammer and chisel and knock a hole in his head and then examine him. Yes, and at the post-mortem he would find out what was the difficulty."

The plaintiff, of course, was a pretty healthy looking specimen, but going around for four or five or six months, and being afraid of

the jar that might result from a misstep, there had come on his face a sort of expression of anxiety that was there by months of wondering what was going to happen next. It was there, no doubt about that.

In approaching this case I recollect that Nesbitt started out: "Doctor, you have given your opinion?" "Yes." "The symptoms are all subjective, are they not?" "No, not by any means." "Can you show us where there are any objective symptoms in this case?" "Yes, of course I can," and pointing from the witness box to the plaintiff as he sat in his chair, said: "Do you suppose the Lord ever put an expression on a human being such as that man has?" A High Court judge tried that case. I came up on the car that day with him, and, referring to Dr. Harvey in the witness box, he said: "Do you know that Harvey was right. I came in and saw that plaintiff, and there was an unusual expression on his face. I wondered what that meant when I saw it. It was something different from anything I had ever seen. Dr. Harvey hit the nail on the head when he spoke about objective and subjective symptoms."

I could go on and tell stories of what has happened over and over again. I recollect Mr. Osler speaking of Harvey. He said he was the cleverest, most dangerous witness for a lawyer to tackle that he had ever run across in all his experience. He didn't do it by reading up authorities and magazines.

Harvey is dead. He died apparently at an early age and that was not very long ago. Most doctors do die before they get too old. He died in the work, and following a remark someone made here this evening, I have been looking around me and back at the sons of Aesculapius that I have known and followed to the cemetery, and I believe it is true that a great majority of them do die in the work. It is a great comfort to know that you are going to die before you get too old and while you are in active work, because it relieves you entirely from that care and anxiety that you would otherwise have if you felt you had to put by a competence for your old age. Do you know it is very fortunate that you can afford to dismiss it from your mind in your profession. The prize after all, in your profession, and I may say in many other professions, is not the money that you have been able to make, is not the wealth that you have been able to acquire. Those of you who have that in mind are apt to find it very difficult to work that out and make much headway in the profession that you have chosen. It appears to me that the prize that lies before you, and perhaps I make no mere guess when I say that it is probably

the prize 90 per cent. of you have in mind, is not what you will be able to acquire in the shape of dollars, but what you will be able to accomplish for those it will be your duty and your privilege to serve in the days to come. If you succeed in doing that well, and in making a name in your profession, and if those whom it will be your privilege to treat are benefitted, you will certainly have done much more than would be done by anything in the shape of material wealth that you might be able to acquire and leave behind to your widows. If you can succeed in the end in doing something for those who trust their cases to you and have a little spot 6 x 4, so much the better. It may be in the cemetery that will undoubtedly mark the field of your operations, and if you can have upon the slab that will mark your resting place, "*si monumentum requiris circumspice,*" I think you will have done well.

Now perhaps I cannot take my seat without a word with regard to the nice things that Dr. Connell has said with regard to the Legislature and the work of 1906. Now you know someone has defined gratitude as "a lively sense of favours to come." I am very glad to know that Queen's University has a Medical School that has an altogether correct sense of the true meaning of the word "gratitude," and I am glad to know that you have reached that stage where you are independent of the Legislature, where you will be able to go on with that self-reliance and independence that I see in the faces of everyone. It is a credit to the Medical School and to Queen's to find that you can take that position with such confidence.

Now as to Queen's University, what is there that I can say? That you are a great institution, that you are a great people, is indisputable. Why you admit it yourself, so why discuss it here. You come up to Toronto from time to time just to tell us what great people you are, so I need not come from Toronto here to repeat to you what you have so often come up to tell us. We in the Province of Ontario are just as proud of you as you are of yourselves. We are proud not only of the work that Queen's has done but of what Queen's is doing. I think it is not overstating it to say that Queen's University appeals in many things to people that have never had the privilege of attending the University, and I happen to be one of those unfortunates. Queen's has in the past left its impress on the Province of Ontario in a way that makes it second to none in this Province, and in the Dominion. I say that Queen's University, in the minds of those who take their knowledge from the newspapers, and from the men she has turned out, that take their knowledge from

Principal Grant, and others that I can name, Queen's has left its impress on the people of this Province of Ontario in a way that puts it first of any University in the Province. I might perhaps be permitted to say this.

Principal Grant, I never had the pleasure of his acquaintance; he is gone, but how many are there in the Province of Ontario and Dominion of Canada who could look back and put their finger on Principal Grant as one of the biggest men in the public life of this Dominion.

It was only a few short months ago that I had the privilege of recalling to some of the people that know Principal Gordon best, what a credit it was to that part of this Dominion that it can produce such men as Principal Grant, Principal Gordon, Principal Falconer. What is it in that part of the Dominion, down by the sea, that turns out that particular kind of men, and you know there are some of them left, but what is it that does it? I am not going to lead you into a story but I would be interested indeed if someone would explain it.

I am very happy indeed at having this opportunity of meeting the sons of Aesculapius, and of Queen's University.

COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

THE members of the Medical Council of Ontario met in Toronto in November to consider a report to be made by a committee of the Council appointed to consider the revision of the curriculum and examinations, and to lay down a basis of reciprocity with other Provinces in Canada.

The report made by the committee was practically adopted in its entirety, and will be found in the next issue of the annual announcement. No serious alterations have been made either in the curriculum or in the examinations, but such as have been made will

materially improve both, in our estimation, and will systematize the work. A summary of these changes is here given:

Matriculation. The minimum requirement for registration as a matriculant will be the possession of a certificate of having passed the Ontario Departmental joint university matriculation in Arts, with Physics and Chemistry and either French, German or Greek as required subjects, and a minimum standard of 50 per cent. in each subject. This is a raise in the percentage requirement from 40 to 50.

Curriculum. In this there are a few changes in length of courses required. Thus, Medical and Surgical Anatomy course is lengthened from 4 to 8 months. Therapeutics from 4 to 6 months, and has been made to include electro- and hydro-therapeutics and massage. Bacteriology has been added to Pathology with no increase in the length of courses (two of 8 months) required. Hitherto Bacteriology has appeared as a subject for examination, but a course therein was not prescribed.

The requirements for the fifth year have been modified and more careful regulations drawn so as to insure that the prescribed work has been performed. The regulations as adopted read as follows:

The fifth year shall be devoted to clinical and practical work and must be spent in one of three ways:

- (1) The whole year as an interne in a recognized hospital or with a legally qualified medical practitioner.
- (2) Six months with a legally qualified practitioner and six months attending clinics, clinical lectures or as a clinical assistant at a recognized hospital.
- (3) Six months with a legally qualified practitioner and six months in a recognized medical school having a fifth year curriculum, or doing post-graduate work.

The minimum requirements of clinical lectures by the staff of a recognized hospital or at a medical school are as follows:

- (1) Twenty-five lectures or demonstrations in Medicine.
- (2) Twenty-five lectures or demonstrations in Surgery.
- (3) Twenty-five lectures or demonstrations in Obstetrics and Gynæcology.
- (4) Twenty-five lectures or demonstrations in Clinical Microscopy (including urine analysis, blood examinations, etc.) and autopsy work.
- (5) One month in practical dispensing.
- (6) Twenty-five lectures or demonstrations in Ophthalmology, Otology, Rhinology and Laryngology.

