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NEEDLE IN THE HAND—(See page 926.)

THE
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Original Address.

VALEDICTORY ADDRESS

DELIVERED TO THE GRADUATES IN MEDICINE AT THE ANNUAL CONVOCATION OF THE MEDICAL FACULTY OF MCGILL UNIVERSITY,
MARCH 31ST, 1896.

BY

GEO. E. ARMSTRONG, M.D.

Assistant Professor of Clinical Surgery in McGill University; Surgeon to the Montreal General Hospital: Attending Surgeon to the Western Hospital.

GENTLEMEN OF THE GRADUATING CLASS,

The four years' course which seemed to you so long at the commencement of your college career has come and gone; you have laboured diligently: you have given evidence of your attainments by having passed successfully a severe and trying examination, and you are rewarded to-day by being presented with your degree of Doctor in Medicine and Master of Surgery from McGill University.

I have much pleasure in welcoming you into the ranks of an old and honourable profession and of greeting you as *confrères*.

Hitherto you have carried on your studies under the guidance of trained teachers; you now have the inestimable privilege of all free-born men, of shaping your own course, and, from this on, it will devolve upon yourselves more than upon anyone else so to conduct yourselves that you may, as the years roll by, develop into the fullest and highest possible manhood. Parents and teachers have done their part well; see to it that you do your part still better. The pupil must excel his master, else no progress. Kind friends rejoice with you to-day, and your Alma Mater joins with them in wishing you God-speed. The Faculty of Medicine will watch your career with solicitude, and will ever be pleased to hear of your successes and triumphs

over the great enemy of mankind which it is our especial duty to oppose.

It has been said that every man is the architect of his own fortune, and as an architect before building a house prepares a plan, so would I advise each one of you to lay out a working plan for your future guidance, a plan that will embody your highest ideals and aims and ambitions in life, and when you are sure that you are right, stick to it until, with a more mature experience, you become certain that you have discovered a better one.

We believe, judging from your close application during your undergraduate course, that each and every one of you is resolved to train yourself according to advanced scientific methods into a strong and able man, a power for good in the community in which you live and are known, a pride to the University which to-day has conferred its degree upon you, and an honour to the profession of which to-day you become a member.

It has been the aim of the McGill Medical Faculty to aid you in laying a broad and solid foundation. During the short period of four years scarcely more than this can be accomplished, but we have tried and we hope that we have succeeded in giving you such a training in the principles of scientific medicine and surgery that you can go on and build as solid and as heavy and as ornate a superstructure as your opportunities and talents may permit.

The first duty of a physician is to his patient. This duty should be the mainspring and inspiration of his life. And what nobler work can a man perform than to relieve pain and save life? What more enchanting occupation than dealing with those "crowded mysteries which lie between the first short gasp and the last and long-drawn sigh"? The opportunities for doing good possessed by the devoted family doctor are indeed enviable. Wealth, it is true, he seldom obtains, but other rewards more desirable even than wealth are often bestowed upon him in full measure. So order your daily life that you may be at all times worthy of the confidence which will be reposed in you. In no calling in life is there greater opportunity for the exercise—not the display—but for the exercise of the highest and keenest qualities of intellect, of self-reliance, and of endurance. You will be called upon to assume tremendous responsibilities; you will be placed amid surroundings that will test your fibre to the utmost. It will be no time to complete your education when standing at the bedside of a father or a mother or a loved one, fighting hard with the angel of death. You will do well, therefore, to spend your leisure time in further fitting yourselves for your life's work. Avoid excesses.

Do nothing that will unfit you for acting with sound judgment. Perhaps during the last few months you have felt the power of habit for good or for evil. Possibly some of you have had reason to regret that during your second and third years you did not make better use of your time and of your opportunities. If so, profit by your mistake and let every spare moment in the future be spent in fitting yourselves for emergencies and for acting promptly and efficiently. Your tests in the future will not be before examiners disposed to be lenient, but before the inexorable laws of life and death, where no favours are shown, and you will be rated by a critical public and by your own conscience.

In your early years in practice, before an indifferent public have learned how wonderfully clever you are, you will have time to study and to cultivate habits of thought and industry. Time spent at city clubs and village hotels will bring you small returns. Far better take up some special work or the acquirement of a foreign language. The greater your habits of industry the greater will be your pleasure and satisfaction in life and the better fitted will you become to aid those suffering in mind or body. You enter the medical profession at a time of great activity. Original research is being carried on on both continents with a zeal and an enthusiasm that knows not failure. The cause and nature of disease are understood and appreciated as they never were before. If you rest on your oars even for the short space of one year you may suddenly find that you are out of the race and that many of your methods are already obsolete. Constant labour is the price that must be paid for success in the practice of medicine. Do not think that you can do no original work unless you happen to reside in a city or are connected with a large hospital. Some of the most important discoveries have been made by general practitioners in the discharge of their ordinary duties. Cultivate a habit of close and critical observation. Let no detail be too small or insignificant to be noted. I would especially urge you to thoroughly master every case that comes before you. You must have often noticed in going through a large hospital ward how much more your teacher found of interest than you yourselves had observed. Probably nothing will aid you more in acquiring precision and definite knowledge than the writing of a short report of each case. The mere act of writing on paper what you see quickens and sharpens and renders more exact your powers of observation; and besides that, by so doing, in a few years you accumulate a mass of facts that will enable you to draw useful conclusions, and which will often prevent you from being misled by those who form opinions on single or unusual experiences.

Great is the advantage possessed by those who can read, in the original, articles published by the Germans, the French and the Italians. Important and original work is being done in these countries, and you can find rest and pleasure in reading of the results and advances made. Great is the competition for practice among physicians, and the man who can read English only is sure to be behind in many respects. Take a pride in your library. It is a very poor book indeed that is not worth its price. Strive to accumulate on your shelves, as companions and guides, the works of the men who are a light to our profession. Your daily travels will give you plenty of fresh air and out-of-door exercise and fit you for the congenial atmosphere of a well-stocked library. But don't confine yourselves altogether to technical reading; cultivate also a taste for elevating and refining literature and art. By so doing you broaden your interests and sympathies, you place yourselves in touch with a larger circle of people and thus increase your usefulness.

“The living body is a mechanism, the proper working of which we term health; its disturbance, disease; its stoppage, death.” And every year, with the increasing pressure of commercial, political, professional and social duties, there is an increasing necessity for the perfect working of this mechanism, and a corresponding demand for abler physicians with finer and more exact methods to keep this mechanism up to its highest standard.

As physicians, as members of health boards, as educated citizens, do your utmost for the common weal. Instruct and advise in the household routine, in the feeding and education of children, and above all remember the old maxim that “Example is better than precept.”

Avoid that hydra, charlatanism. Give your best aid to this Faculty of Medicine in endeavouring to bring the “reign of imposture” to a close. Scientific medicine has always had a hard road to travel, but to it you owe your present position and to it you must look for further knowledge. Do not join that group who live only to make money and who seem to exhale an air heavy with deception.

Gain a wide knowledge of history, science and philosophy, if you can, but be true, be honest, be brave. Two companions you can never shake off—your record and your conscience. They are always with you, and it rests with you to make them a comfort or ever-present tormentors. A good conscience and a good record are not the prerogatives of rank or intellect. Yet I may say that with doctors as with

others all work and no play is not compatible with the best work. In the words of Holmes—

“Run if you like, but try to keep your breath;
Work like a man, but don't be worked to death;
And with new notions—let me change the rule—
Don't strike the iron till it's slightly cool.

“If the wild filly ‘Progress’ thou wouldst ride,
Have young companions ever at thy side;
But wouldst thou stride the staunch old mare ‘Success,’
Go with thine elders, though they please thee less.”

Begin early in your career to take an annual holiday. It will be better for you in the long run, even if you do lose a few dollars, or even one or two of your best families. The renewed energies and inspirations thereby obtained will be appreciated and will bring you more than you may have lost. Attend meetings of medical men, and at those associations have your say, even if you do by so doing gain the reputation of being a little fresh. It will wake you up, and then try to do better the next time. Lay your plans to go abroad. Visit Great Britain and the Continent, for even a graduate of old McGill is sometimes surprised to find that they know a thing or two over there that he had never heard of.

And now, gentlemen of the graduating class, “to the life-long study of this science, which looks out upon so many pathways toward the light, and to the practice of our art, whose aims are ever linked to the high realities of life,” it is now my privilege, in the name of the Faculty of this old and honoured University, to bid you a cordial —“Welcome!”

Original Communications.

THYROID FEEDING AND ITS APPLICATION TO THE TREATMENT OF INSANITY.¹

BY

T. J. W. BURGESS, M.D.

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The paper which I have prepared for your consideration is based upon a series of experiments made at Verdun, in the carrying out of which, as well as for the clinical records, I am greatly indebted to my assistant, Dr. G. H. Manchester.

Thyroid feeding, as now practised, has been the gradual outgrowth of a suggestion made by Prof. Victor Horsley in February, 1890. Reasoning from the experiments of Schiff, Eiselsberg, and himself, he advised the transplantation of the thyroid of a healthy sheep into persons affected with myxœdema, with a view to arresting the progress of a disease supposed to be due to the absence or incapacity of the normal thyroid gland.

M. Lannelongue, of Paris, during the following month, first put the suggestion into practice, and the operation was soon repeated in other places. Varying results followed the several cases, but benefit enough ensued to show that there was something in Prof. Horsley's suggestion.

In some of the cases operated upon changes were recorded as occurring within a few hours after the transplantation, and this fact led Dr. George Murray to the conclusion that they must be due to absorption of the thyroid juice already present in the piece of tissue implanted, because the interval was too short to have allowed the formation of either fresh secretion or new thyroid tissue. Acting upon this supposition he made an extract of fresh thyroid and injected it subcutaneously into a myxœdematous patient. The astonishing results obtained were communicated to the medical world at the meeting of the British Medical Association held at Bournemouth in 1891.

The risks of a large operation being done away with by Murray's method, while at the same time the immediate results were even more

¹ Read before the Montreal Medico-Chirurgical Society, March 20th, 1896.

satisfactory, at once led to a number of trials of it, both in asylum and private practice. The same marvellous benefits as those recorded by Dr. Murray almost invariably followed.

The next advance was made by Dr. Hector Mackenzie, who, in 1892, substituted feeding on fresh thyroid glands for the subcutaneous injection of the extract prepared therefrom. The beneficial results were no less marked. In 1893 Dr. Arthur Davies substituted for feeding on the raw or slightly cooked glands, the method now most in vogue, namely, the administration by the mouth of a powdered extract of them. Since then many preparations have been put upon the market in the shape of tabloids and pills of both thyroid and thyroïdin, but none, to my mind, are as reliable as the desiccated thyroids prepared by Parke, Davis & Co. In this preparation ten grains of the powder represents one sheep's thyroid of average size.

The fact that in all myxœdematous patients there is either actual insanity or an affection of the intellectual faculties bordering thereon, naturally called the attention of asylum physicians to the new treatment for a disease of which most of the examples are found in their care.

Their attention so attracted, it occurred to Drs. Macphail and Bruce, of the Derby Borough Asylum, that if they could at will increase the pulse and temperature, so often found lowered among the insane, they might get a corresponding mental improvement similar to that seen in myxœdematous patients after thyroid treatment, and such as has long been known to occasionally occur in old cases of insanity after erysipelas and the exanthemata. They at once instituted a series of experiments, the details of which were recorded in a conjoint article published in the *Lancet* of October 13, 1894. A second article on the same subject was published by Dr. Bruce in the *Journal of Mental Science* for January, 1895.

About the same time, but quite independently, Dr. Clarke, of Rockwood Hospital, Kingston, Ontario, reasoning from similar data, had set on foot a like series of investigations, an account of which appeared in the *American Journal of Insanity* for October, 1895. It was in the interval between the appearance of Dr. Bruce and Dr. Clarke's articles that we entered upon the experiments, some details of which I now propose to lay before you.

Four patients were selected for experiment, two of them being cases of melancholia with stupor, one a case of dementia following melancholia with stupor, and one a case of chronic mania. The melancholic cases were comparatively recent, six and ten months respectively, but were making no progress toward recovery under

ordinary moral and medical treatment. The dement was of nearly two years standing and one our dullest patients. In the case of chronic mania, which was of over four years standing, the treatment was continued only a few days, as it was found impossible to keep the patient in bed without resorting to restraint.

Preparatory to commencing the treatment the patients were weighed, then put to bed, and the pulse and temperature taken morning and evening for several days. A quantitative and qualitative examination was also made of the urine. Regular full diet, the same as that given the other patients, was allowed, and the nurse was instructed to keep the bowels open, giving cascara sagrada if found necessary. Desiccated thyroid was given three times daily in doses varying from five to ten grains, with the ordinary meals. Mental and physical changes were noted from day to day, and the pulse, respiration and temperature were taken morning and evening throughout the whole period of treatment, as well as for some days after the stoppage of the thyroid. After-treatment consisted in the administration of tonics.

CASE I.—M. A. G., female, aged 19, farmer's daughter, fair education. This, her first attack, began seven weeks prior to her admission to the hospital. The disease was strongly hereditary, and she had marked suicidal tendencies, with hallucinations of sight. Exciting cause unknown.

Admitted June 11, 1895. A rather intelligent looking girl, but dull and somewhat anæmic. Sat with head hung down and could hardly be got to speak or to look one in the face. Examination revealed no physical disease anywhere. Diagnosis of mental disorder, melancholia with stupor.

October 5th.—Has varied at times since admission, but on the whole keeps getting steadily duller and more despondent. Has made several attempts to strangle herself. Is now very resistive and can hardly be got to speak. Refuses food and has to be fed, sometimes with a spoon, sometimes with the stomach tube. To-day was put to bed preparatory to commencing thyroid treatment. Weight 94 pounds, pulse 64, temperature 98°, respirations 24, urine normal.

October 7th.—Stopping in bed seems to be quite to her taste. Some vague suicidal wishes expressed.