(7) Ten practical demonstrations in the use of Anæsthetics.

(8) Attendance on ten cases of Midwifery.

Certificates concerning the work of the fifth year must in all cases be accompanied by an affidavit duly and properly executed by the person from whom the certificate is procured, certifying that the time covered has been properly and regularly employed, etc.

A very necessary revision has been made in the list of text-books recommended and it is gratifying to learn that in revising the rules for guidance of examiners that stress has been laid on points that the examiners must confine themselves to principles common to the text-books in use and that diseases, operations, etc., referred to must be called by name in common use, proper names being avoided as much as possible. This is certainly a very necessary revision as will be patent to anyone who looks over the papers set by some examiners during the past few years.

Examinations. In the Primary examinations, Chemistry has been removed from the list of subjects upon which an examination is held, but candidates have to present certificates of having passed the University examination in this subject. This is a short step in the right direction and we trust that the next one will be the deletion of the Primary examination entirely, leaving it to the universities to examine in these subjects.

In the Intermediate examinations, Operative and non-Operative Surgery, Operative and non-Operative Midwifery, four papers in all, have been cut to two papers, one on Surgery and one on Midwifery.

In the Final examination, Diseases of Children has been dropped as a subject for examination, and Midwifery has been added with Diseases of Women, thus making the Final examinations consist of Clinical Medicine, Clinical Surgery, Midwifery and Diseases of Women, i.e., three clinical examinations.

A clause has also been added stating that if a student fails in two-thirds of the subjects upon which he is examined, that before proceeding again to examination one year must elapse.

Rules have been adopted for the guidance of examiners which are a considerable improvement on those previously in use. Another regulation which has been adopted provides that at the close of the examinations the examiners in each of the three sets of examinations shall meet for discussion, consultation and consideration of their reports before these are forwarded to the Registrar.

Reciprocity. For the purpose of fostering reciprocal relations

with the several provinces of Canada, the following resolutions were adopted:

1. When and as soon as it appears that in any other province of Canada, an examining board similar to that constituted by the Ontario Medical Act, being the sole examining body therein for the purpose of granting certificates of qualification for the practice of medicine, has established a curriculum equivalent to that established by the Council of the College of Physicians and Surgeons of Ontario, the holder of a certificate of qualification granted by any such examining body shall upon due proof and upon payment of the registration fee, be entitled to registration by this Council, if the same privilege is accorded by such examining body to those holding certificates of qualification from this Council.

2. Any regularly qualified and licensed medical practitioner in any province of Canada, who is also a graduate in Arts or Science from a recognized Canadian university, may, without further examination, become a member of the College of Physicians and Surgeons of Ontario, on furnishing the necessary credentials and paying the usual fee, provided that the Medical Council of the province in which he is registered and resident offers similar privileges to the members of the College of Physicians and Surgeons of Ontario.

3. Any regularly qualified and licensed medical practitioner in any province of Canada, who has been engaged in the practice of medicine for five or more years, may, on passing the examination in the final subjects only, become a member of the College of Physicians and Surgeons of Ontario, on furnishing the necessary credentials and paying the usual fee, provided that the Medical Council of the province in which he is registered and resident offers similar privileges to the members of the College of Physicians and Surgeons of Ontario.

W. T. C.

SPEECH DEFECTS.

*Clinical Lecture Delivered at the Kingston General Hospital,
November 11, 1908.*

GENTLEMEN: I propose to take you to-day into one of the byways of practice, for it is only occasionally, even in special practice, that our advice is sought by patients such as the one who is before you.

There are three kinds of speech in use: (1) Audible speech. (2) Visible speech. (3) Tactile speech. The third of these is the most limited in application, being employed by those who are both blind and deaf. The very well known case of Helen Keller is an illustration of how much may be done in the way of tactile speech. By visible speech we mean that form which is now generally taught to the deaf, in place of the sign language. The motion of the visible organs of articulation is understood by the trained eye. Audible speech is the ordinary form, recognized by the ear. It is that which concerns us at the moment.

Audible speech may be defined as articulated voice. What then is the difference between speech and voice? Voice is a noise produced by a column of breath set in vibration by its impact with the vocal bands, and intensified by its diffusion through the resonant chambers before passing into the surrounding atmosphere. Voice so produced is the material of which speech is made. If I say "ah," that is voice. With an entirely different mechanism I articulate it, mould and modify it into syllables and words and that is speech. Thus in speech there are two different mechanisms—the vocalizing mechanism and the articulating mechanism. In the vocalizing mechanism are included the vocal bands and all the respiratory organs below them, and in the articulating mechanism are the upper portion of larynx, the pharynx, the tongue, the lips, the teeth, the hard palate and the soft palate. The resonant chambers belong to both mechanisms, for they are used to reinforce the primary tones of voice and to give to each vowel sound its primary quality. The two mechanisms work independently of each other. One may utter a sentence, make the motions, without voice, and I have just illustrated voice without articulation. Associate these and the result is audible speech.

There is also a distinction in the application of speech and voice. Voice is the medium for the expression of the emotions, as, for example, laughing or crying. Speech is the expression of thought as

well as feeling; it is voice articulated and utilized. Thus it becomes the chief avenue for conveyance of the product of the mind and so of the greatest importance as a factor in mental development.

In the mechanism of voice there are three elements: (1) the column of breath, (2) the vocal bands, (3) the resonant chambers. The control of the column of breath has given rise to endless discussion among vocalists and it certainly is of great importance, though much nonsense has been written about it. Ordinary passive breathing is quite different from the breathing of voice production both in its processes and in its function. The function of ordinary breathing is simply to aerate the blood, while the breathing of voice production does this only incidentally, its chief purpose being to set the vocal machinery in motion and to control that motion. This is a definite and voluntary muscular process. Your breathing as you sit in your seats is a passive process; mine, as I talk to you, is active, and for a special purpose. Take a single tone. The first muscular act is a voluntary inhalation of breath, putting the respiratory muscles and the thorax in the active position. Nearly all speech defectives fail at this point. They either do not inhale at all or their inhalation is involuntary and incomplete. They have no adequate column of breath to control and their respiratory muscles are in no condition to control it if they had. In the control of the column of breath we have at least two important sets of opposing muscles, one the abdominal and the other the thoracic. In the abdominal set the action of the diaphragm is opposed by the action of the abdominal muscles. In the thoracic set the external intercostals oppose the action of the internal intercostals, the former tending to elevate the ribs and the latter to depress them. Now it is the proper voluntary adjustment of these opposing forces that controls the breath in voice production in either speaking or singing. The proper adjustment of these muscles is largely wanting in speech defectives and especially in stammerers. In many cases it is the primary defect, in some it is only secondary. If the ordinary stammerer be carefully watched it will be noted that his first act is one of exhalation rather than inhalation and his chest will be found flat and collapsed. If the proper voluntary inhalation be taken, if he fills his chest before he begins to speak, the hesitation often disappears.

The second element is the vocal bands. The phonating position is that in which the edges approach approximation and the three conditions of length, weight and tension determine the primary tone of the voice. It has been demonstrated that the vocal bands vibrate

according to the laws of vibrating strings, that is to say, the rate of vibration is universally proportional to their weight, inversely proportional to their length, and directly proportional to the square root of their stretching power. In other words, you may double the number of vibrations in a given time and thus raise the pitch of the voice an octave by diminishing the length of the bands by one half, or by reducing their weight by one half, or by making their stretching power four times as great. Variations in these three factors take place simultaneously, and no one of them can change independently of the other two. The means for bringing about these variations exist in the larynx itself. The pitch of the voice is controlled by the intrinsic muscles of the larynx.