October 8th.—Refused to eat; drinks almost nothing, and urine is in consequence much diminished in quantity. In the morning pulse 60, temperature 98°, respirations 21. Began administration of thyroid in five grain doses three times daily.

October 11th.—Takes kindly to the thyroid, which she says she likes,

but as yet temperature has not been affected, though pulse rate shows a decided increase.

October 14th.—Bowels very loose, but she has been taking small doses of cascara to relieve costiveness. It was ordered to be discontinued.

October 15th.—Pulse this morning is up to 102, temperature 98.6°.

October 18th.—Pulse increased to 110 with diminished tension; temperature 98.4°; is getting thinner.

October 21st.—Pulse still elevated (109); temperature 99.6°. Sleeps well and eats freely of her own accord. Is brighter mentally.

October 25th.—Has grown gradually brighter during the past four days. Now answers questions readily and is very good natured. Pulse to-day ranges from 110 to 115. The thyroid was reduced to one five grain dose daily.

October 27th.—Was allowed to sit up for a short time.

October 29th.—Up during the day, but complained of dizziness and said she felt stupid. Thyroid discontinued.

November 1st.—Pulse fallen to normal, temperature 98°. Is doing a little work in the ward. Weight 90 pounds.

November 6th.—Very bright mentally, lively in actions, and working steadily at sewing, etc.

November 21st.—Bright, industrious, and converses freely. Weight has increased to 94 pounds, exactly the same as when the thyroid feeding was begun.

December 1st.—Is apparently quite well mentally and physically. Has got much stouter.

December 18th.—Sent home on trial. Weight 113 pounds.

December 30th.—Reported as keeping quite well. Has gained flesh and now weighs 120 pounds, that is 26 pounds more than when thyroid treatment was begun.

January 16th.—A letter from her father states that she is stouter than she has ever been in her life, that she eats and sleeps well, is bright and cheerful, in fact quite herself again. Was discharged recovered.

CASE II.—C. H., aged 30, single, labourer's daughter, several previous attacks. First symptoms of present attack manifested themselves about five months before admission. Certificates stated that patient was melancholy, wanted to lie in bed all day, would not speak, and took no interest in anything or anyone. Ascribed exciting cause, la grippe.

Condition on admission, April 25th, 1895.—Much run down physically. Dull mentally, and dirty in habits. Persisted in lying

huddled up on a sofa or in a corner of the room. If efforts were made to rouse her, which it was difficult to do, she became very irritable and profane. Apart from her swearing could not be got to speak. At times tore her clothes and pulled out her hair. Diagnosis: melancholia with stupor.

Three months after entering the hospital she had a severe attack of diarrhoea, which lasted over a week, and during which she was much brighter mentally, speaking to the nurses and answering questions, though slowly and apparently with much effort. She soon relapsed into her old condition of stupor, refusing to speak and resistive to anything being done for her.

October 12th, 1895.—Put to bed preparatory to thyroid feeding. Weight 86 pounds, pulse 68, temperature 98°, respirations 21, urine normal.

October 16th.—Thyroid commenced in five grain doses three times daily,

October 18th.—Pulse increased, but no rise in temperature. Sleeps well, eats but poorly.

October 20th.—Pulse rate increased 20 to 30 beats; temperature still unaffected; is very irritable.

October 24th.—Brighter mentally and will now answer questions. Sleeps and eats well.

October 28th.—Pulse 106, temperature shows no rise.

November 3rd.—Is much emaciated; hair falling out so rapidly that her pillow is covered with it.

November 5th.—Dose of thyroid increased to ten grains three times daily.

November 9th.—Hair still falling out and she is now quite bald. Pulse much accelerated, but temperature still remains normal.

November 11th.—Though rather brighter there has been no marked mental change, and thyroid treatment was discontinued in the hope that the stage of reaction might initiate some more favourable result. She eats well, but is very thin; is cross, and when she answers a question does so very snappishly; covers up her head when anyone goes near her.

November 13th.—Got up for a short time and was found poring over a picture-book, seemingly much interested. Answered quietly and rationally when spoken to; with no trace of her old snappishness.

November 15th.—Up all day and darned some socks. Seems an entirely different girl. Is now bright and intelligent in expression, active in her movements, and talks freely and sensibly. Asked of her own accord when we thought she would be able to go home. Though very thin she is gaining physically.

November 21st.—Pulse, temperature and respirations normal. Gaining flesh rapidly and now weighs 100 pounds. Keeping well mentally.

December 21st.—Sent home on trial, seemingly quite well mentally and physically. Weight 110 pounds; a new crop of hair appearing.

January 22nd.—A report from her friends states that she is keeping well in every respect, and that her menses, which were suppressed all through her hospital residence, have returned. Her weight is now 114 pounds. Discharged recovered.

CASE III.—F. P., aged 25, married, three children, lumberman's wife, first attack. Her mental trouble began about nine months before her admission, the ascribed cause being domestic infelicity. Her certificates described her as refusing to speak or assist herself in any way, although quite able to do so.

When admitted, August 20th, 1894, she was in a wretched condition both physically and mentally. Her appearance was suggestive of kidney affection. She was thin, anæmic and sallow. Mentally she was intensely dull and stupid. Could not be got to speak. Would sit all day long in one position, paying no attention to anything said to her and seemingly hearing nothing. She was passively but obstinately resistive to everything; to being put to bed or got up, to being bathed, taken to meals, etc. She ate and slept well, but was very dirty in her habits. Diagnosis, melancholia with stupor.

During the first month of her residence she was induced to do a little work, but soon relapsed and would do nothing, not even attend to the calls of nature.

On one occasion, about a year after admission, her feet became swollen and she showed signs of puffiness under the eyes, but examination of the urine discovered no casts or albumen, and the heart, though enlarged, betrayed no adventitious sounds. Put to bed for a few days, the swelling entirely disappeared and she was able to be up as usual.

Her condition remained unchanged up to the time she was put on thyroid, except that she had got stouter and that careful attention had somewhat lessened her filthiness of habits. She was a veritable vegetable, and her mental condition was now regarded as one of confirmed dementia.

October 5th, 1895, nearly two years after the advent of her mental disorder, and fourteen months after her admission to the hospital, she was put to bed preparatory to thyroid treatment. Weight 106 pounds, pulse 90, temperature 99°, respirations 22. Urine was examined and found as follows:—dark amber, slightly acid, specific gravity 1028, clouded, no deposit, no albumen, no sugar.

October 8th.—Thyroid was commenced in five grain doses three times daily.

October 9th.—Pulse and temperature distinctly elevated in the evening, being 112 and 100·8° respectively.

October 11th.—Pulse 114, temperature 102°. Sleeps well.

October 13th.—Refused her food, has diarrhoea.

October 15th.—Pulse reached 130. Is getting much thinner. No sign of mental change.

October 17th.—Elevation of pulse and temperature continues. The patient so weak that it was deemed advisable to discontinue the thyroid.

October 19th.—Pulse and temperature still keep up in spite of the abandonment of the thyroid, and there is no mental change. Her present condition would lead one to suspect the existence of some underlying constitutional disease, probably phthisis, although examination of the chest did not reveal it, and she has had no cough at any time.

October 23rd.—Decidedly brighter mentally. Her countenance has more expression in it and she now replies to questions by nodding or shaking her head. For past two days has been suffering from a troublesome cough and is raising nummular sputa. Pulse to-day is 134, temperature 100·4°.

October 31st.—Physical condition continues much the same, and there is no doubt that tuberculous trouble underlies the present phenomena, although she respire so feebly (cannot be urged to do otherwise) that the stethoscope is completely handicapped. Mentally she is much brighter and to-day asked the nurse to make her some toast for breakfast. This is the first time she has spoken since admission.

November 5th.—Visited by her husband and aunt, to whom she talked quite pleasantly, much to their delight. Is now eating very well.

November 20th.—Is steadily failing physically and has gone back mentally. Her face has assumed its former expressionless character, and she has not spoken for the past ten days, although she occasionally shakes her head in reply to a question. Has developed the typical tuberculous hectic, flushed cheeks, morning remission of temperature, rapid thready pulse, etc.

February 20th, 1896.—Has regained her appetite and eats well, but has continued to fail physically and go backward mentally. Is now very low and very dull.

February 21st.—Died of phthisis, nineteen weeks and four days after commencement and eighteen weeks and two days after discontinuance of the thyroid.

The very favourable results arising from our first trials led to the immediate selection of a second series of cases, five in number, for experiment. One of these was a case of chronic melancholia of several years standing; two were cases of climacteric insanity of one and three years duration; and two were cases of melancholia with stupor, one of eight months duration, the other of nearly two years and fast drifting into dementia. In all these cases the physiological effects of the drug were marked, the result being improvement in the case approaching dementia, as also in the case of chronic melancholia and one of the cases of climacteric insanity; no improvement in the case of melancholia with stupor and the other case of climacteric insanity.

At the present time the treatment is being tested in four additional cases, viz., two of dementia, one of chronic melancholia, and one of melancholia with stupor.

The following is a brief *epitome* of the more important symptoms noted in the thirteen patients to whom the thyroid has been administered:

Circulation.—The changes noted in the pulse were increased rate with generally lessened tension. Increase in the rate was invariably present and was remarked almost immediately after beginning the treatment. In the majority of the cases the rate ranged from 110 to 120, in two cases reaching 140, and in one 150. In three of the patients irregularity of the pulse was noted, but no precordial oppression was complained of.

Temperature.—In one case only did the temperature fail to rise above normal. The elevation was usually from 1° to $2\frac{1}{2}^{\circ}$, the highest point reached being 102° . The increase seemed to continue until the system became accustomed to the dose which was being given, when there was a diminution, though not to the point at which it had stood when treatment was commenced. An increase of the dose caused it to rise again.

Respiration.—Increase in the respiratory rate was the rule, though never to any marked degree. In one case slight dyspnoea was complained of, but for a few hours only.

Skin.—A flushed, moist skin was generally present, and in two cases perspiration was profuse. One patient, about three weeks after commencing the treatment, presented a well-marked rash, very similar in appearance to roseola, in the neighbourhood of the knees and ankles. It was plainly apparent for three days, then gradually disappeared. Desquamation was observed in three cases only. It was slight in two instances, but extensive in the third. In one of our

patients the hair fell out in large masses, so that she was soon almost bald.

Alimentary Canal.—The tongue generally remained clean, but in a few cases became slightly furred. The tendency of the drug was to relax the bowels, and in two cases we had diarrhoea, which, however, was easily checked. There was on the whole a lessened desire for food, but in some cases the appetite remained unaffected. Thirst was marked in three cases, and in two instances there was some nausea and vomiting.

Urine.—Examination of the urine revealed nothing noteworthy either as regarded quantity or quality.

Menstruation.—Not affected.

Weight.—All our patients lost noticeably in weight during treatment, the loss in one case amounting to nearly thirty pounds. The gain following cessation of the drug was very rapid and like that so often seen after typhoid fever. One patient gained nineteen pounds in four weeks.

Muscular System.—More or less fibrillar muscular tremor, or even twitching, was nearly always present. Sometimes it was the tongue, sometimes the facial muscles and sometimes the extremities in which these symptoms were most marked. In one case the twitching extended over nearly the whole voluntary muscular system, and to such an extent that the patient could not sit or lie still. Nictitation is very marked in one of the cases now under treatment.

Mental Functions.—In all cases there was a decided mental change. The mind became more active, the countenance brighter, and the manner and actions more lively. Patients who had been silent and inattentive to their surroundings spoke and displayed a quite unaccustomed interest in passing events. Pressed still further with the drug there was a tendency to excitement and talkativeness, in some cases to resistiveness and irritability, and in one instance to destructiveness of clothing. The mental change was generally apparent while the treatment was being pursued, but in one case it did not appear until the stage of reaction was established. Sleep did not seem to be at all affected.

RESULTS OF TREATMENT.

Chronic Mania.—One case; treatment abandoned as patient would not stop in bed.

Chronic Melancholia.—Two cases; one improved, and one under treatment and improving.

Melancholia with Stupor.—Five cases; two recovered, one much

improved, one unimproved, and one under treatment. The mental change in the improved case was very remarkable. The patient, who had not spoken for a year, talked quite fluently and displayed a vivid recollection of all that had occurred since her admission; said she always knew her mother when she came to see her and wanted to speak to her, but could not; was anxious to eat, but could not help resisting the administration of food, etc.

Climacteric Insanity.—Two cases; one improved, one unimproved. The latter case was taken home soon after the abandonment of the treatment and has since recovered. Whether the thyroid contributed to the recovery is a question, but I am inclined to think that it must have had some influence, as beforehand the case seemed utterly hopeless.

Dementia.—Three cases; one temporarily improved under treatment, but relapsed as soon as it was discontinued, two under treatment and displaying the physiological effects of the drug in a marked degree.

Recapitulation.—Two cases recovered, four improved, three unimproved, four under treatment; total, thirteen.

CONCLUSIONS.

From our own cases and those published by Drs. Bruce and Clarke I feel convinced that thyroid feeding will be found of benefit in certain forms of insanity.

The cases to which its use seems best adapted are some of the various forms of melancholia, especially melancholia with stupor, puerperal and climacteric insanity, and incipient dementia.

It is especially likely to be beneficial in a class of cases often seen in asylums, where improvement has progressed to a certain stage then come to a stand still in spite of efforts to the contrary. In such cases, which are prone to drift soon into dementia, the fever induced by the thyroid seems to give a fresh impetus toward complete recovery.

Its use is contra-indicated in cases of acute mania and melancholia where the already existing excitement is rapidly reducing the weight.

In regard to its use where there is co-existent disease of the lungs, my experience, as recorded in Case III., is quite different from that of Dr. Bruce, who states that in five of his twenty-three cases where there were symptoms of phthisis, although the disease was not active, the immediate effect of the thyroid was to light up activity in the phthisical areas, but on discontinuing the drug the phthisical symptoms disappeared and the patients gained in weight. In this case,

while the thyroid showed a marked and favourable effect, though temporary, on the mental condition, it unfortunately fanned into active flame the latent phthisis slumbering in the system and probably shortened the patient's days. From my own experience, therefore, I would regard thyroid as contra-indicated where there exists any sign of organic disease of the great viscera.