The third element is the resonant chambers. These are the thorax, the trachea, the larynx, the pharynx, the mouth, the oropharynx, the naso-pharynx, the nasal cavities and sinuses. The thorax is modified by the respiratory muscles; the trachea may be increased either longitudinally or transversely to reinforce tones of varying pitch. The larynx, pharynx and mouth are made to assume a great variety of shapes and sizes in the ever-changing qualities of voice and are so classified with the vocalizing mechanism, but their chief function is that of articulation. The articulating mechanism includes the vocal bands and all the organs above them in the respiratory tract. It is with the vocal bands that the initial attack of the vowel sounds is given. This has been called the stroke of the glottis, the glottis being the proximate edges of the vocal bands and the space between them. The space is the chink of the glottis. There is a similar chink between the ventricular bands and still another between the ary-epiglottic folds. Then we have a space between the velum palati and the pharyngeal wall which we call the palato-pharyngeal chink, and another between the velum palati and the base of the tongue which is called the posterior palato-lingual chink; one between the hard palate and the tip of the tongue, the anterior palato-lingual chink; and one between the lips, the labial chink. So there are seven chinks or points where the voice may be interrupted by the organs of articulation. The three laryngeal chinks are used chiefly in articulating the vowels, the pharyngeal and oral chinks to articulate the consonant sounds. It is at one or more of these chinks that stammerers have trouble.

Having so far set forth the principles involved, let us now examine this patient,—a young woman of eighteen who has never been able to speak properly and desires advice. When I ask her name

she at once responds with a noise which is unintelligible. Her name is Mary Greer. It sounds like "ah ah eh." This is not a case of stammer you notice at once. Now I will have her repeat the letters of the alphabet slowly after me. Every letter is attempted quickly but there is not much differentiation. Let us classify them. The vowels a, e, i, o are distinct. The labials b, p, v, m, n are indistinct and much alike; d, t, f are fairly distinct; l and r are also recognizable; c, s, x are bad; h is sounded like "eight"; g and k are very badly done. It is quite evident that the fault is in co-ordination of the muscles which have control of the pharynx, palate, tongue and lips. It is at the pharyngeal and oral chinks and with the consonant sounds that the trouble exists. The prognosis in such a case is unfavorable. Something might have been done by means of education during childhood, but it is now too late to make any impression in this way.

The remote causes of defective speech are often difficult to determine. In their origin they are either central or peripheral and cases of long standing are both central and peripheral. A cleft palate, for instance, always results in defective speech, and the primary cause is peripheral, but the effort to adapt the faulty organs to the requirements of speech develops a defective action in the motor and other centres. The central affection is functional but it is very difficult to eradicate.

So complicated are the processes of speech that the only wonder is that disorders are not more common. The motor processes of normal speech are for the most part automatic, and a slight weakening, for any reason, of a single muscle or nerve, even for an instant, may completely destroy for the time being the automatic action. No two cases are exactly alike, so the proper treatment should include a knowledge of the various methods for ascertaining the abnormal mental and physical conditions giving rise to the affection.

Frequently young children who are slow to learn to speak are brought to me by parents who think they are tongue-tied. Only very rarely have I found a short frenum,—short enough to warrant its being cut. When the frenum is extremely short it usually means that the genio-hyo-glossus is also short and that it too needs to be incised and sutured to lengthen it.

There is one other interesting form of speech defect which I beg to mention briefly, Falsetto Voice in the young adult male. These are cases where the voice does not change at the usual time but re-

tains its boyish character. It is a distressing and humiliating condition. All the cases I have seen, with one exception, have been easily cured. These young men have a lower range of voice which can be assumed with an effort. My plan is to have them select out of the lower range a tone which sounds natural and to practice making that tone at first with the aid of a piano. After this is done for a time they should read aloud in this tone for periods, gradually increasing in length till a limit of two hours is reached. When this has been done, it only remains to determine to use the new tone constantly till it becomes the natural one. The result is perfectly satisfactory.

PROMINENT SYMPTOMS FOR DIFFERENTIAL DIAGNOSIS IN TUMORS ASSOCIATED WITH THE GENITAL TRACT, AND IN SOME INFLAMMATORY CONDITIONS WHERE TUMOR IS A SYMPTOM, OR A RESULT.

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PELVIC TUMORS.

Prolapse of Uterus. Absence of the fundus from the proper place. Tumor at or near introitus of vagina. Cervical canal in centre of the tumor. Tumor can be easily pushed up. Sound enters canal to the usual length. Cystocele and rectocele most likely. Tumor broader above than below.

Inversion of uterus. Tumor larger below than above. Cannot be pushed up. Absence of the cervical canal. Depression of inner opening of the Fallopian tube at either angle. Sound cannot be made to enter, but is passed all round the tumor. Peculiar feel of the endometrium. Perhaps bloody oozing from tumor.

Polyloid submucous fibroid in the vagina. Hard rounded-out feel and smooth. No cervical canal. Fundus of uterus at or near its normal position, and if low can be palpated from above. Tumor can be freely rotated on its long axis. Sound goes up by side of tumor and enters the cervical canal.

Prolapsed ovary. Rounded off tumor in Douglas' cul-de-sac, tender, freely movable, and can be easily shoved up, and can partly be replaced with sound in the uterus if there is retro-displacement of uterus; absence of ovary from its natural position.

Retroverted uterus. Absence of fundus from its normal position, cervix looking forward. Fundus felt in cavity of the sacrum. Sound in uterus replaces it and tumor disappears and fundus now felt in proper place.

Scybalæ in sigmoid flexure. This may often simulate in a marked degree tumor in Douglas' sac. A rectal enema will clear up the diagnosis.

Ectopic gestation. Probably a history of pelvic trouble or of long sterility. Amenorrhœa. Early symptoms of pregnancy. Pain in one lateral fornix. Digital examination elicits decided tenderness and the formation of a tumor in the corresponding vault. Apparent return of the menses after six or eight weeks, perhaps a little later, unusual in character, often profuse, dark tarry in appearance, and containing large irregular decidua cells. Rupture and serious, if not fatal, hemorrhage may be first indication of danger.

Retro-version of gravid uterus. All the symptoms of early pregnancy. Soft tumor in the sacral cavity and quite filling it. Cervix behind the pubes. Absence of enlarged fundus in the hypogastric region

Ovarian tumor in pelvic stage. A rounded tumor in Douglas' sac, much larger than a non-gravid uterus or a prolapsed ovary, freely movable, elastic feel, painless. The uterus normal but displaced to one side or anteriorly.

Pelvic hematocèle. History of possible pelvic trouble or perhaps ectopic gestation. May be that of good health. Sudden sharp pain in the pelvis associated with shock, perhaps collapse, pallor, weak small pulse. Sudden appearance of a tumor in Douglas' sac, soft at first, but afterwards becoming hardened; feel as if moulded there. Uterus pushed forward against the public arch or displaced to one side.