Tolerance of the drug varies in different individuals, and as yet it is impossible to fix the dose which will produce the physiological effects without at the same time giving rise to toxic symptoms. Grains five three times daily was our initial dose in all cases, and in one instance only was it found necessary to increase this dose beyond ten grains to obtain the desired action.

DIAGNOSIS AND TREATMENT
OF
SEPTIC INFECTION IN PUERPERAL CASES.¹

BY

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The mortality returns of most large cities, both in Europe and America, show a very considerable proportion of deaths due to septic infection of the puerperal woman.

It has been generally supposed that since the introduction of antiseptics the mortality of child-birth has been reduced. This is true as far as maternity hospitals are concerned, the world over, but, alas! in private practice cases of septic fever during the puerperium are constantly met with.

It appears that in the forty-eight years previous to 1891, there has been no decline in the percentage of mortality due to septic fever in London, and that in the whole of England and Wales there has been an increase in the percentage.² In New York the mortality returns show a decrease in the death record of puerperal infection during the past ten years.³ But here also the decrease is in great part due to the infrequency of death from this cause in the large Maternities.

Dr. Herman⁴, of London, Eng., points out three great differences which exist regarding the prevention of septic infection, between hospital and private practice. In private practice there is less risk from omission of antiseptic precautions. In hospital practice the attendants are guided by strict rules. In private no matter how careful the physician may be, the nurse or attendant may carelessly overlook his orders, and infection of the patient result. In hospital we have perfect control of our patients, while in private our control is limited by the patient's will. "If the patient will not submit to the physician's orders, he must either alter his methods or retire from the case."

Hence any practitioner is liable to have an outbreak of septic fever occasionally in his obstetric practice.

¹ Read before the Montreal Medico-Chirurgical Society, Feb. 21, 1896.

² Boxall, The mortality of child-birth, *Lancet*, July 1st, 1893.

³ Bullard, Puerperal Infection in New York city, *New York Journal of Gynecology and Obstetrics*, Vol. IV., page 399.

⁴ Herman, The Prevention of Puerperal Fever in Private Practice, *British Medical Journal*, Vol. I., 1896, page 79.

In order to be effectual, energetic treatment in cases of acute puerperal septic infection must be promptly undertaken.

A thorough acquaintance with the nature, mode of onset, as well as with the course the infection is likely to run, is necessary.

Most of the cases diagnosed as "puerperal fever," (a term which should be relegated to the past along with "milk fever,") are really cases of septic intoxication or septicæmia. The general symptoms are caused, not by the presence of the micro-organisms in the blood, but by the absorption of the toxins produced by their action on the surface of the infected parts. Septicæmia is seen in its most typical form in puerperal cases, because the rich lymphatic supply of the uterus favours the absorption and dissemination of the toxins, while the decidual and placental debris favours the rapid development of the organisms.

Putrefactive organisms may be present in all forms of septic infection, but in septic endometritis they do not predominate, the active cause being the presence of the pyogenic cocci. Infection due to the presence of the streptococcus is generally the most severe. The septic process is at first a distinctly local one, confined to the endometrium, the clots at the placental site, or the surfaces of any lacerations in the genital tract which may have resulted from labour.

The fact must not be overlooked that an infective mastitis may result in a condition of sapræmia or even of septicæmia. It is the same process, but the infected site is more accessible, the absorption is less active.

Bumm¹ has made an exhaustive study of the pathology of several cases of septic endometritis, and according to his classification there exist two primary forms: the Putrid and the Septic.

The putrid form is the most distinctly localised. Microscopic sections of the endometrium in this form show the outer layer swarming with bacteria, while just internal to this, is a layer of abundant round-celled infiltration, a rampart, as it were, thrown out by nature to prevent further penetration of the invading micro-organisms.

In the septic form there is a general infection. The endometrium is disorganised and infiltrated with fibrinous exudate, presenting a diphtheritic appearance. In this form the layer of round-celled infiltration is said to be absent.

A consideration in detail of the various secondary forms of puerperal septic infection time will not permit, but I present in the following table a summary of the various forms from a clinical stand-point.

¹ Bumm, *Archiv. f. Gynak.*, 1891, Bd. XL., Left. 3.

In this classification I have omitted those rare cases,¹ in which there exist morbid conditions antedating labour, such as tumours, pus-tubes or other septic accumulations, the bruising or rupture of which, during labour, leads to peritonitis or septicæmia.

I have met with two cases of this type; in both the bruising of a large myoma at labour led to peritonitis, which terminated fatally in spite of immediate surgical assistance.

The infection may be :

(1.) LOCAL, leading to

(a) *Puerperal Ulcers.*

Greyish pseudo-membranous patches found wherever the mucous membrane is torn. Lochia offensive. Smarting pain. Fever.

(b) *Endometritis*—Two forms.

I. Catarrhal.

Vaginal m.m. red, swollen. Cervix œdematous. Os patulous. Fœtid, slimy, brownish lochia. Uterine m.m., covered with small cystic swellings. Uterus well contracted. No tenderness. Abdomen flaccid.

(c) *Metritis.*

Extension by uterine lymphatics.

(d) *Peri- or Para-metritis, Cellulitis.*

Abscess formation.

(e) *Pyosalpinx.*

Extension from uterine mucosa.

(2.) GENERAL, resulting in

(a) *Peritonitis.*

Extension along pelvic lymphatics.

(b) *Pyæmia.*

Extension along blood vessels.

(c) *Septicæmia* (rare.)

No local signs, general infection by micro-organism.

{ Streptococcus.
Bacillus coli comm.
Other septic bacteria.

The forms of endometritis which are here designated catarrhal and pseudo-membranous correspond with the putrid and septic forms of Bumm's classification. In the catarrhal form the lochia are fœtid, mucoid and of a brownish colour; while in the pseudo-membranous form the lochia are, as a rule, scant or absent, and there is but little odour. In severe forms it is generally conceded that there may be no offensive odour whatever about the discharges. Warren² expresses the opinion that the membranous condition in this form is due to the feeble peptonising influence of the streptococcus. Sapræmia may accompany the first form, though symptoms of absorption may be

¹ Noble, Puerperal Pelvic Cellulitis and Puerperal Peritonitis, *Am. Gyn. and Obstet. Journal*, Vol. VI., page 18.

² Warren, *Surgical Pathology and Therapeutics*, page 373.

absent and the odour of the discharges along with slow involution of the uterus be the only conditions noted. In mild cases of this form the symptoms may be overlooked at the time of onset, and the condition only revealed by the uterine discharge continuing for some time and retaining its sanguinolent character. These cases fall into the hands of the gynaecologist later, with symptoms of too frequent and excessive menstruation, and on examination reveal a condition of sub-involution with chronic endometritis.

Sapraemia, septicæmia or pyæmia may result from the pseudo-membranous form.

The onset of infection is marked by the occurrence of slight chilliness, headache, nausea, frequently followed by vomiting and diarrhoea. The temperature rises rapidly, attaining to from 102° to 105° in a short time. One of the earliest symptoms is great rapidity of the pulse, quite out of proportion to the temperature curve.

Given a marked acceleration of pulse rate, associated with an ascending temperature, with some slight chilliness, be on the watch for septic infection and do not be content with prescribing a mild antipyretic powder.

Warren¹ draws attention to the blood changes which occur as the result of infection, stating that the change is in the number of the red blood corpuscles, and that this varies with the degree of infection.

In true primary septicæmia the onset is more gradual. There is more prostration. The entire lymphatic system is more or less affected, and the spleen may become hypertrophied, a symptom which should always be sought for, and is characteristic of septicæmia according to Warren.

Dr. Edward P. Davis² gives the differential diagnosis of sapraemia as follows. "In sapraemia the symptoms are those of the decided effect produced by the sudden absorption of a toxin; in septicæmia, the absorption is more gradual and is aggravated by the rapid development of the septic germs. The fever shows remissions and exacerbations. In pyæmia the symptoms of septicæmia are further increased by the signs and symptoms of abscess formation."

The practitioner in obstetrics should, if possible, spend an hour or two occasionally in the operating room of an abdominal surgeon. Many valuable lessons would there be learnt of patient attention to detail in rendering every thing and person brought in contact with the patient during the operation as aseptic as possible. Almost identical care and attention to detail is called for when the general practitioner, brought in contact, as he is, with all classes of cases, is

¹ Ibid, page 344.

² Davis, Puerperal Sapraemia, *Am. Gyn. and Obstet. Journal*, Vol. XI., page 15.

called upon to manage a difficult case of obstetrics. Every vaginal examination made in the course of labour increases the risks of the patient to septic infection. Abdominal palpation has, in modern midwifery, done away with the necessity of frequent vaginal examination. In many European clinics the latter is only resorted to in cases of dystocia.

Time does not permit me to go into detail as regards the aseptic management of a case of midwifery, but there are two points to which I would refer. The first is in regard to cleansing the hands. The usual method is to thoroughly scrub the hands with a nail brush, using plenty of soap and hot water. Then without rinsing, the hands are plunged into a more or less strong solution of bichloride of mercury. The examination is then made. The soap which remains on the hands after scrubbing should be washed off in clean, warm water and the hands then may be immersed in the bi-chloride solution, but it is better before doing so to dip them in alcohol; this removes all the soap and grease from the skin and permits a more thorough action of the bichloride.

Before making an examination, the vulva should in all cases be cleansed. In order that the examining finger be not brought in contact with the patient until it reaches the vaginal orifice, the labia had better be separated by the thumb and middle finger of the same hand, before the forefinger is extended and introduced.

The maintenance of good free drainage for the lochia, and of firm uterine contraction are important prophylactic measures.

The objects of treatment, when once septic infection has occurred, are to thoroughly cleanse and to keep clean the infected tissues, to provide free drainage and to support the vitality of the patient.

The uterine cavity is best cleansed by means of the blunt curette, followed by the brush to entangle and remove any shreds loosened by the curette, then a prolonged hot antiseptic douche, using a large quantity of solution. The antiseptic most frequently employed in this connection is bi-chloride of mercury. But it must be borne in mind that this salt, in neutral solutions, is precipitated as an albuminate when brought in contact with blood or other albuminous material. To prevent impairment of strength by this contact, an acid must be added to the solution, in the proportion of five parts of the acid employed to one of the bi-chloride. The antiseptic douche when the bi-chloride is used must always be followed by plain hot water to prevent absorption of the salt. To prevent the further growth of germs as far as possible, this treatment should be followed by the introduction of a bougie containing a drachm of iodoform, and gentle packing

of the uterine cavity with aseptic gauze, to stimulate the uterus to contract and to provide drainage. This gauze must be carried right to the fundus, and if packed too tight will do more harm than good. This treatment, with the exception of curetting, may be repeated in from 24 to 48 hours, as the severity of the general symptoms may indicate. Lower range of pulse rate, drop in the temperature, return of the lochia, and evidence of uterine contraction and involution, are symptoms of a successful result of such treatment.

This treatment must be persisted in until the temperature and pulse reach normal. I have seen several successful results where, for 48 hours, the symptoms of improvement were so slight as to make one despair of the result desired.

The administration of saline purgatives favours free drainage of the lymphatics of the peritoneum. Dr. Davis recommends that a copious amount of normal saline solution be given to the patient, either by transfusion, by the mouth, or by copious rectal injections. Strychnia and quinine should be administered in full doses at regular intervals.

The stomach should not be overloaded, but the most nourishing diet possible is indicated. The employment of predigested nutrient emenata supplements the treatment in serious cases. Alcoholic stimulants are valuable in this as in all other septic conditions, though many do not advise their use at the same time as strychnia.

The surgical treatment of puerperal septicæmia and peritonitis has made many advances during the past few years.

A *résumé* of a few typical cases for surgical treatment may serve to open this branch of my subject for discussion.

There is a class of cases in which the septic condition of the endometrium extends by direct continuity of the mucous membrane to the Fallopian tubes, and here being beyond our reach, may result in pus tubes, leakage from which may set up a more or less extensive peritonitis. Two cases of this description came under my observation during an outbreak of septicæmia which occurred in the Montreal Maternity in the fall of 1894. The symptoms fortunately did not point to any serious general infection, and the cases were transferred to Dr. Wm. Gardner's wards in the Royal Victoria Hospital. He operated in both cases, removing the tubes, which were enormously distended with pus, with a successful result.

In both of these cases there was evidence of previous gonorrhœa.

In another class of cases we have the infection spreading to the lymphatics of the broad ligaments, and there becoming localized resulting, in many cases, in abscess formation. When the general septic condition is not marked in these cases, the question of opera-

tion must be considered. Three cases of this class have come under my observation, and in all three I adopted the expectant plan of treatment, as the symptoms did not point to any marked general septic infection. Rupture of the abscess into the vagina resulted in two of the cases, and in the third, the purulent discharge came from the uterus, but all three cases made a good recovery and have since done well.

When there is evidence of abscess formation, and the general condition of the patient indicates that there is an increasing degree of septic absorption, the better plan of treatment would be, in my opinion, abdominal section, as permitting one to more thoroughly get at the conditions present in the case, though many prefer to evacuate the abscess from below, through the vagina.

There is a certain rare class of cases met with, where the original septic endometritis, spreading to the lymphatics of the uterus itself, results in a condition of purulent metritis. Hysterectomy has been undertaken for this class, chiefly by American operators. Dr. Baldy,¹ of Philadelphia, has collected reports of nineteen such operations with a result of seven successful cases.

The difficulty with regard to the adoption of operative treatment in acute cases is the impossibility of accurately gauging the degree of septic absorption which has occurred. Marked enlargement of the area of splenic dulness, with great reduction of the red corpuscles, associated with a weak, rapid pulse and high temperature, would contra-indicate any surgical interference, no matter how favourable the local conditions might apparently be.

Serum-therapy has been employed with good effect in a few instances recently, but the cases have been too few to enable us to form any opinion as yet of its value.

To sum up, thorough cleansing of the infected uterine cavity by means of the blunt curette and brush, followed by copious antiseptic douching, the introduction of an iodoform bougie and gauze packing, is, in the opinion of the writer, the best method of treatment of puerperal septic endometritis.

When such treatment, persisted in for 24 to 48 hours, does not produce a lower range of pulse and temperature curve, or tend to promote uterine involution, the question of surgical interference must be seriously considered.

¹ Baldy, Removal of the Uterus and Annexa for Puerperal Sepsis, *Am. Gyn. and Obstet. Journal*, Vol. VI., page 25.

ON
SO-CALLED SPONTANEOUS OR IDIOPATHIC CHELOID.
WITH THE REPORT OF A CASE.

BY

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“Pathologically,” says Fagge, or more truly Pye-Smith, “cheloid is not a mere hypertrophy nor a granuloma, but a fibro-cellular new growth, a true sarcoma, sometimes consisting chiefly of spindle cells, sometimes more exclusively of fibres. It has two characteristic marks of sarcoma apart from its histology—it is very apt to recur again and again after removal; while on the other hand it does not reappear in the neighbouring lymph glands or in the viscera.”

While the above statement is perhaps a little extreme, inasmuch as it tends to include cheloid among malignant growths, nevertheless it very clearly indicates what cannot be gainsaid, that cheloid formations, whether true or false, possesses characters which we associate with true tumours. It is the continued local overgrowth of connective tissue cells, without the evidence of continued irritation or other cause, that is the special feature of these curious neoplasms.

Every since the first full study by Alibert, at the beginning of the century, there has been difficulty and debate in assigning to cheloid growths a satisfactory place. As is well known, there may be extensive and redundant connective tissue formation in connection with scars and burns and other injuries of the skin and subcutaneous tissues, and the histological appearances of these new growths, which are the results of traumatism, may be identical with those of the true cheloid of Alibert in all respects save one, namely, that in true cheloid the hyperplasia is unconnected with any clear indication of involvement of the epidermis. In the false cheloids we find evidences that the skin immediately above the growth is of the cicatricial type and is deprived of its papillæ, whereas in true cheloid the tumour is covered with normal skin, unaltered, save by stretching and flattening in such cases as those reported by Crocker and Babes, where the tumour has rapidly attained a large size. It is this fact that the false cheloids clearly develop as a result of primary traumatism that has for long made observers unwilling to classify them as true tumours and to seek to separate them sharply from the true cheloids, in which

trauma would not seem to have played so important a part; nevertheless the conviction has been steadily growing that the true cheloids have equally a traumatic origin, and thus a study of these forms of growths, both true and false, assumes an especial importance in connection with the primary causation of true neoplasms in general.

It is the modern English and German dermatologists more especially who have emphasized the impossibility of making an ætiological distinction between the true and the false growths. Foremost among these is Jonathan Hutchinson, who states definitely that cheloid cannot exist "without being a disease of scar, no matter how minute the scars may have been." He describes a case (that of Mrs. G.) where the growth originated as a little pimple; growth was slow, but resulted in the production of a typical cheloid mass four inches long and one and a half inches wide. At the end of twenty years it was still aggressive at the greater part of its border, was "itchy" and often painful. Crocker also concludes that the division of true and false cheloid is unsound, both from clinical and anatomical grounds, for true cheloid may be caused from unnoticeable injuries. Van Harlingen, of Philadelphia, states that he has never seen a case of spontaneous cheloid, and holds that cheloid can never occur save as a sequel of cicatricial formation. Unna emphatically remarks that the condition is never spontaneous ("ueberhaupt wohl nie spontan"), and he adds that the apparently spontaneous isolated cheloids of the sternum (the most frequent region of development) are the effects of scratching on account of seborrhœal eczema of the sternal region.

The pathological anatomy of the so-called spontaneous and of cicatricial cheloid is the same. Both are composed of bundles of connective tissue, forming a close network, and of a certain number of fusiform cells. The relative proportion of the two elements depends upon the age of the growth. In the older growths fusiform cells are rare, while in recent cheloid they are numerous, sometimes forming nests in the meshwork of the connective tissue. The more recent the growth, the more vascular and the nearer the approach in structure to sarcoma; the older the growth, the closer its resemblance to a pure fibroma.

But while thus histologically the two forms may be identical, and while this view exists that ætiologically no true distinction can be drawn, it must be added that there are still firm adherents to the view that cheloid may arise spontaneously.

Thus Ohmann-Dumesnil reports the case of a mulatto who was vaccinated on the right arm when three years of age. When the

vaccination healed it left a small tubercle on the site of the scar, and at eight years of age the tubercle began to enlarge and continued to do so until it became the size of a silver dollar in circumference; then new growths began to appear on the right arm only and continued to enlarge. They next appeared upon the breast, then upon the hips, next upon the left arm, then upon the face, and followed the same course as the above tumour. Small tubercles appeared in various regions, and developed into cheloid tumours in their turn, until at last they became very numerous.

The tumours were of a doughy feel and freely movable upon the subjacent connective tissue, and they seemed to be entirely unconnected with the fascia of the muscles or the intimate connective tissue which binds this fascia to the overlying structures. Handling the tumours did not cause pain, unless neuralgia was present at that particular time, when the tumours were very sensitive. After a tumour reached a certain period of growth it began to throw out claw-like prolongations from its periphery, (whence the condition derives its name,—“chele,” a crab’s claw).

In this case there was no history of any injury whatever, not even a cut or a scratch, except at the point of vaccination. Taking these facts into consideration, Ohmann-Dumesnil came to the conclusion that the growths appeared spontaneously, and he considered it positive proof that the case was one of idiopathic cheloid.

In the *Gazette des Hôpitaux* for 1890 Plicque argues strongly in favour of the existence of spontaneous cheloid. While he acknowledges that the two varieties run into each other, and that an entirely spontaneous character is difficult to prove, he considers that the observations of Kaposi, Erasmus Wilson, Vidal and Schwimmer, including 72 cases in all, leave no doubt as to the existence of true spontaneous cheloid. In Schwimmer’s case, referred to by him, the patient developed 150 cheloidal tumours, varying in size from that of a pea to that of a hickory nut, within six years. The lesions were seated on the right lateral thoracic region. The unilateral distribution and a great number of the growths appeared to negative the view of a cicatricial or traumatic origin.

A discussion of the relative value of these two opinions regarding the nature of spontaneous cheloid will perhaps best be undertaken after I have described the case which has come under my observation.

L. Le B., aged 20, milliner, is one of a family of eight children, Her father and mother are alive and well. The family history is good, with the exception that her grandfather had a white lump removed from his left eyebrow, the nature and characteristics of the

growth not being known. The patient has had the diseases of childhood, measles, whooping-cough, etc., but otherwise has always been healthy until about four years ago, when she noticed a very small growth which looked like a little pimple on her left shoulder. This growth gradually enlarged and in about a year began to be painful (sharp stinging pains) and became very full of small blood vessels.

It now grew very rapidly, and in another year it was two inches long and three-quarters of an inch wide, and was then removed by the knife. In about three weeks it recurred and was as large as it had been previous to operation, and full of small vessels; it was also painful. In about four months it was again cut out, and it returned even sooner than before and was as large as ever. In three or four months the growth was once more removed, but this time by means of a "plaster." It has never returned, but there remains a very large flat cicatrix, which is larger than the tumour ever was. The patient was then free from any growth until about a year ago, when she noticed another coming in the form of a small pimple on the outer side of the right arm just above the elbow.

This growth gradually enlarged and was there for about nine months. On April 15, 1895, Dr. J. H. Duncan, of Chatham, Ontario, very kindly asked me (then unqualified) to accompany him, when we saw the case for the first time.

Upon examination, a well-marked cicatricial tumour was found about one inch long and one-third of an inch wide on the outer side of the right arm just above the elbow. This tumour was white, glistening, oval in shape, harder than the surrounding tissue, and was elevated about one-tenth of an inch above the skin; the edges of it where it joined the skin were irregular and appeared like little claws. She complained of it being itchy and painful.

Upon further examination another tumour was found on her back directly in the median line over the second lumbar vertebra. This growth was about the size of that upon her arm, had the same characteristics and was painful and itchy. When we made the skin tense and with the light shining on it we noticed, principally on the outer side of the right arm, in several places, clusters of flat, small, round, cicatricial spots which were white and glistening. There were several clusters of these and each cluster contained about four or five spots. The skin being relaxed these clusters were unnoticeable. Dr. Duncan removed the tumour from the right arm and I brought it to the Pathological Laboratory of McGill University, and prepared specimens from it for microscopical examination.

The patient was put on a treatment of eight grain doses of citrate

of iron and cinchonidine after each meal and a dessertspoonful dose of "Startin's Mixture" (mag. sulph., ferri sulph., acid sulph. dil., tr. gentian. co., aqua) before meals. She was also given potassium iodide ointment to apply externally.

I saw the patient again on July 24, 1895. Her right arm was not yet entirely healed, there being a scab covering what promised to be a large cicatricial surface. Upon further examination I found that the clusters we had seen upon tension of the skin had all disappeared and there remained only the tumour on her back, which was also gradually diminishing in size. Before leaving the patient I made a few small needle scratches in her left arm, for the purpose of noting her proneness to scar formation. The scratches were not deep enough to draw blood. I saw the patient on September 25, 1895. The scab had fallen from the wound on the right arm, and there remained a very rough cicatrix, which was much more extensive than the original wound. On her left arm, where the needle scratches had been made, the tissue was healed, but I could distinctly recognise little nodular lines of cicatricial aspect. These lines were composed of rows of little papules at the site of the previous needle scratches. The patient when I last saw her was enjoying perfect health, the only growth remaining being the one on her back, which was gradually becoming absorbed.

Microscopical Examination of the Excised Cheloid Mass.—I prepared and examined sections of the growth, and came to the conclusion that I was dealing with a characteristic dense connective tissue overgrowth, but to make assurance doubly sure I submitted my specimens to Dr. Wyatt Johnston, who favoured me with the following report: "In the subcutaneous region there is dense fibrous tissue arranged in bands showing very few nuclei. These fibres have an irregular, wavy course, and tend to run parallel to the surface of the skin, rather than perpendicularly. In this fibrous tissue small blood vessels are seen at intervals, both arteries and veins having thickened walls very rich in nuclei.

"There is some small-celled infiltration in the adventitia of these vessels. At a few points throughout the section are bundles of longitudinal fibres with spindle-shaped nuclei. These fibres branch and are possibly cutaneous nerve elements, but nothing can be seen which has the typical structure of a neuro-fibroma. In places there is increase of the nuclei of the corium and the rete layer is well marked and thick. The papillæ are very distinct, and in places the vascular twigs entering them show excessive numbers of nuclei; but as a rule the nuclear proliferation in the vessels becomes less distinct

as they reach the region of the corium. The arrangement of fibrous tissue into bundles is less marked in the corium than in the deeper layers. The fibrous tissue and proliferation of nuclei does not seem to be connected with the hair follicles."

A study of this case reveals therefore the following features :

1. That the primary growth began as a pimple.
2. That the original tumour appears from the history given to have possessed all the features of true cheloid.
3. That there was a peculiarly well-marked tendency to local recurrence after extirpation.
4. That eventually the patient exhibited a predisposition towards the development of multiple cheloid growths, in other regions.
5. That in one case, at least, the development of the "secondary" cheloid growth was seen to follow upon the development of a small red pimple.
6. That scratches upon the skin insufficient to draw blood became the seat of rows of minute nodules, which presumably were hyperplastic and of the same nature as the cheloid growths elsewhere.
7. That upon stretching the skin over the arm, clusters of similar minute nodules could be recognized lying beneath it, which might have been initial stages in the cheloidal growth.
8. That, as in other recorded cases of multiple cheloid, the tumours showed a very definite tendency towards absorption and eventual disappearance.

Studying these features, and comparing them with those of previously recorded cases, it will be seen that so far as regards the origin of the condition there must be very grave doubts here as to spontaneous or idiopathic origin. In this case, as in that of Jonathan Hutchinson, already epitomized by me, the condition originated as a pimple, and the very fact that the existence of such a pimple on the shoulder was remembered by the patient would seem to indicate that it was of an irritative or irritating character; and I do not think that I go too far in presuming that therefore it was of inflammatory nature. There are a fair number of cases on record in which true cheloid has originated around small acne pustules. Lehonneur has recorded a case in which the pressure of a shirt stud was the primary cause; and there are other cases in which similar slight injuries, such as frequent pressure of a basket upon the shoulder and scratches by brambles in picking berries, seemed very clearly to have been the origin of the disturbance. This being so, I gravely doubt whether by any possibility my case can be referred to as one of spontaneous cheloid, and further, the inconsiderable initial lesion in this and in several other

cases makes me doubt whether among the seventy-two cases brought together by Plicque there may not in all have been a primary slight irritative disturbance. That is to say, I am led by a study, not only of this case, but also of the literature of the subject, to agree with Jonathan Hutchinson and the other observers already mentioned, and to hold that the term spontaneous or idiopathic cheloid is a misnomer, and to believe that in every case the *primary* cheloid formation begins around a focus of inflammation. Even in Ohmann-Dumesnil's case, strongly as at first sight it appears to favour the theory of the spontaneous nature of cheloid, it will be observed that the primary growth developed in the cicatrix left after vaccination.

Even where the cheloid formations are multiple the case here brought forward would seem to indicate that similar foci of slight inflammatory disturbance are the starting points of new growths, and the little experiment made by me would, I think, definitely indicate how very slight the inflammatory disturbance need be in order to lead to this hyperplasia of connective tissue.

This same experiment makes it equally evident that in this and other cases of multiple cheloid there is a singular predisposition towards connective tissue overgrowth, even where there is a minimal irritation, but this predisposition is a different matter from true spontaneity, and in these cases we have to presume that a slight inflammation, instead of as in ordinary cases leading to a multiplication of connective tissue cells which ceases with the cessation or removal of the irritant, leads to a multiplication which continues long after the primary irritant has ceased to be at work. And it is this character of growth after the cessation of the primary irritation which, it seems to me, removes these cheloids from the class of simple inflammatory lesions and places them, in accordance with Dr. Adami's suggestion at a recent meeting of the Montreal Medico-Chirurgical Society, among the class of true neoplasms.