Pelvic cellulitis. History of a cause for infection of the pelvis somewhere. Locality of the tumor: (1) in the parametrium (parametritis); (2) in the region of the sacro-uterine ligament; (3) in the broad ligament. Constitutional symptoms more or less marked, may be very decided. Tenderness and local pain in the affected region. Immobility of the tumor and a stony hardness with fixation of the uterus.

Pyo-salpinx. History of infection, gonorrhœal or other form of infection. Local pain, history of repeated pelvic trouble or of frequent attacks of pelvic peritonitis. Possibly intermittent attacks of purulent discharge from the genitals. Bimanual shows tenderness and induration in the vaginal fornix and a sausage-shaped, or club-shaped, or oval tumor attached to one cornu of the uterus. Tumor very likely lodged in Douglas' sac.

Tumor from pelvic peritonitis. History of pre-existing disease in the pelvis as gonorrhœal infection, other forms of infection, of salpingitis cellulitis, appendicitis; of repeated attacks of severe iliac pain associated with more or less marked constitutional symptoms; dysmenorrhœa. Bimanual gives an irregular matted-mass feeling in the fornix, with decidedly impaired mobility of the uterus.

Subinvolution of the uterus. History of pregnancy, abortion, or dysmenorrhœa, or endometritis. Tumor central and occupies position of the uterus. Broader from side to side than from before backwards. Sound enters the canal readily and shows elongation; smooth even feel of uterus.

Small fibroid of uterus. No history, unless that of dysmenorrhœa, or uterine hemorrhage. Uterus larger and rounded out. If multiple irregular nodules are felt on the surface Unusual hardness of the tumor. Tumor forms part of the uterus and moves with it when moved. Is painless. Sound shows increased length and perhaps irregularity in the continuity of the canal.

ABDOMINAL TUMORS.

Ovarian tumor in the abdominal stage. No history. The woman first notices a tumor laterally in the iliac region, and as the tumor grows extends towards the median line. It is tense, fluctuating, freely movable within the abdomen without movement of other organs. Dome-like appearance of the abdomen when of good size. Dull on percussion all over with tympanitic note on each side and above, and which does not change on change of position. Uterus drawn up or displaced forward. Uterine canal not much altered in length usually.

Pregnancy. All the symptoms of early and late pregnancy elicited by percussion, palpation, auscultation and vaginal examination.

Ascites. History of a probable cause as disease of the liver, flattening or umbilication of the abdomen with bulging out of the flanks. Too and fro movement of the fluid in the abdomen on palpation. Tympanitic note at the highest point of the abdomen when on the back and dullness in the flanks. The area of tympanites and dullness changes with the position of the patient, as when she changes from one side to the other. The tympanitic point being always highest up and dullness lower.

Large Fibroids. History of growth, slowly and painlessly for the most part. The locality. The dense hardness, irregular outline, dull on percussion. Probably uterine hemorrhage. Sound gives elongation of the canal, may be several inches over the normal.

Hematometra. History. Amenorrhœa. There will be found on examination the cause for the accumulation, as atresia of the hymen, vagina or cervix. The tumor is central, smooth, soft, like a pregnant uterus, dull on percussion, and moves readily within the abdominal cavity.

Tubercular disease. Probably a history of tubercle, abdominal distension, tympanitic here and there with areas of dullness between, giving an irregular outline to the abdomen with elevations and depressions. Probably some afternoon fever and elevation of pulse and an appearance of ill-health.

Vesical over-distension will simulate an abdominal tumor but the catheter will make the diagnosis.

Tumors of the liver, kidney and mesentery. History of the growth and the accompanying symptoms. The tumor grows down from above or from the side. If movable, can be shoved up but not down. Movement from side to side, or up and down, shows pivot of pendulum movement is above or at the side and not below. Hand can be placed between the lower border of the tumor and the pelvis but not between it and the ribs as in pelvic tumors.

Tumors of the abdominal wall and phantom tumors can best be diagnosed by the administration of an anesthetic and palpated, the former can be rounded out by the hand and separated from the abdomen, the latter will entirely disappear.

R. W. GARRETT.

RECENT INVESTIGATIONS IN THE DIAGNOSIS OF AFFECTIONS OF THE LABYRINTH BY THE PRO- DUCTION OF NYSTAGMUS.

HERETOFORE it has been impossible to definitely diagnose affections of the labyrinth from the symptomatology or by tuning fork tests or other mechanical appliances. At present by studying the normal physiological relation and function of the endolymph, the semi-circular canals and Cochlea with their nuclear centre, certain valuable diagnostic conditions and manifestations are produced. The semi-circular canals govern our equilibrium or orientation.

By producing a movement of the endolymph in the canals an irritation of the sensitive nerve endings through the ciliary cells is produced, and this irritation conveyed to the nuclear centre of the labyrinth, subjective and reflex symptoms are produced as, dizziness, vertigo, loss of equilibrium, vomiting and movements of the eyes (nystagmus).

For clinical purposes we use this nystagmus to determine whether the labyrinths are functioning or not and also their degree of irritation or hypersensitiveness. The greatest irritation and consequent greatest nystagmus is produced when the fluid or endolymph passes from the canals to the ampulla, the cilia at the crista ampullaris are bent over as the fluid passes. Nystagmus is always in the plane of rotation of the head and the reactionary or secondary nystagmus produced by the return of the fluid is in the opposite direction, that is, the long strokes of movement of the eyes will point in a definite direction.

To test the right horizontal semi-circular canal, the patient is seated in a revolving chair in an erect position and turned at the rate at a velocity of 10 times in 20 seconds. While turning, a nystagmus to the right will be observed, but as the patient cannot be examined while in motion, the reactionary or secondary nystagmus after stopping is noted which is in the opposite direction to the primary, as the fluid goes in the opposite direction. Thus, passengers in a street car when the car is in motion tend to go backwards in the opposite direction to the movement of the car and when the car stops they fall forward.

In turning to the right the left side of the head makes the greatest arc of circle and on stopping the greatest amount of fluid and pressure and irritation will reach the left labyrinth, and the secondary nystagmus will be to the left while turning to the right, and to the right while turning to the left and stopping.

The reaction of the other canals can be similarly tested. By holding the head on one side while spinning, the sagittal canals are tested and a rotatory vertical nystagmus produced, and by leaning the head forward on the chest while turning the other canals are brought into action and similarly tested, but as all the canals have a common connection and a disturbance of the medium at any one point is transmitted throughout the whole apparatus, for clinical purposes only one canal, the external or horizontal canal, is used. The value of this lies in determining whether both labyrinths are functioning and are equal in reaction, as the strokes of nystagmus can be counted in an equal number of seconds and each labyrinth thus compared.

Other and simpler methods are used to arrive at the same conclusion, namely, by syringing out the ears with hot and cold water, known as the calorific reaction. Cold water is best employed as greater degrees of temperature can be used; from 12 to 20 degrees is best. Washing out an ear with hot water produces a movement of the fluid

and an irritation and nystagmus to the same side, while washing out with cold water produces a numbing or paresis of the sensitive nerve endings and the nystagmus results to the opposite side by the nucleus being irritated, but no nystagmus will appear to the side syringed. Therefore, by syringing both ears at the same time with cold water at the same degree of temperature and pressure, if both labyrinths are normal and equal in sensitiveness no nystagmus will result, but if one labyrinth is more sensitive than the other, a nystagmus will result to the less sensitive side, as it will not be as quickly paralysed as the other and the number of strokes and duration of the nystagmus will mark the degree of sensitiveness of one labyrinth with the other.