Whether slight chronic inflammation alone is sufficient to account for all the cheloid growths in this and other cases is a matter which I must acknowledge admits of debate. For example, I cannot satisfactorily explain to myself the causation of the clusters of minute nodules which could be recognized at one period upon stretching the skin over the arm. I have supposed that these indicated the earliest stages in the cheloidal growth. Here I may be wrong, for in the first place I have not found any record or description of similar appearances by other observers; and in the second place it is to be noticed that the little nodules died away without attaining any increased size. But on the other hand, it deserves to be pointed out that the results of scratching the skin led not (as might have been expected) to a uniform

line of new connective tissue development, but to the production of rows of minute nodules very similar to those here described; and it is worth noting also that in Mr. Hutchinson's case of Mrs. G., to which I have already referred more than once, similar though larger papules were to be recognized along streaks which, as the author remarks, looked like "a scratch from a pin which had inflamed." One of these streaks had been present for several years, the other for a year, and Mr. Hutchinson points out that (as I have also found to be the case) the cheloidal mass originates as a small well-defined nodule, which only at a later date, when it has become relatively large, sends out the characteristic "crab's claws" into the surrounding tissue. I am therefore inclined to hold to my belief that these little subcutaneous nodules are to be regarded as the initial stage of the cheloid formation. But that being so, I have, as I say, to acknowledge my ignorance of their exact origin and to leave the matter open, just as I own it is difficult to understand why in Schwimmer's case the 150 or so cheloid nodules were thickly studded over the right lateral thoracic region and developed in no other region of the body. The most I can venture to state is that reasoning from the analogy of those cases in which from the very first the development of these growths has been closely observed, it is possible to assume that in every case there was some preliminary irritation.

In conclusion I wish to thank Dr. J. H. Duncan for the kind assistance afforded me in the clinical study of this case, as also Professor Adami and Dr. Wyatt Johnston for their valuable advice and suggestions in regard to its pathological features.

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CYSTIC TUMOURS OF THE BRAIN FOLLOWING TRAUMATISM—JACKSONIAN EPILEPSY—OPERATION— PERFECT RECOVERY.¹

BY

GEORGE E. ARMSTRONG, M.D.

Assistant Professor of Clinical Surgery, McGill University; Surgeon to the Montreal General Hospital; Surgeon to the Western Hospital, Montreal.

A French boy, aged eight years, was admitted to the Montreal General Hospital complaining of epilepsy and was placed under the care of Dr. F. G. Finley. The following history is taken from the excellent case report of Dr. Gordon Byers.

When fifteen months old, patient fell down stairs, striking himself with such violence on the side of the head as to produce a hole in that region. He remained unconscious for six days and during that time had a squint of the left eye. He then became quite well again in both mind and body. One month later he began to have convulsive attacks, accompanied by temporary loss of consciousness. They occurred about once a week and were often accompanied by loss of control over the sphincters of the bladder and rectum.

At the age of three years these seizures ceased and he became quite well and went to school like other children.

In January, 1895, *i.e.*, at the age of seven, the condition again came on with increased severity, and as a rule he would have five or six fits in a day if the attacks were mild, three or four if severe. Previous to the onset he does not hear noises, see lights, or have any strange sensations, and never knows when the seizures are coming on. The seizures are ushered in by the eyes turning upward, then he stiffens out and falls, the eyes and head turn to the right, clonic spasms come on in the right arm, then in the left, then in the legs.

There is, however, no special order of invasion. He foams at the mouth and often passes urine and feces, but does not bite his tongue. Following the attack he is "silly-like," limp, and often goes to sleep. Occasionally he is sick at the stomach, cries, and complains of great pain in the back of the head.

During the intervals he is like other children and talks and plays as they do, but is often irritable and cannot be contradicted.

At four years of age he had a severe form of measles.

Inquiry into the family history found no record of nervous troubles or tuberculosis.

¹ Shown before the Montreal Medico-Chirurgical Society, January 10th, 1896.

On October 12, 1895, his condition was that of a well-nourished, intelligent French child of eight years. On the head there was seen a depressed area of bone, oval in shape, just above and in front of the horizontal limb of the Sylvian fissure. It measured 3 cm. from above down, 2 cm. from before backwards. The depressed area presented visible pulsation, not diminished by pressure on the occipital and temporal arteries. This, however, could only be slightly felt, and on light palpation.

Examination of the optic discs showed no evidence of a neuritis or other abnormal changes.

The respiratory, vascular, digestive and urinary systems were normal.

From October 3rd to October 23rd he had six fits, similar in general characters to those described above.

On October 23rd, 1895, he was given chloroform and the head shaved and prepared as usual for operation.

An omega-shaped osteoplastic flap was raised and the dura mater found adherent to the opening in the skull. The opening presented a smooth rounded border. There was no bone found to fill this gap, and the conclusion that it was due to pressure absorption seemed the only one possible. Beneath the gap in the skull were found two thin-walled cysts, each containing about one ounce of clear fluid. The portion of the cyst wall in contact with the cerebrum was very thin, transparent and could not be removed without lacerating the brain. Electrical stimulation of the cerebral cortex in the floor of the cyst and also in the neighbourhood failed to cause any muscular contraction. The osteoplastic flap was replaced, a special opening being provided for the introduction of an iodoform gauze drain. He made a perfectly smooth recovery.

He was discharged on the 10th of January, 1896. The sinus was completely closed. The child had had no fit since the operation and seemed to be in perfect health.

NOTES ON A CASE
OF
TUMOUR INVOLVING THE LEFT CEREBRAL CORTEX.

(From the Medical Clinic of the Royal Victoria Hospital.)

BY

ALBERT G. NICHOLLS, M.A., M.D.,

Resident Physician.

Epileptiform seizures beginning in the right thumb and soon becoming general--Paresis of the Muscles of the right hand and wrist--Anæsthesia and analgesia of the right thumb and forefinger--Impairment of the muscular sense in the right hand--Dysarthria--Aphasia--Slow cerebration--Optic neuritis--Absence of headache and vomiting--Death from chloroform.

The following case presents several features of interest, especially in regard to its clinical course.

Mrs. T., æt. 30, was admitted to Prof. James Stewart's ward in the Royal Victoria Hospital on October 29th, 1894, complaining of loss of power in the right arm, with difficulty in speaking. The history of the illness was as follows :

On June 15th, 1894, while at supper, the patient suddenly felt a sensation as of pins and needles in the thumb of the right hand. A moment later she noticed slight rhythmical movement of the thumb; The subjective sensation passed up the arm, and as it reached the trunk the patient fell down unconscious and the face and limbs became violently convulsed. At the end of half an hour she regained consciousness, and then feeling very dull, fell asleep.

She remained perfectly well for six weeks, when she felt a similar sensation in the thumb. She was on the street at the time and was just able to reach a doorway when she fell unconscious to the ground. General convulsions set in, and the lips and tongue were bitten. On September 24th, a slighter attack took place. A sudden sensation of numbness was experienced and an object which was in her hand fell to the ground. There were clonic movements first of the fingers and then of the arm, but the convulsions did not become general, nor was consciousness abolished. It was only after this third attack that any difficulty in articulation was observed.

In October the patient had difficulty in grasping objects with the right hand. At no time was there either headache or vomiting.

On admission the patient was found to be a well-nourished, healthy-looking woman, but cerebation was distinctly slow. The vascular, digestive and urinary systems were normal. The nervous system presented very interesting abnormalities. There was a dull, heavy sensation in the head which was not very severe, and affected both sides equally. Intelligence was good, but apprehension was slow.

Motor Symptoms—There was marked paresis in the right hand, flexion and extension of the fingers being much impaired. The dynamometer showed the power of the right hand to be 25°, of the left 35°. Flexion and extension of the right wrist were also weak, but to a much less extent; flexion and extension of the elbow were only slightly affected. There was distinct paresis of the right half of the face and tongue, the frontalis escaping.

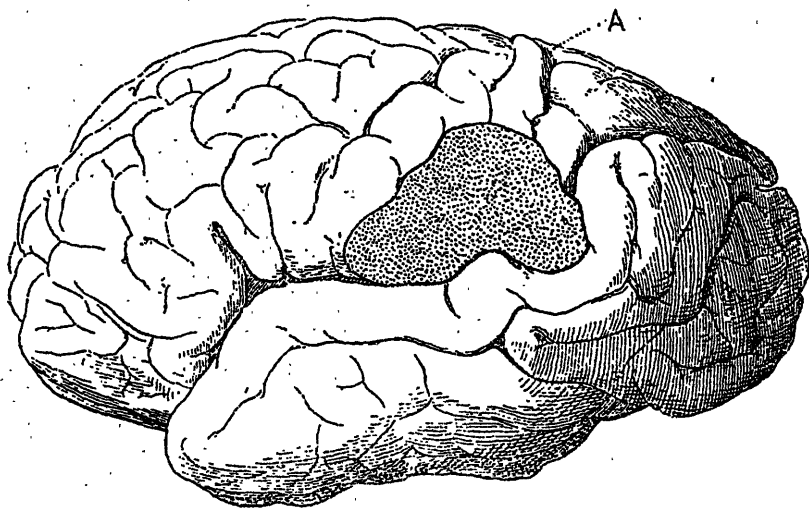


Fig. 1. Left Hemisphere. A., Fissure of Rolando. Stippled portion, Tumour.

Sensation—There was a subjective sensation of numbness and tingling confined to the right thumb and forefinger. Sensibility to touch and pain was completely absent over the dorsal and palmar surfaces of the right thumb and forefinger. Considerable ataxia was observed in the movements of the right arm. With the eyes shut she was unable to say in what position her right arm was placed when moved about, while she could readily and accurately localise the position of the left. When the left hand was placed in a certain position she was unable to execute a similar movement with the right.

Special Senses—The pupils were unequal, the right being slightly the larger. Accommodation was normal, and there was no oculomotor paralysis. Fundus oculi normal.

Speech—There was considerable dysarthria. Vocalisation was thick and elided, there being great difficulty in pronouncing the liquids. In addition there was a trace of motor aphasia. Patient had a good command over ordinary language, except that she had some difficulty in remembering the names of objects. There was no trace of sensory aphasia discoverable.

The clinical course was as follows :

Nov. 21st. Degree of anaesthesia much less. Power of flexion and extension of the fingers was poor, with considerable weakness in

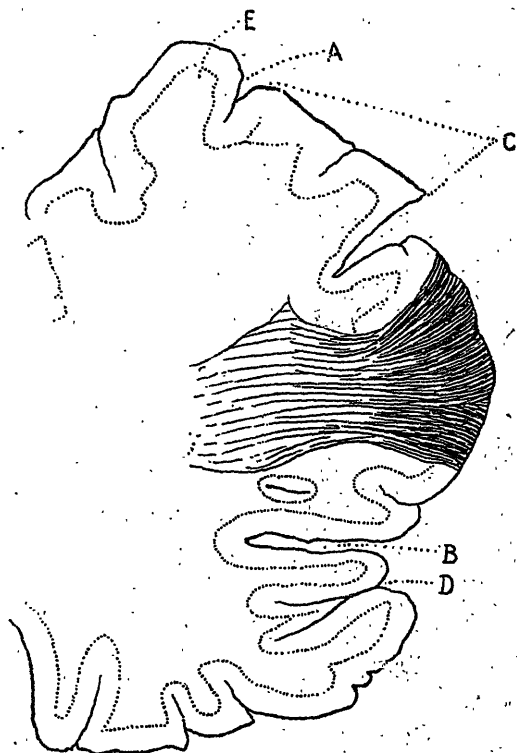


Fig. 2. Transverse Section. A Fissure of Rolando. B Fissure of Sylvius. C Ascending Parietal. D Parallel Fissure. E Upper Extremity of Ascending Frontal.

flexion and extension of the elbow. Ataxia more extreme, and muscular sense more impaired. Dysarthria and motor aphasia more marked, and the patient now has difficulty in remembering ordinary simple words. There is beginning sensory aphasia.

Nov. 26th. Low grade of optic neuritis in the left eye ; very pronounced in the right.

Nov. 28th. Had slight clonic spasms in the muscles of the right thumb and forefinger ; did not become general.

Dec. 1st. Slight twitching in the right thumb and forefinger and in the right half of face. The attack lasted half a minute.

Dec. 2nd, Marked sensory aphasia now and the patient appears to be unable to understand written or spoken language. Motor aphasia as before. Patient replies to every question automatically, "I can't get better." Cerebration is very slow and the patient is becoming stuporose.

Dec. 6th. All the above mentioned symptoms accentuated.

Dec. 13th. Stupor almost complete. While being anæsthetised the patient died suddenly.

Dr. Adami has kindly allowed me to refer to the notes of the autopsy, which was performed by him.

Nothing was found bearing upon the case in any of the organs except in the brain.

The vessels in the meninges were full of fluid blood. The dura was slightly adherent to the central portion of the left hemisphere; the pia was intact. At the point where the dura was adherent, a tumour was found which presented as a reddish purple mass, slightly elevated above the general brain surface. It measured 6 c.m. in its greatest antero-posterior diameter, and 5.7 c.m. in the greatest vertical diameter. The surface was dark and mottled, and the tumour felt softer and much more uneven than normal brain tissue.

Microscopically the tumour was found to be an infiltrating sarcoma of a mixed type, oval and spindle-shaped cells predominating. In the deeper portion, where the growth was extending, the cells were of the small round variety. The blood vessels in parts were large and congested, many presenting evidences of hyaline degeneration and filled with hyaline clot. In other portions the vessels and lymphatics were surrounded by circular masses of embryonic cells in their lumina. The nerve elements in the neighbourhood were degenerated, and in parts gave evidence of necrosis and hyaloid or colloid change. The pia was thickened, but was not infiltrated. The tumour had evidently extended by direct growth and also by invasion along the blood-vessels and lymphatics.

As shown in the accompanying figures, it will be seen that the new growth occupied the lower two-fifths of the motor area, involving directly the centres for the face and hand. The depth to which the tumour extended was considerable, and its structure was denser at the periphery, while in the deeper parts it gradually merged into the brain tissue, the sarcoma cells being widely separated.

The order in which the different physical signs developed was interesting; convulsions beginning locally, followed by local paresis, local

anæsthesia, dysarthria, motor aphasia, ataxia, impairment of the muscular sense, sensory aphasia, optic neuritis, stupor and death.

It was easy from this train of localising symptoms to diagnose a gross lesion affecting the motor area, beginning in the centres for the hand and face, and involving later those for the arm, with probably involvement, through pressure, of Broca's convolution, and the supra-marginal and angular gyri. By the history and therapeutic tests syphilis was excluded, and the rapid growth of the tumour rendered a diagnosis of sarcoma almost certain. This diagnosis was exactly corroborated by the results of the autopsy.

An interesting feature, and one worthy of special attention in this case, was the marked anæsthesia in the thumb and forefinger of the right side, together with the disturbance of the muscular sense in the right hand. It will be seen that the tumour involved the cortex somewhat posteriorly to the ascending parietal convolution, involving a district not generally included in the motor area. No doubt disturbance of sensation may be present in growths confined to the motor area, but where anæsthesia is a very marked symptom, it is highly probable that there is involvement of cortical substance for some distance posteriorly to the motor area proper. Disturbance of muscular sense, when marked, points in all probability to involvement of the same part.

In the clinical accounts of cerebral tumours, one rarely meets with a detailed description of the condition of sensation and muscular sense in the extremities.

It is important for exact diagnosis that they should receive as careful examination as the more common and well recognized symptoms of paresis and spasm.

FCETAL EVENTRATION.¹

BY

W. W. ALEXANDER, M.D., Lachute, Que.

Mrs. M., aged 21, primipara, came under observation January, 1896. She was of medium height and gave a history of good health, both preceding and during pregnancy.

Her last menstrual period was from June 10th to 13th, 1895. Labour pains began at 2 p.m. January 28th, but were preceded by pains in the abdomen and back for twelve or fourteen hours. On examination the uterus was found very large and evenly distended, filling the whole abdominal space to the ensiform cartilage. By palpation the head was detected in the upper part of the uterus, and a diagnosis of "breech presentation" was made. The foetal heart sounds were not audible, neither had the patient felt foetal movements during the past twenty hours.

On internal examination the os was found patulous, easily admitting the point of the index finger. The membranes felt full and bulging so that no presenting part could be reached. At 8 p.m. the liquor amnii escaped, the flow being abundant, I should think at least a gallon being passed. An hour and a half later labour was completed by the delivery of this monster (dead), which presents the following peculiarities:

The head is large, showing a moderate degree of hydrocephalus, but otherwise perfect in its formation. The thorax, shoulders and upper extremities are of normal formation. The anterior and lateral portions of the abdominal wall are absent, the stomach, intestines, liver and other abdominal organs being entirely exposed, save for a thin membrane, continuous with the umbilical sheath, which covers over the left upper part of the umbilical and epigastric regions. Below, the absence of the abdominal wall is continued over the pubic and perineal regions to a point just behind the anus, so that the large intestine can be traced down through the sigmoid flexure and rectum right to the anus. The liver is large and placed quite outside and below the costal margin.

The left lower limb terminates in a conical stump (which is quite healed over), either just at or immediately above the knee-joint. The hip-joint on this side moves freely, but on the opposite side the joint will not permit the right leg being extended, and moved freely, except

¹ Shown before the Montreal Medico-Chirurgical Society, February 4, 1896.

when the leg is abducted to a right angle with the body, or with the foot in the neighbourhood of the shoulder.

The umbilical cord was $10\frac{1}{2}$ inches in length, and was broken in two during delivery. The placenta was passed in a quarter of an hour and presented no peculiarities, except that it was very large.

There was in this case no history of maternal impression, which has always been held by the laity as a cause of monstrosity. The frequent association of hydramnion and hydrocephalus with the various monstrosities has led some observers to assign it as a cause, but whether one produces the other, or whether both are dependent on some common cause, has not yet been determined.

Experimental embryologists endeavour to classify the various monstrosities met, from cause. To produce a perfect embryo a perfect ovum and a perfect spermatozoon are necessary. Syphilitics and sufferers from other constitutional affections, often do transmit these tendencies through a single cell. The development of an embryo may be interfered with, producing malformations—the earlier the interference the greater being the deformity. These interferences may be mechanical (injuries, attempted abortions, etc.), or such as prevent the embryo receiving its necessary nutritive supply.

Intense emotional excitement and maternal impressions, are still considered by some as causative.

Ephemerides, 1895.

By WILLIAM OSLER, M.D.

IX. TOBACCO ANGINA.

Considering the wide-spread use of tobacco, it is extraordinary how rare are toxic effects. In hospital and private work combined I do not see half a dozen cases in a year in which the symptoms are directly due to the habit.

The manifestations of the so-called tobacco heart are usually disturbances of rhythm, increase or diminution in the frequency of the beats, and pain. In young boys, who smoke cigarettes, the irregularity and palpitation are often associated with anæmia, and there may be a systolic murmur at the apex with signs of slight enlargement of the heart.

The pain of tobacco heart, usually sharp and stabbing, may occur without any palpitation or irregularity, is frequently nocturnal, and in many smokers is the very first indication that the limit of toleration has been reached. Attacks of cardiac pain of such severity as to warrant the designation of tobacco angina are, in my experience, very rare, and the term should be limited strictly to cases in which all the prominent features of an anginal attack are present; not every form of severe heart pain due to tobacco should be called angina. An excessive smoker may be attacked suddenly with palpitation, rapid action of the heart, and a sensation as though the organ were "running down," and with this there may be much oppression in the chest, and a gasping respiration. I have known such an attack, coming on abruptly, without any warning, to begin a series which has continued for months, and which necessitated the giving up not only of tobacco, but also of tea and coffee.

In other cases pain, without disturbance of the rhythm of the heart, or any subjective sensation of palpitation, is the most prominent symptom; thus, a young man, aged 29, began nearly five years ago to have nocturnal attacks of severe pain about the heart. It was suggested at that time by his physician that the excessive use of tobacco was the cause, and they disappeared entirely when he gave up the habit. He has been smoking now for nearly a year, and has had the attacks again at intervals. Just after falling asleep he is awakened with a severe pain in the region of the heart, which almost takes his breath away, and makes him cry out loudly. It rarely lasts

more than a minute or two. The heart's action is rapid ; he never has any sweating ; he does not change in colour, nor do the hands and feet become cold ; he has never had any pain down the arm. The attacks have never followed exertion. He has occasionally had transient attacks in the day time. He feels confident that tobacco is the sole cause, as when he stops for three months the attacks disappear.

The following case is a type of what may be termed the true tobacco angina :

* T. W. J., aged 45, seen June 12th, 1895. Patient is a very vigorous, healthy-looking man, who has enjoyed uniformly good health. In November he had influenza and felt wretchedly for two months. He has been a heavy smoker since his fourteenth year. Some years ago he stopped for one year, as he had attacks in bed in which he felt as though the heart had stopped, and he would have to jump out of bed and gasp for breath. He got well and has smoked ever since.

On the 6th of January he had a sudden, severe attack, to which he attributes his present nervous condition. He had been smoking on an average twelve strong cigars a day. The attack began with a peculiar feeling in the chest, not exactly pain, but great distress. He turned pale, belched gas constantly, perspired, was cold, and he could not lie down, and felt as though he was going to die. He had no agonizing pain, but he felt a sense of terrible oppression, and had numbness in the hands and wrists. The heart's action during this attack was scarcely perceptible, the pulse very feeble and fluttering. It lasted altogether two or three hours and alarmed him very much. For several days afterwards he felt prostrated and weak, and for a month he had a sort of faint feeling, particularly after eating. These faint attacks have distressed him very much. They would come on at intervals, and he would turn pale and sweat profusely. He never has actually fainted in them, but one day in the barber's chair he very nearly lost consciousness. They recurred for about two months after his severe attack. He has been very nervous and uneasy about himself and has been greatly worried. He has stopped tobacco since January 6th.

The patient was a robust-looking man, of good colour, and very strongly built ; there was no arterio-sclerosis. The apex beat was within the nipple line, visible, readily felt, of normal intensity ; there was no increase in the cardiac dulness. The heart sounds were clear ; there was no accentuation of the aortic sound. There was no enlargement of the liver and spleen.

Up to April 17th, 1896, when last heard from, this patient had had no return of the severe attacks and had been better in every way.

Huchard, whose section on angina pectoris due to tobacco is the most exhaustive in the literature (*Traité des Maladies du Cœur*, 2nd edition), states that it is most commonly of the vaso-motor type, accompanied with extreme pallor of the face, vertigo, contraction of the pulse, a tendency towards syncope, chilling of the extremities and cold sweats. He recognizes, in addition to the functional form, an organic tobacco angina, in which the attacks occur in men with pronounced sclerosis of the arteries.

I have never known a fatal instance of angina pectoris which could be directly traceable to tobacco. I know, however, of two cases of sudden death in men only a little over thirty, both very vigorous and active, who were not known to have heart disease, and both of whom were most excessive smokers. In neither case, unfortunately, was an examination made.

In connection with this question of smoking I would like to enter a protest against the indiscriminate abuse of what Ben Jonson calls "the most sovereign and precious weed that ever the earth has tendered to the use of man,"—particularly in the form of the cigarette. In the *British Medical Journal* for February 15th, 1896, there is an extract purporting to be taken from a paper by Dr. G. F. Shrady, in which he says, "To smoke a cigarette is to use tobacco in its very worst form. It will produce physical irritability and mental and moral strabismus." As a cigarette smoker of some twenty-four years standing, I would like to make the counter-statement, that to smoke a cigarette (a good one, of course!) is to use tobacco in its *very best form*, and that in moderation it soothes physical irritability and corrects mental and moral strabismus.¹ The inference is obvious, *quoad* the editor of the *Medical Record*, at least from my point of view,

X. UNUSUALLY PERSISTENT OXYURIS.

From its habitat, this parasite is, as a rule, one of the easiest to dislodge. There are cases, however, in which it resists all attempts, and the condition becomes chronic. It is Finlayson, if I remember correctly, who reports the case of a man aged 40, who had suffered with thread worms from his childhood, and had failed to get relief at the hands of many prominent helminthologists. Until last year I had never met with a chronic case. The following is an instance in which the worms persisted, in spite of vigorous treatment, for three years and a half :

Mr. X., aged about 25, consulted me January 15th, 1895, complain-

¹ I am speaking of adults. Boys and young men are better without tobacco in any form.

ing of seat-worms, with which he had been troubled for two years and a half. He had the usual symptoms of itching and irritation, particularly at night and after exertion. He had consulted a great many physicians, and had used nearly every remedy which has been recommended. As a rule after the use of injections, such as quassia, he would have freedom for a week or two; then the symptoms would recur again, and he would see the parasites in the stools. Once he thought they had disappeared for nearly three months, after the use of quassia injections every day for nearly three weeks. In September he again made a systematic attempt to get rid of them, using the strong quassia infusions, a quart at a time, and retaining the injections for about half an hour. Since that date he has not seen any worms, and he considers himself cured.

RETROSPECT OF CURRENT LITERATURE.

Medicine.

Some Recent Studies in Malaria.

- W. S. THAYER AND J. HEWETSON. "The malarial fevers of Baltimore."—*Johns Hopkins Hospital Reports*, Vol. V., 1895.
- L. F. BARKER. "A study of some fatal cases of malaria."—*Johns Hopkins Hospital Reports*, Vol. V., 1895.
- P. MANSON. "The Goulstonian lectures on the life history of the malaria germ outside the human body."—*British Medical Journal*, March 14 and 21, 1896.

Nearly half a century ago Meckel, while examining the blood of a malarial patient post-mortem, observed certain granules of black pigment, many of them apparently within rounded or oval-shaped masses of protoplasm. There is but little doubt that these were the parasites of malaria and that this records the first observation of its kind on the causation of the malady. Three years later another observer noted the constant presence of this pigment in malaria, and recognized a definite relationship between malarial infection and pigment in the blood.

It was not, however, until thirty years afterwards that similar examinations revealed for the first time that a parasite was in truth intimately associated with the presence of the pigment, although for a considerable period previously the disease had been looked on as infectious in nature. Before Laveran's discovery, indeed, Klebs and Crudeli endeavoured, though without success, to prove a bacillary origin for malaria, but to-day there are few authorities unwilling to coincide with the view, first expressed by Laveran, that an animal parasite is the true cause of the disease. Its discoverable presence in so large a percentage of cases, and its absence in all other diseases is of itself of so much importance that with the further knowledge of its life history and relation to the clinical manifestations of the

malady, it seems unnecessary to doubt its etiological significance. The additional fact that inoculation experiments from man to man with malarial blood have repeatedly succeeded still further strengthens that view.

We are not, however, in possession of all the facts necessary for the complete proof of the theory, and hence a few authorities remain who persist in attributing the disease to other causes, although recent work has done not a little to enlighten us further in the life history of the malarial plasmodium.

The means whereby the organism enters the body still remains a mystery. It is obvious that the predisposing causes, local, seasonal and climatic, are of no small importance, as are also the possibilities, even probabilities, that the parasite effects an entry by means of inspired air and ingested food-stuffs. Further than this, it has seemed impossible to do other than theorise, while cases of direct contagion, as described by Sawyer and Eichhorst, remain still unique, where inhabitants of non-malarial districts succumbed to the disease from communication with newly-arrived though healthy natives of infected places.

The presence of the organism in the body, its appearances, varieties and distribution are likewise features of interest, as is also the coincidence of certain of the clinical symptoms with stages in the development of the parasite. Recent researches, though not offering a great deal that is new, have nevertheless most completely confirmed many of the theories of former observers, and have added valuable suggestions along the lines of the pathology of malaria.