The nystagmus is increased by the patient looking in the direction of its movement, and is lessened by strong convergence or fixation, therefore it is necessary in all examinations to close the patient's eyes while turning or syringing.

A spontaneous nystagmus, as from the ocular nuclei, does not preclude the labyrinth examination, as the ocular varieties are central and have a pendulum movement, and by having the patient fix on a point to the right or left the nystagmus is diminished or absent and the labyrinth nystagmus can then be produced.

While testing the reaction of either labyrinth the patient should always be asked about subjective symptoms experienced, as dizziness, nausea, vertigo, or loss of equilibrium, and these carefully noted and compared. Another aid to diagnosis is the nystagmus produced by compressing and auscultating the air in the external auditory meatus by a bulb or Siegle speculum, known as the "fistula symptom."

In cases of mastoiditis, where necrosis of the bony wall of the external semi-circular canal or about the oval window has taken place, leaving the endosteum uncovered, the drum being perforated the air is forced directly against the sensitive membranous canal and a movement of the fluid is produced and a corresponding nystagmus in one direction on pressure of the air and in the opposite direction on auscultation.

I will now apply the knowledge of the nystagmus reaction to a few pathological conditions.

In all cases of mastoiditis where necrosis and consequent supuration is present, the reaction of the labyrinth should be determined and also the presence or absence of the fistula symptom. If the fistula symptom is present the radical mastoid operation should be done at once, but no interference with the labyrinth, as the presence of the fistula symptom indicates the labyrinth is functioning

but is exposed. All cases of labyrinthitis as well as their oft sequela cerebral and cerebellar abscesses produce nystagmus. Consequently, given a patient with a strong nystagmus to the right side, one must think of an irritation of the right labyrinth or an absence or paresis of the left, but if the disease is on the right side the right side must be irritated, but if the disease is on the left side the left labyrinth must be destroyed or paralysed. The reaction tests then can be applied and the trouble definitely located.

Polypi, strictures and cholesteatoma interfere with the caloric test and the spinning method must be adopted. Any destructive process in the labyrinth at once destroys its function and reaction, as for example, a diffuse suppuration breaking into the labyrinth, or a fracture of the base of the skull which usually passes through the vestibule the weakest part, and in consequence a big nystagmus will appear on the opposite side. This knowledge is also important in injuries from shooting or metastatic inflammations, as from mumps or infections from abscesses within the brain cavity.

Before any operative interference should be attempted with a labyrinth two positive indications should be present, total deafness and total loss of reaction. For clinical purposes the suppurative affections of the labyrinth may be divided into four varieties, the acute and chronic circumscribed and the acute and chronic diffuse suppurations, the non-suppurative varieties, as serous, para, endo and retro labyrinthitis. Meniere's disease and ossclerosis I will not dwell upon. While all the suppurative varieties have some symptoms in common, as dizziness, nausea and disturbances of equilibrium, the nystagmus is different and characteristic, being to the affected side in acute cases and to the opposite side in chronic cases. In the first two varieties there is usually deafness, but reaction is present; but in latter two varieties no reaction or hearing is present and the labyrinth operation should be done to remove the avenue of infection to the intracranial cavity.

Seventy per cent. of all cases of meningitis is due to labyrinth infections. In the acute varieties hearing or reaction is often suspended to be later recovered, and these acute circumscribed cases if operated upon may be converted into the diffuse varieties by the trauma of operation. Consequently, in the former class of cases do the radical mastoid operation only and wait for further developments, watching the manifest symptoms and taking the reaction of the labyrinth every hour, and if hearing and reaction disappears and a big nystagmus appears to the opposite side, do the labyrinth operation

then at once, and at the same time expose the lateral sinus and open the cerebellar fossa, as this cavity is often found to be the seat of important pathological activity in labyrinth infections. A cerebellar abscess produces a strong nystagmus to either side and if on one side the labyrinth operation has been done and later a strong nystagmus appears on that side, or a big nystagmus to one side and, in a few hours changes to the opposite side, increasing in force and is continuous, it is very indicative of cerebellar abscess. If no hearing is present and no reaction in a labyrinth with no previous surgical interference, drums, etc., being normal, one must think of either deaf-mutism or cerebro spinal meningitis. Twenty per cent. of all deaf-mutes have no vestibular function, and in cerebro spinal meningitis infection may reach the labyrinth from the skull through the internal auditory meatus.

Patients with a labyrinth affection always lie on the good side, as the eyes being turned away from the seat of irritation to look about the room lessens the nystagmus, dizziness, and other subjective symptoms.

After the removal of one labyrinth, a slight nystagmus to the opposite side remains for some time but disappears with the dizziness and disturbances of equilibrium. These same symptoms disappear if both labyrinths are removed and orientation for all practical purposes is good as the vestibular apparatus is only one link in the chain of maintenance of equilibrium. All other sensory impressions work in unison, so long as patient remains in apposition to other solid bodies, but should the patient be suspended in the air or dive into the water, orientation is lost.

While the patient is standing an increased sense of pressure is felt on the feet, and on the body when sitting, and on the globes of the eyes when open. Some investigators have reported cases in which tumors, foreign bodies and lesions in different parts of the cranial cavity have been definitely located by means of the comparison of the reaction or activity of the different nuclear centres where influences otherwise could be excluded, but as yet the results are uncertain.

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SMALLPOX IN RELATION TO THE MUNICIPALITY.

AN epidemic of smallpox is a misfortune and a loss to any city in many ways, principally by interfering with business, trade and commerce. It causes worry and trouble to some unfortunate citizens who happen at the time to be members of a Local Board of Health and who, by voluntary and free performance of such duty, lose the friendship of many of their fellow-citizens. The epidemic also leaves behind a burden of increased taxation upon all property owners and an unpleasant memory to everybody. It should also leave a universal desire to prevent, if possible, any future recurrence of such a disturbing element in the municipality. The method of combating this disease is the enforcement, by the Local Board of Health, of certain rules and regulations adopted and printed by the Provincial Board of Health. The enforcement of these regulations is the cause of most trouble. People ask why is this disease treated in a different manner from other infectious and contagious diseases. They forget or they have never experienced the early ravages, the high mortality rate, and the disfigurement of smallpox which have justified the adoption of these regulations for quarantine and isolation.

The city of Kingston has had the experience of combating an epidemic of smallpox, and it is interesting to enumerate the difficulties encountered in our fight. The first difficulty was to persuade the people that the disease was smallpox. Rumour flies about announcing it Cuban itch, chickenpox, etc.. because the patients go about, are not in bed, nobody is seriously ill and nobody has died. Therefore many refuse to comply with the regulations which they designate cruel compulsion and oppression. They also say that there are not sufficient cases to justify such stringent and unnecessary precautions. So the opposition goes on till there is open war between citizens and the Local Board of Health and its officials. Much opposition was due to the unreliable class of literature spread abroad by the so-called anti-vaccinationists.

Lastly, while one municipality is battling bravely against the epidemic, it is found that neighboring municipalities are carelessly allowing the disease to spread. On three occasions we believed our local trouble was ended, but fresh cases came in from outside.

As interesting are the conclusions we have reached by our experience. Quarantine and isolation may be aids in preventing the spread of the disease but are not sufficient. If a municipality wishes to save expense, to cut short the epidemic and prevent loss of business, it will adopt the only effective treatment, viz., vaccination.