By what means the parasite enters the red corpuscle when once it reaches the blood is dubious, inasmuch as no authentic account records accurate observations of the phenomena. The subsequent development of the plasmodium is however clear, and the conclusions may be briefly summarized as follows :

Just as there are three main clinical types of malarial fever, the tertian, quartan and irregular, so also are there three main forms of the plasmodium malarix, each distinct from the other and not interchangeable. Frequently repeated examinations of the blood, in any of these forms of the disease. (for example, in the more common variety seen in America, viz., the *tertian ague*, where paroxysms occur on alternate days) enable us to observe with considerable accuracy various stages in the life history of the malarial organism. Commencing immediately after a paroxysm, small rounded hyaline bodies are observed in the red corpuscles ; they are often actively amoeboid. A few hours later, by repeating the examination, the blood will reveal the presence of pigment in the periphery of the parasites,

while the red cells in which they lie become gradually paler. Later on, i.e., before 48 hours from the onset of the paroxysm, the spore formation is seen. This manifests itself by radial striations in the periphery and a central aggregation of the pigment, while soon small round highly refracting spherules (the spores) become visible, break away from the decolorized corpuscles and are each prepared as the newly created hyaline body to invade other red cells. Such is the usual cycle of the tertian parasite, a cycle lasting about 48 hours. So regularly does this cycle occur that by examining the blood we can state with very fair accuracy the stage in the progress of symptoms; and likewise, vice-versâ, by knowing the time of the previous paroxysm we can affirm at what stage of its development the parasite may be found at any given time. Thus for example the presence of segmenting forms is practically synonymous with an impending paroxysm.

The parasite of *quartan fever* has a few essential differences from that of the tertian variety. Its cycle, lasting 72 hours, implies that the paroxysms shall appear only on every third day. Further, the pigment which develops is not only coarser, but develops earlier and is less motile. There are also fewer spores formed, though each is in itself larger than those of the tertian variety. It would appear too, that quinine is, for the most part, less effectual in overcoming the quartan plasmodium than that of the tertian ague.

Where daily paroxysms occur (quotidian ague) there is no new form of parasite present, but the phenomenon arises when two or more different groups of parasites invade the blood on successive days. Under such conditions, if a so-called double tertian infection has occurred, there will be a constant daily maturation of parasites, and hence daily paroxysms. If the quartan parasite similarly invades the system on successive days, we may have double or triple quartan ague, according to whether two or three separate groups of quartan parasites have entered the blood. In the irregular type of malaria—sometimes called *estivo-autumnal fever* on account of its frequency at that period of the year—there is likewise a small hyaline body which however in its development tends frequently to form crescents. Clinically this form of malaria is characterised by great irregularity in the advent of paroxysms, by being irregular in the type of fever, and by assuming often very grave pernicious forms tending to chronicity and malarial cachexia. The irregular onset of the paroxysms is apparently due to the irregular sporulation of this form of parasite, and likewise to the frequent invasion of multiple groups of organisms. The cycle of life is not yet accurately determined, but seems to vary between fairly wide limits—though mainly between 24 and 48 hours. Clinical examination of the blood is often unsatisfactory in such cases,

inasmuch as the organism matures mainly in the viscera, while the blood of the finger tips rarely shows sporulated forms.

The crescentic forms which appear to develop from the hyaline bodies are not well understood. From recent researches, however, it would seem that they are formed only after the first week of the disease, that they do not *per se* give rise to fever and chills, and that they are never the cause of the relapses, inasmuch as, under all these conditions, the small round hyaline bodies are likewise present. No one has ever observed them segmenting, while frequently they manifest degenerative changes in the form of gemination and vacuolation. Quinine, too, has less effect on this variety of plasmodium than on any other form, and it has been noted that where that drug was administered during the first week of the disease, the hyaline bodies, which alone had been present up to that time, have disappeared without giving rise to crescents.

All varieties of malarial parasites may give rise to flagellate organisms, *i.e.*, projecting filaments are formed at one or more peripheral portions of the plasmodium and after a time may become free, showing at the same time great power of locomotion, not unlike the spirilla of relapsing fever. Some very recent work has given to these flagella a place of very great importance, and while Thayer and Hewetson, with many others, incline to the view that flagella are degeneration products of the parasite, Manneberg, Dock and, above all, Manson, regard them as the result of a physiological process and one of great importance to the future existence of the organism. To this, reference will be made later.

Much importance justly attaches to the distribution of the malarial parasite in the body, and Barker in his admirable study on the subject has not only confirmed many previous theories, but ventures further valuable suggestions concerning the irregular symptomatology of the disease. Councilman and others have long since shown that in many of the irregular forms of malaria the parasites, while abounding in the viscera, are often in very small numbers or even entirely absent in the peripheral circulation, and hence must readily escape notice in ordinary clinical examination of the blood. Such, too, has been the recent experience of Dr. F. P. Maynard, of the Indian medical service, inasmuch as out of some 70 cases which he states were carefully and patiently examined, he had failed to find the organism in more than 25 per cent., and although this experience is more unfortunate than most of the other observers, yet it is doubtless worthy of a note as illustrating the necessity for painstaking and often prolonged examination of the blood. The distribution of the parasites in the body has a significant clinical value as explaining

many obscure symptoms and in affording a more satisfactory idea of the prognosis. It is known, for example, that in quartan ague the parasites are distributed throughout the whole body with much regularity, and the numbers observed in the peripheral blood enable one to estimate with tolerable accuracy the number in the whole system, and hence the extent and severity of the infection. In tertian fever, on the other hand, the parasites tend to accumulate more in the internal organs, while being in but moderate numbers in the peripheral blood. In this way the presence of large numbers in the blood from the finger tips would likewise indicate an unusually grave attack.

The æstivo-autumnal variety manifests a notoriously irregular set of symptoms, corresponding with which we can readily observe a most irregular distribution of parasites in the body. Among the well-known instances of such atypical manifestations is the malarial coma, which has been shown by Councilman and others to be often associated with plugging of cerebral capillaries with plasmodia. As in the case of coma, so in other conditions, as transitory aphasias, various paralyses and obscure instances of sudden death, the symptoms may readily be attributed to the invasion of capillaries leading to the parts controlling the various cerebral functions. What applies to the brain may readily be assumed for other organs to account for the numberless variety of nutritive and functional disturbances influencing the course of the malady. In one of Barker's cases parasites in unusually large numbers were found filling the vessels in the mucous membrane of the stomach, and in corresponding places on the surface there were areas of necrosis. Such conditions, he suggests, (as have also the Italians) will readily explain all manner of gastro-intestinal disorders which so frequently accompany the pernicious forms of malaria.

To account for the unequal distribution of the parasites is a more difficult task, for it would seem to depend upon a variety of combining factors, among which may be considered mainly the alterations in the circulation and in the calibre of the vessels, vaso-motor disturbances, metabolic processes in the parasites themselves and in the cells of the tissues, and lastly the phenomenon of phagocytosis.

An ingenious explanation as to the means whereby the plasmodium maintains its existence outside of the body and preserves its vitality has been suggested by Manson. In pursuance of his theory he maintains that the organism must enter the human system for one of three reasons, viz., *firstly*, as a necessary stage of its evolution and existence; *secondly*, by accident, or *thirdly*, as finding in the blood a suitable

place to propagate its species, although at the same time it possesses elsewhere in nature other hosts or media. In other words, malarial infection of man may be an example of optional parasitism. The third reason appeals to him as the most satisfactory, inasmuch as in the first place man cannot be essential for the development of the plasmodium, the latter being prevalent in districts rarely or never inhabited by man. Nor is its presence in the body a mere accident, for, reasoning by analogy, from examples of accidental parasitism, we see that here the organism's presence is by no means a rarity; further, it multiplies readily in the body, and from what is known of other hæmocytozoa, such as are found in birds, it would appear that here too a definite system prevails in nature accounting for their presence.

Excluding thus the first two reasons, the third reason alone remains as a possibility, viz., that the plasmodium of malaria inhabits man with design, not only for its own individual interest, but in the interest likewise of the species to which it belongs.

Accepting this hypothesis, then, of what may be called optional invasion, the next question to be considered is: How does the parasite preserve its existence further? How does it exist when outside the body, and how do we account for its apparent latency in patients who for years may be free from the malady, but who when exposed to suitable conditions succumb again to the disease?

To explain this Manson has recourse to a special phenomenon seen sometimes in the blood removed from the body and examined in the usual way, viz., the formation of the flagellate body (i.e., that form of plasmodium characterized by the presence of very long projecting filaments) which he regards as the resting or spore stage of the micro-organism. In other words, just as soon as the mature parasite becomes overpowered and in unsuitable media, these long filaments are found and constitute a condition in which the organisms may maintain their vitality for a long time.

Such a theory, which in its essential features, is somewhat similar to that maintained by Manneberg, and Dock, implies that these flagellate bodies are purely physiological or natural products. Many observers on the other hand, and among them Thayer and Hewetson regard the flagella as probably evidences of degeneration, since they so frequently accompany other undoubted degenerative processes in the plasmodia, and they persist not only after the fever has subsided, but likewise after the administration of quinine. They are further the ready prey of phagocytes.

Granting, however, that the parasites have such a state in which they may exist outside of the body and thus preserve their species,

the question naturally arises as to what means are employed for the exit of the parasite from its host.

While many organisms leave the human body by the secretions (e.g. liver flukes) or by the excretions or by hæmorrhages (e.g. *Bilharzia*), others again are liberated by the external aid of suctorial insects. A good example is afforded by the *filaria nocturna* which, like the *plasmodium malariae*, is a parasite of the circulating blood. This parasite is carried away from its host in the bodies of mosquitoes. Reasoning by analogy, which, however, is to a large extent purely theoretical, Manson observes that both of these parasites are incapable of leaving the body by other means than that afforded by aid from without such as is supplied by suctorial insects. Both exist in the blood, are enclosed in sheaths, the *plasmodium* having for its envelope the red cell—both on leaving their sheaths develop normal locomotive power—the flagella of the *plasmodium* in their great vitality bearing out the analogy to the *filaria*. The course of the *filaria* through the mosquito has been fairly fully investigated and a similar process of events is thought to occur in the case of the micro-organisms of malaria. Much of the experimental work along these lines has been performed by Surgeon-Major Ross, whose work and conclusions may be briefly stated as follows :

A malarial patient, in whose blood crescentic organisms were abundant, was made the subject of investigation. He was placed under a mosquito net and the insects, reared up from the eggs, were introduced into the net and having filled themselves with the patient's blood, were collected and examined. Numbers of organisms were found in the mosquitoes' blood, and the progress of events he concludes to be as follows : Crescents are converted into spores after entering the mosquito's stomach, and later, flagellæ are given off, thus forming a stage in which they may remain at rest.

By what means the future infection occurs is still also a matter incapable of proof, though it would seem that one of several means is to be sought for as an explanation. The larvæ of the mosquito with the spores of parasites, or else the mosquitoes themselves lying in the marshes may be ingested by those using the unhealthy water ; or, again, where marshes containing them are gradually dried, the spore forms may be carried as dust and be inspired, and lastly, the mosquitoes may, in the act of suction, reinfect their host.

Whether such a theory is commendable or not may remain questionable for many years to come, though that there are and must be other means of propagation of species than that suggested by Manson must be equally accepted from our present knowledge, or rather ignorance, of the subject.

C. F. Martin.

Surgery.

Puncture and Incision of the Pericardium.

DELORME ET MIGNON. "Sur la ponction et l'incision du pericarde."
—*Revue de Chirurgie*, Décembre, 1895.

[Commenced in the April Number.]

There are four methods of approaching the pericardium:

1. By trephining the sternum.
2. By passing close beneath the inferior border of the thoracic cage beneath the seventh costal cartilage, starting from the xiphoid appendix.
3. By puncture through an intercostal space.
4. By resecting one or two of the costal cartilages.

Trephining the sternum was advised by Riolan in 1648. The suggestion was accepted by Laennec, Bayer and by Skielderup. It was only done once on the living by Malle. In this way he removed 300 grammes of serous liquid. The relief was instant, but the patient ultimately succumbed to tuberculosis of the intestines and lungs.

Soft and superficial, the sternum is easily trephined. There is no danger of wounding the internal mammary arteries, but there is danger of the bone becoming infected and suppurating, and also danger of the fluid escaping into the cellular tissue of the mediastinum and there setting up inflammatory action. Another danger difficult to avoid is the wounding of the right pleura.

Epigastric incision as a method of approaching the pericardium was suggested to D. Lacrey by observing a penetrating wound in a soldier, in which the instrument entered between the xiphoid and seventh costal cartilages passing through the pericardium from below upwards.

The operation is easy of performance, and the left terminal branch of the internal mammary artery can be secured without any special difficulty. But if the abdomen is distended the diaphragm may be pushed up so far as to be in danger of being wounded; and then again there is the danger of wounding the left pleura.

Puncture of the pericardium, since the attempt of Schub in 1840, has been often performed. An ordinary trocar has been used in the majority of cases, sometimes an aspirator needle and sometimes direct puncture with a scalpel.

As to the point of puncture, operators have been guided either by the anatomy of the region or by the clinical signs. The pericardium lies beneath the 2nd, 3rd, 4th and 5th intercostal spaces. It extends a few centimetres to the right of the right border of the sternum, and it has been suggested to puncture it to the right of the sternum.

The internal mammary artery passes 2 or 3 millimetres from the border of the sternum in children and 10 to 15 millimetres in adults. In the fourth interspace there is danger of wounding the heart if the puncture is deep.

Aran, without regard to anatomical points and only bent on avoiding the wounding of the heart, chose the points where silence and absence of bruits were the most complete.