Three weeks after the adoption of vaccination the number of our cases were reduced from twelve a week to one in ten days, and in one month the outbreak was dead; whereas for four months we had been fighting by means of quarantine and isolation.

The time to advise vaccination is at the beginning. Not fifty cases, but one case of smallpox is a serious condition for any municipality and sufficient to waken the Board of Health. The treatment from the beginning should be applied stringently without fear or favour and with tact by the authorities, and future complications will be thus prevented. The Medical Health Officer should have the entire support of the Medical profession, each of whom should be provided with a copy of the Health Act and the accompanying regulations. Medical Health Officers should be holders of some certificate showing that they have had some special training for the work, and each municipality should have its Health Officer, or perhaps better, there should also be a County Health Officer with a proficient training in the Health Department, and these should be in closer touch with the Provincial authorities than at the present time.

If vaccination is to be adopted, the Provincial authorities should spread literature on the subject for the education of the people. For example, it would be interesting and instructive to know that no case of smallpox occurred in Kingston, amongst the immigrants, the Jews or the permanent troops. As these three classes had been successfully vaccinated previous to the outbreak, the efficacy of vaccination is abundantly proven. Then the regulation requiring children to be vaccinated before three months of age has never been enforced and might be changed, requiring a certificate of vaccination before admission to school, or in case of a new pupil, a physician's certificate of successful vaccination. The objection by parents to the vaccination of children at the early age of three months would thus be removed.

The difficulties connected with this disease, the failures of enforcement of regulations, the unequal methods of dealing with the epidemic, and the dependence of one municipality on the other, not only in the case of smallpox, but in other diseases, viz., typhoid, tuberculosis, diphtheria, force upon us the fact that the health of the Province is as important as its mines and forests, its public works and its education, and should require a minister or at least a superintendent. The Government of our country cannot overlook the health of the country, and the best method to secure health is to prevent disease, a field large enough for one department of any Government.

A. E. R.

SMALLPOX.

A Short Review of the Recent Outbreak in Kingston.

IT is not the intention of the writer to dwell at any length on the etiology of this disease. Suffice it to say that it is believed to be of microbic origin, though the organism has not been isolated, unless we accept the views advanced by Weigert in 1874, and more recently by Councilman, as to the part played by the so-called "cell-inclusions" in its causation. The contagion is present in the pus of the pustule, and in the dust from the dried crusts, these being the principal media of distribution. The disease is undoubtedly infectious from the first appearance of the rash, until its total disappearance. Some authorities, however, contend that it is infectious during the early symptoms, and while the rash has not yet made its appearance, while others insist that it is infectious during the incubation period. The period of greatest danger, however, is during the pustular stage and from then till the desquamation is complete.

Contact with an infected person is not necessary to become infected. The very air of an infected house becomes permeated with the contagion from the dust of the dried pustule, and the inhalation of this is sufficient to secure infection.

Symptomss

The incubation period, lasting from seven to fourteen days, rarely longer, is followed by violent pains in the back and limbs and severe headache. Fever is present, the temperature rising to 103°, 104° and even 105° on the first day. This continues for two or three days, during which time the patient may become delirious. A chill often ushers in the disease, and in children a convulsion may be the first symptom. About the second or third day an initial rash may appear on the inner surface of the thighs and arms and perhaps on the abdomen. This rash may be a scarlatinal character or may resemble measles, but it must not be confounded with the true, small-pox eruption, which appears on or about the 4th day.

This is first seen on the forehead and on the anterior surfaces of the wrists, appearing as small red spots. These soon become general and, by the fifth day, are distinctly papular and hard to the touch. I think the term "shotty" describes these papules best of all. With the appearance of the rash the temperature becomes normal again, and the other symptoms abate. The papules now commence to fill with serum and a depression is seen in the middle of each vesicle, as they are now termed, constituting the umbilication. This is very

characteristic and is diagnostic. About the eighth or ninth day, when the serum in these vesicles has changed to pus, the umbilications disappear. We have now another very distinctive symptom, viz., the return of the fever coincident with the pustulation. This secondary fever, as it is termed, rises to 101 or 102° and may remain so for three or four days, by which time the pustules have dried up and are rapidly becoming crusts. These are of a brownish color and drop off about the fourteenth day, leaving a red discoloration which usually disappears in from three to six weeks. If the true skin has been invaded and there is a loss of tissue, a pit may be left.

When the rash is well developed considerable pain is felt, especially when the papules are on the palmar surface of the hands or on the soles of the feet where the superficial layer of the skin is thick. There is also a certain amount of ecchymosis and the resulting tension causes great pain.

The rash may appear on the pharynx, larynx and oesophagus, and on the tongue and buccal mucous membrane. In these cases there is experienced great difficulty in swallowing. There may be enlargement of the parotid and submaxillary glands.

Above I have briefly outlined the symptoms of the ordinary, discrete variety, such as we had during the recent outbreak in Kingston. I will not discuss that rarer form, the hemorrhagic, which is generally fatal.

Treatment:

The patient should be isolated as soon as the disease is recognized, but, as this is seldom done until the rash appears, the treatment is an expectant one. Where smallpox is suspected, as where there are other cases in the neighborhood, it is best to isolate at once. The patient is put to bed and given a liquid diet. The elimination is looked after by small repeated doses of calomel, followed by magnesium sulphate in the morning. For the headache and pain in the limbs and back, phenacetine in grains vii doses or Dover's powder seem to control these very well.

On the appearance of the rash the patient is given a hot tub bath of potassium permanganate solution, strong enough to be of a decidedly rose-red color. This seems to hurry out the rash, for there is no use trying to abort it, and it is remarkable how a bath of this kind seems to aid in the development of the papules. In addition, it has, of course, its well-known antiseptic properties to recommend it.

To allay the itching, which is sometimes intense, carbolyzed olive oil is used freely, the pustules being freely anointed with this several

times daily. It also hinders the formation of dust from the dried crusts. For the pustules in the larynx and pharynx, antiseptic sprays or gargles are used, as peroxide of hydrogen or Dobell's solution. For the enlarged glands, the tincture of iodine locally seems to be the best remedy. The pustules on the palms of the hands and on the soles of the feet are very painful and I think it better to open these and evacuate the pus than to wait for the pustule to break through the thick superficial layer of the skin. Some authorities advise this for all the pustules, but I think the danger of pitting is much increased.

Now as soon as the dried crusts commence to drop off, frequent bichloride baths 1 in 1000, using castile soap and vigorous rubbing, seems to facilitate their early disappearance, for not until all these desquamations are gone, and a smooth surface is left, is the danger of infection over.

Now, as to vaccination. Does it protect? Out of fifty-eight cases treated by the writer, at the Isolation hospital, only three had ever been successfully vaccinated, previous to this outbreak, and in each of these cases the disease was of a very mild form. In these cases, too, their vaccinations had dated from twenty-five to thirty years previous to the taking of the disease, so that the protecting influence of vaccination lasts longer than is generally supposed. In the case of the writer, I was successfully vaccinated some eight years ago. Just before I took charge of the Isolation hospital, it was done again, though not successfully, and on two other occasions after entering the hospital the vaccination was repeated each time without producing the necessary reaction. It was clear, then, that the effect of the previous successful vaccination was still there, for during the eight weeks I spent in the hospital I developed no trace of the disease.

It is curious, too, that of all the cases treated at the Isolation hospital, we find not one English immigrant, each having been compelled to produce a certificate of successful vaccination before leaving the ship.

G. H. V. HUNTER.

PROGRESSIVE FACIAL HEMIATROPHY.

FACIAL hemiatrophy is a rare disease. About one hundred cases have been recorded. The affection is characterized by progressive wasting of the bones and soft tissues of one half of the face.

Etiology: It reveals itself, as a rule, about puberty, rarely after twenty. Females are more frequently affected than males.* Trauma and the infective fevers have been suggested as causes, but in none of my cases could any relationship be established. The left side is more often attacked. In at least two of my cases there was a family history of instability of the nervous system.

Pathology: There are only five cases on record in which a necropsy has been made and in only one of these (Mendell's case) has the pathological condition been fairly well worked out. This case showed an interstitial neuritis of all the branches of the trigeminus from its origin to the periphery. The primary cause probably lies in arrested development during the growing period. This is the view generally held.

Symptoms: The disease develops gradually and usually first shows itself in a white or yellowish-white irregular patch about thirty millimetres in diameter on the cheek corresponding approximately to the antrum of Highmore. In a few cases the patch has appeared first on the forehead or on the chin. The affected skin has a parchment-like appearance, the secretions are diminished, but cutaneous sensibility is retained, so that in many of these cases this stage of the disease, especially in males, may be entirely overlooked. The rate at which the subsequent changes follow each other varies greatly. As a rule, in six months, the difference between the two sides of the face is quite noticeable. The shrinking at this time is due largely to the disappearance of the subcutaneous fat. The cartilages and bones undergo slow but progressive atrophy. The general bulk of the muscles is perceptibly reduced owing to the atrophy of their interstitial tissue. The muscle fibres proper do not give the electrical reaction of degeneration. The muscles of mastication, in most cases, remain functionally active. In one of my series—a medical student, aet 21—difficult mastication led to his seeking advice. He could not give any date for the onset of the atrophic changes, but had observed an increasing difficulty in mastication on his left—the affected side—for

* My experience is limited to three cases—two females and one male.

about nine months. The masseter responded slowly to galvanism when a current of thirty-five milliamperes had been employed. The anodal closure contraction was greater than the cathodal closure contraction, indicating that true atrophy of the muscle does occur in some cases at least but at a much later stage than that of the other subcutaneous tissues. In case No. 1 there was no degenerative reaction in either the masseter or temporal six years after the onset of the initial symptoms. The eye symptoms are pronounced. In the early stages the eyeball recedes owing to the disappearance of the orbital fat. (Fig. 1). Dilatation of the pupil is usually observed.



FIGURE 1.

The pupil responds to light and distance. Hemiatrophy of the tongue is occasionally met with. It was present in one of my cases but in a much less degree than that following a hypoglossal lesion. Slight disturbance of the sense of taste in the anterior two-thirds of the tongue was noted in the patient whose photograph is here reproduced.

This is unusual. The bones of the face on the affected side become shrunken as the disease advances, the change being equally marked in the frontal, malar and upper and lower maxillary. On the forehead of patient No. 3 (Fig. 1), on a line with the inner canthus of the eye, there is a yellowish-white patch thirty-five millimetres in



FIGURE 2.

height by eighteen millimetres in width. This appeared some months later than the spot on the cheek. The teeth are usually affected but in only one of my series—the most advanced one—did the teeth share in the general atrophy of the osseous tissues. The hair of the atrophic areas is always more or less affected. In the case of the student the beard was much finer and thinner on the affected side and slightly lighter in color. Case No. 3 shows an absence of hair on the inner half of the eyebrow and a well-marked strip of alopecia twenty-five millimetres in width extending backwards to the limit of the area

supplied by the fifth nerve (Fig 2). There is usually no disturbance of the general health. In case No. 3 there was an intermittent albuminuria with hyaline and granular casts—in all probability an independent affection.

Differential diagnosis: The diagnosis offers little difficulty when it is borne in mind that the essential change is an atrophy of the *cutis vera* and the subcutaneous connective and fatty tissues. Congenital asymmetry, hemiplegia with atrophy in children and atrophy from gross lesion of the 5th are the only conditions to be considered in making a differential diagnosis. In advanced cases the two halves of the face look as if they belonged to different persons.

Prognosis: The disease shows no tendency to shorten life. In the majority of cases the atrophy is progressive but in a few it has been spontaneously arrested. In case No. 1 the electric reaction of masseter and temporal muscles was normal six years after the onset of symptoms; in case No. 2, there was true atrophy; in case No. 3, there is no atrophy at present.

Treatment: In the absence of a definite pathology, it is impossible to lay down a definite line of treatment. The usual treatment consists in improving the general health, the administration of arsenic and strychnine together with the application of massage and galvanism. In cases Nos. 1 and 3 the massage and galvanism seemed to be of decided value in maintaining the functional activity of the muscles of mastication.

JAS. THIRD.

BOOK REVIEWS.

Text-Book of Nervous Diseases and Psychiatry. By C. L. Dana, M.A., M.D., Professor of Nervous Diseases in Cornell University Medical College, etc., etc. Seventh edition, 1908. Wm.-Wood & Co., New York.

The author says in his preface to the seventh edition: "I have tried to make it a correct presentation of Neurology of the present day." We are of the opinion he has succeeded. We have read this

book of some 760 pages with a great deal of pleasure and have few words but those of commendation to say regarding it. No subject of any importance would seem to have been overlooked and each is treated in a full and adequate manner. In an interesting chapter on neurasthenia he expresses the opinion that altogether too much stress is laid on the importance of minor troubles of the pelvic organs in women. Curetting and sewing up small tears rarely do any good. Serious uterine enlargement and prolapse, displacement and real disease of the ovaries require attention. The chapter on epilepsy is another excellent one. There is perhaps nothing specially new either in the description or the treatment but both show a "personal touch" that is refreshing. The first paragraph under the head of specific treatment reads: Physicians who undertake the treatment of epileptics often do not realize the seriousness of their responsibilities. Many, I fear, simply give a little bromide, stop the meat, circumcise the boy, and say they think the child will outgrow it. But children do not outgrow it; they steadily get worse, unless something definite is done, and well done for a long time. . . . The physician should approach the responsibility of a case of epilepsy as he would that of a mortal surgical condition, in which much depends on knowledge and attention to all the details of a long technic. The publishers have left nothing to be desired.

J. T.

OBITUARY.

W. L. HERRIMAN, M.D.

Dr. Herriman, of Lindsay, died suddenly on the morning of October 9th, at the age of 77. He had practised in Lindsay for more than 20 years and had won the esteem of all by his unflinching courtesy, kindness of heart and unswerving integrity. Dr. Herriman was neither a great student nor a plodding investigator. He laid no claims to either. He was better pleased to be the beloved physician and trusted friend than the oracle of science, and he played his part well.

At the jubilee of the Medical Faculty of Queen's in 1903, Dr. Herriman was present, by invitation, and spoke as "the oldest living graduate." His admirable address, from beginning to end, bristled with reminiscences that showed his keen appreciation of the march

of medical science. In opening his address he said: "I am quite well aware that I was remembered, sought, found, and thus honored because I was one of the first graduating class in medicine, and am now the remnant of the same."

And now "the remnant" is gone.

"Time, like an ever-rolling stream, bears all her sons away."

Dr. W. C. Herriman, assistant superintendent of the Toronto Asylum for the Insane, and recently of the Rockwood Hospital staff, and Instructor in Medicine at Queen's, is a son.

to be of decided value in maintaining the functional activity of the
J. T.

PERSONALS.

Dr. G. H. V. Hunter, '08, who filled with acceptance the position of superintendent of the Isolation hospital during the recent epidemic, left January 1st for Brocklyn, N.Y., where he will enter the Norwegian hospital as interne.

Dr. Geo. F. Dalton, '02, of Springfield, Mass., was a visitor in the city during the holidays.

Dr. Mabce, Odessa; Dr. W. Spankie, I.P.S., Wolfe Island, and Dr. J. W. Edwards, M.P., Cataragui, were among the outside guests at the banquet of the Aesculapian Society.

Rumor says that a gentleman of this city has under consideration the endowment of the chair of anatomy at Queen's.

Dr. N. H. Gillespie, '96, Elma, Iowa, spent several months of last year in London and Vienna.

Dr. J. C. Byers, '08, who contracted typhoid fever while with a construction company on the G. T. P. last October, and was brought to the Kingston General Hospital for treatment, has recovered and gone to his home at Eganville to recuperate.

Dr. H. J. Williamson, '05, Port Arthur, was the guest of his brother, Dr. A. R. B. Williamson, secretary of the Medical Faculty, for a part of the holidays.

Dean Connell returned from New York January 4th.

Dr. M. E. Grimshaw, '05, spent last year in post-graduate work at Edinburgh.

Dr. W. C. Usher, interne General Hospital, Providence, R.I., was ill at his father's home, Colborne, Ont., in December last. He has fully recovered.

Dr. L. W. Jones, '02, who has spent past two years as house surgeon in the Manhattan Eye and Ear hospital, is in the city for a few days. He will probably locate in a western city.

Mr. John McIntyre, M.A., K.C., lecturer in Medical Jurisprudence, has been unable to meet his classes this term on account of illness. Both students and faculty hope to see him in his accustomed place next session.

Dr. W. Moffatt, '98, after a year's study in various European centres, has resumed practice in Utica, N.Y.

Dr. A. D. Macintyre, '01, late superintendent of the Kingston General Hospital, is in Edinburgh.

Dr. F. H. Bermingham, '92, Brooklyn, N.Y., was in the city for Christmas.

Dr. R. J. Gardiner, '91, has disposed of his practice at Seeley's Bay and removed to Kingston.

The Medical Department of Queen's has 68 freshmen on its register. This is the first class under the five-year course.

NEW YORK SOCIETY OF QUEEN'S UNIVERSITY.

Our readers have a special interest in the New York Society of Queen's University because the majority of its members are medical graduates. Its officers this year are as follows: Hon. President, Dr. Gordon; President, W. F. Marshall, M.A., 1453 Fulton St., Brooklyn; 1st Vice-President, Dr. V. Barber; 2nd Vice-President, Dr. Walter Jaquith; Secretary, Dr. R. G. Moore; Treasurer, Chas. W. Miller; Executive Committee, Dr. F. J. McCammon; Dr. Geo. Hayunga, Dr. Jos. Losee, Dr. S. Mitchell. Honorary members: Profs. Watson and Shortt, Hon. M. J. Sullivan, Drs. J. C. and W. T. Connell, Kingston; and Dr. R. D. Freeman (Father O'Flynn).

There are 38 members of the society. The annual dinner is held in May and in the past has always been a great success from every point of view. The society also provides a scholarship of the value of \$50 in the department of Biology.

Mr. Frank Marshall, President for this year, is a prominent real estate dealer in Brooklyn. The Treasurer, Mr. C. W. Miller, a Napanee boy, is connected with one of the leading law firms of New York city.

BOOK REVIEWS.

Williams' Manual of Bacteriology. Fifth edition. By H. U. Williams, M.D., Professor of Pathology and Bacteriology, University of Buffalo. Revised by B. Meade Bolton, M.D., Bacteriologist of Bureau of Animal Industry, Washington, D.C. Pp. 466; P. Blakiston's Son & Co., Philadelphia, Publishers. Price \$2.50.

This manual of Bacteriology holds a well deserved place among text-books on the subject. Its popularity among students can be estimated by the demand for a fifth edition inside of ten years from its primary publication.

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Rohe's Text-book of Hygiene. Fourth edition. Revised by Albert Robin, M.D., Professor of Pathology and Hygiene, Medical Department, Temple University, Philadelphia, etc. Pp. 582; F. A. Davis Co., Publishers, Philadelphia. Price \$3.00.

Taking Dr. Rohe's well-known book as a basis, Dr. Robin has made a complete revision and considerably enlarged the volume, bringing it abreast with modern ideas of hygiene and sanitation. It is well worthy of the hearty reception accorded the previous editions of the work.

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A Manual of Clinical Diagnosis. By J. C. Todd, M.D., Associate Professor of Pathology, Denver and Gross Medical College, Denver, Col. Pp. 315. W. B. Saunders Co., Publishers. J. A. Carveth & Co., Limited, Canadian Agents. Price \$2.00.

This is a manual of practical chemical and microscopical methods of examination for clinical diagnosis, and considers particularly those methods which have proven of value for clinical purposes. It ought to prove a useful work for students and practitioners though not filling the place occupied by the more extensive works such as Simon or Emerson.

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Clinical Methods. A Guide to the Practical Study of Medicine. By Robt. Hutchison, M.D., F.R.C.P., Physician to the London Hos-

pital, and Harry Rainy, M.D., F.R.C.P., Ed., Assistant Physician to the Royal Infirmary, Edinburgh. Cassell & Company, 1908. Uglow & Co.: \$2.50 net.

The fourth edition of this eminently practical and useful book has just been issued. The whole work has been carefully revised. Recent advances in methods of clinical investigation receive the attention their importance merits. "Clinical Methods" is, in a word, the work of practical teachers, men who have learned from actual experience the requirements of the average student. The work is clear, readable, systematic and thoroughly up-to-date. It holds a position peculiarly its own.

* * *

Diseases of the Stomach. By Dr. I. Boas, Specialist in Gastro-Enteric Diseases in Berlin. Translated by Albert Bernheim, M.D., Philadelphia. F. A. Davis & Co., Philadelphia.

This work is one that can be commended to the student and practitioner alike, for its logical arrangement, accurate observation and clearness of expression. It is not easy in a work of this kind, as the author himself points out in the preface, to do justice to the various advances of science on the one hand and not lose oneself in specialistic subtleties on the other. The author has wisely struck a middle course and has produced a really admirable work. The translator has done his part well.

* * *

An Introduction to Dermatology. By Norman Walker, M.D., F.R.C.P., Physician for Diseases of the Skin in The Royal Infirmary, Edinburgh. New York: William Wood & Co. Uglow & Co.: \$3.00 net.

Although but a few years since this volume made its first appearance, it has now reached the fourth edition. The book consists of some three hundred odd pages and can be termed an "introduction" only in the sense that the rare diseases receive but scant consideration. The common diseases are dealt with quite as fully and carefully as in the more pretentious treatises. The present edition, though little larger than the previous ones, is greatly enriched by a number of really excellent illustrations. The book is a good type of the best product of the Edinburgh school, and we heartily commend it.