The early operators used a hydrocele trocar, but the needle of an aspirator is now generally used and is to be recommended. After discussing the method of Baizeau and Dieulafoy the authors advise the following:

Along the left border of the sternum, that is, about 15 millimetres from the median line, an incision is made through the skin, beginning a finger's breadth below the lower border of the 7th costal cartilage, passing upwards across the 6th and 5th intercostal spaces. This incision is 4 centimetres in length. In the 6th interspace by preference, if the space will admit the needle, otherwise in the 5th interspace, very exceptionally in the lower internal angle of the 4th interspace, a No. 2 needle of Dieulafoy is slowly inserted in apposition to the left border of the sternum. When the needle has entered to the level of the posterior surface of the sternum, or for a distance of 8 mm, the handle is very much depressed and the point of the needle is carried upwards parallel with the posterior surface of the sternum. When the point of the needle has been forced upwards 1 or 2 centimetres the handle is raised and the point carried forward until fluid appears in the tube. After evacuation the incision is sutured. By this method the internal mammary artery and left pleura are avoided and the risks of wounding the heart are reduced to a minimum.

It is very important that the pleura be not wounded. If the pericardial effusion is serous, probably little harm would result, but if sanguinolent or purulent the result might be disastrous. Even by the method recommended by the authors one is not absolutely certain to avoid the pleura. They found in testing the question that in 32 cadavers, where the puncture was made in the 5th interspace, the pleura was wounded 12 times, and when made in the 6th interspace 6 times. When punctured in the 4th or 3rd interspace the pleura was pierced in nearly every instance. The lung is in less danger as it is generally pushed aside by the effusion. Occasionally the heart has

been wounded, especially when adherent to the anterior wall of the pericardium. This is not necessary fatal if a small needle be used.

Incision of the pericardium is performed after resecting portions of the 5th and 6th intercostal cartilages. The following is recommended and by this method the authors claim that the pleura and internal mammary arteries are not endangered; the pericardium is opened at a dependent part, and in case of pericardial adhesion, there is no danger of wounding the heart.

1. A vertical incision is carried one centimetre to the left of the left border of the sternum from the inferior border of the 7th costal cartilage to the upper border of the 4th. From the extremities of this incision two transverse incisions, each 2 centimetres long, are carried horizontally to the left.

2. The skin, cellular tissue and the attachments of the pectoralis major are elevated and the cartilages laid bare.

3. The 5th costal cartilage is separated from the border of the sternum and the soft parts detached from the borders and under surface and then forcibly elevated, pressure being made upon it 4 centimetres from the edge of the sternum, so that the cartilage is fractured at this point instead of at its junction with the rib. The 6th cartilage is treated in the same manner.

4. The perichondrium is then incised vertically and removed, when the triangularis sterni is exposed with the internal mammary vessels lying upon it.

5. A director is then passed along the border of the sternum, and with the finger the pleura is separated from the pericardium and pushed to the left with the triangularis sterni muscle and the internal mammary vessels.

6. The opaque white pericardium being now exposed, is pinched up and incised; a director is inserted into the opening and with a pair of scissors the opening is enlarged.

If found necessary the 4th cartilage can also be removed.

Since the introduction of antiseptic methods, incision of the pericardium is coming more into favour, as in this way one is certain of not wounding the pleura, mammary vessels, lung or heart, and the fluid can be removed with certainty, as well as fibrinous clots, and medicated solutions can be used if thought advisable.

As these patients often take chloroform or ether badly, it is suggested that it is often advisable to puncture or aspirate first, perhaps with the aid of a local anæsthetic, the more complicated operation of incision being reserved until the heart has recovered itself at least partially.

In the recumbent position there is less danger of syncope and the operator can work to greater advantage.

Geo. E. Armstrong.

(To be continued.)

Pharmacology and Therapeutics.

Alcohol and Alcoholic Drinks.

CHITTENDEN AND MENDEL: "The influence of alcohol and alcoholic drinks upon the chemical processes of digestion."—*American Journal of the Medical Sciences*, January, February, March and April, 1896.

In this paper, which we notice was originally prepared as a report to a Committee of Fifty for the Investigation of the Liquor Problem, the writers give us the results obtained from a long series of experiments made with the view of determining the influence of alcohol and alcoholic drinks upon the action of the several digestive ferments. Such experiments, they admit, afford us only an imperfect view of the influence of alcoholic drinks upon the digestive process as a whole; a process which involves not simply the solvent or digestive action of the several digestive juices, but is dependent, in no small degree, for its successful working upon the associated processes of secretion, absorption and peristalsis. No single line of experimentation, therefore, can cover the whole field of enquiry. In their present investigation the writers have considered only the influence such drinks exert on the chemical processes of digestion as manifested in an artificial digestion carried on outside of the body.

Alcohol, when present in only small quantities, not exceeding 1-2 per cent. of absolute alcohol, appeared rather to stimulate than to retard gastric digestion. The experiments in which a slight stimulation occurred were too numerous to be the result of mere accident. As the percentage of alcohol is raised, retardation or inhibition becomes noticeable, although generally this result is not very pronounced until the digestive mixture contains 5-10 per cent., or more, of absolute alcohol. With 15-18 per cent. of absolute alcohol (36 per cent. proof spirits) the digestive process may be retarded to the extent of from 25-35 per cent. The results, however, cannot be stated with mathematical exactness, for with a weak gastric juice, or with proteid material difficult of digestion, the retarding action of alcohol is far greater than when the digestive fluid is more active.

So much has been written regarding the contamination of whiskeys and other liquids with fusel oil, that experiments were made to ascertain its effect on gastric digestion. Carefully conducted investigations

showed that all these alcohols, amyl, isobutyl, propyl and methyl, have a similar influence to that of ethyl alcohol, namely, they slightly stimulate the process when present in small quantities, but retard it if the percentage becomes distinctly raised. Considering the small extent to which these alcohols are present in alcoholic drinks, their influence in such an investigation as this may be disregarded.

On the proteolytic action of the pancreatic juice alcohol exerts a more decided effect, the presence of even 2 or 3 per cent. being sufficient to produce a distinct interference with the process; the exact amount of this interference being to a great extent dependent, as in the case of the gastric juice, upon the relative digestive power of the pancreatic fluid. With the digestion of farinaceous foods by the saliva alcohol interferes only very slightly; the presence of even 5 per cent. of absolute alcohol appearing rather to stimulate than to retard the process, while 10 per cent. causes only a slight retardation.

Strong alcoholic beverages, such as whiskey, brandy, rum, and gin, containing ordinarily about 50 per cent. of absolute alcohol, and with only a small amount of solid or extractive matter, have an action upon gastric digestion practically proportional to the quantity of alcohol present. In the healthy individual these liquors can only be considered to impede the gastric digestion of proteid foods when taken immoderately and in intoxicating doses. Nor would it appear that the adulterations of these spirits, as ordinarily met with, affect this action to any extent. The so-called fusel oils in the small quantities present in some of the poorer brands of spirits would not appear to exercise any deleterious influence upon the proteolytic action of the gastric juice.

On pancreatic digestion, however, a given percentage of whiskey has a retarding action distinctly greater than a corresponding percentage of pure alcohol, indicating the presence of an additional inhibiting substance, which is apparently a part of the solid matter of the whiskey, and is undoubtedly connected with the acidity of the fluid. Brandy and rum have essentially the same action upon pancreatic digestion as whiskey, both retarding proteolysis noticeably, and to a greater extent than does a corresponding amount of pure alcohol.

On salivary digestion these spirits, although showing little retarding influence in quantities less than 5 per cent. of the whole fluid, in large quantities manifest an inhibitory action out of all proportion to the contained alcohol, an action connected mainly with the acidity of the spirit, for on neutralization of the acidity this inhibitory action ceases.

Wines as a class, taken only in small amounts, appear to have no deleterious action upon the chemical process of gastric digestion, and may even increase the rate of action; but in larger quantities they have a distinctly retarding effect, which is dependent more upon the character and amount of the solid matter present than upon the contained alcohol or other volatile material. The following table shows the results obtained in an experiment with different alcoholic liquors in which all the attendant conditions were identical. The proteid used was two grammes of blood fibrin. To this was added 0.016 gm. of pepsin and 0.2 per cent. solution of hydrochloric acid. Digestion was continued for two and a quarter hours at a temperature of 38° to 40° C.:

Fluid Used, 5 per cent. of.	Alcoholic Strength.	Undigested Fibrin.	Proteid Digested.	Relative Proteolytic Action.
	per cent.	grms.	per cent.	
.....		0.2013	90.0	100.0
Absolute Alcohol.....	99.5	0.2601	87.0	96.6
Rum.....	51.0	0.2304	88.5	98.3
Whiskey.....	50.5	0.2312	88.5	98.3
Brandy.....	47.5	0.2251	88.8	98.7
Sherry.....	21.0	0.3041	84.8	94.2
Hochheimer.....	11.0	0.2439	87.9	97.6
Claret.....	10.0	0.2560	87.2	96.8

These results are quite in accord with those obtained by Sir William Roberts, who writes, "It is evident that the retarding effects of sherry and port (with their high percentage of solid matter) considerably exceed what is due to the alcohol they contain. . . . As used dietetically, sherry must figure as having frequently an important retarding action on peptic digestion. . . . In the common practice of taking two or three wineglasses of sherry with dinner, we see probably a double action, a stimulating action on secretion and peristalsis, and a retarding effect on the chemical process, especially in its earlier stages; in smaller amounts (a wineglassful or so) sherry would act as a pure stimulant to digestion."

On pancreatic, and on salivary digestion, the writers find that wines have a far greater inhibitory action than the stronger alcoholic liquors, an action which is less dependent upon the amount of alcohol which they contain, than upon the presence of solid matters and upon the acidity of the fluid.

Malt liquors in small quantities are without any marked influence on the digestive power of the gastric juice. In larger quantities they cause an inhibition of proteolysis, entirely unconnected with the small amounts of alcohol present, but directly traceable to the comparatively large amount of extractive they contain. This inhibitory action may be compared with the inhibitory action of such beverages as tea and coffee, the retarding action of which is equally pronounced; or even greater, when the latter are consumed in large quantities. It is indeed a property shared by many substances, and does not in itself necessarily constitute an evil of any magnitude unless the retardation is very pronounced and liable to be long continued.

In conclusion the writers desire it to be plainly understood that these results apply solely to the influence of the various liquors studied upon the purely chemical processes of digestion, and do not afford any data for drawing any broad or general conclusions regarding the influence of alcoholic drinks upon digestion or alimentation, since they throw no light upon possible modifications of secretion, absorption or peristalsis.

A. D. Blackader.

Therapeutic Hints.

CATON. *The Arrest of Rheumatic Endocarditis.*—In a paper read before the last meeting of the British Medical Association the writer urges the importance of a more active treatment of rheumatic endocarditis than is usually employed, with the view of arresting the disease if possible in its initial stages. As soon as any *bruit* is detected, a series of small blisters, each the size of a florin, is applied along the course of the third, fourth, fifth and sixth intercostal nerves in front and at the sides. Only one is applied at a time, and the different exit points are covered consecutively. In this way the blisters give rise to no pain or inconvenience. At the same time sodium or potassium iodide, in eight or ten grain doses, thrice daily, is administered, and the ordinary salicylate treatment is continued. Lastly, the patient is kept in hospital for six weeks, most of the time in bed. Under this treatment most of the writer's cases (29 out of 40) in which symptoms of acute endocarditis had supervened, left the hospital with, as far as could be detected, a perfectly normal heart.—*British Medical Journal*, January 25, 1896.

BRONSON. *On the Topical Treatment of Acne.*—In an address delivered before the Society of Alumni of Bellevue Hospital, Dr. Bronson recommends first curetting with a rather large curette with somewhat sharp edges. In using it the skin is put on the stretch, and the curette is swept with rapid free-hand strokes over the affected

surface, with the result of planing off the corneous elevations, and clipping off the tips of many pustules, removing at once the horny cap that seals the orifice of the distended follicles. The second step is to thoroughly remove the contents of the follicles, to accomplish which each follicle must be treated separately, and upon the completeness with which this is effected will depend very largely the success of the treatment. After the mechanical treatment comes disinfection. The skin should be at once bathed with a 1 to 1,000 solution of perchloride of mercury. For home treatment the writer relies almost exclusively on two drugs, sulphur and resorcin. The sulphur is most suitable for cases characterised by marked suppuration. The resorcin appears to be not only an effectual germicide, but to have also some control over the hyperæmia. Sulphur is, therefore, generally more useful in the earlier, resorcin in the later stages. For the employment of sulphur he has found nothing more satisfactory than the so-called *lotio alba*, which consists of a drachm each of potassium sulphide and zinc sulphate, in four ounces of rose water, and the resorcin is used in a three to four per cent. solution in water, or in a weak spirituous solution. These lotions should be applied frequently, from three to five times a day.

While means should be taken to relieve any reflex irritation, the writer thinks it is very certain that there is no specific internal treatment.

A. D. Blackader.

Pathology.

Upon Contagious Pleuro-Pneumonia of Cattle, Transmissible Pneumonia and Corn-Stalk Disease.

(Continued.)

In the last number of the *JOURNAL* I mentioned some of the distinctions between the histological appearances of the pneumonic lung in man and in cattle, and pointed out that the most important difference was the enormous swelling of the lymph channels between the lobules. As Roy has pointed out,¹ in the case of the lungs of most mammals there are present under the pleura lymphatic vessels forming a network, converging superficially to the root of the organ and conveying the lymph from the pleural membrane to the retrobronchial glands. In the bovine lung, vessels of this kind are not found; the pleural lymphatic vessels behave towards each superficially seated lobule as if it were an independent lung in miniature, and pass over its surface to join the lymphatics leaving its root. Each lobule, thus not only in regard to its blood vessels, but also so far as concerns its lymphatics is anatomically independent. When this is taken into account and when again we remember the large size of these perilobular lymph sinuses, the deviations presented by the bovine pneumonic lung from the pneumonic lungs of other animals become more intelligible.

In order that the contentions between the Canadian and British authorities with regard to the nature of the disease in the suspected lung may be well understood, I may here briefly state what are the characters of the typical lung affected with contagious pleuro-pneumonia, my description being based upon the leading German text book on Comparative Pathology.² In the early stage, small, well-defined inflammatory nodes are to be recognised in the otherwise healthy lung tissue. In these the interlobular tissue is hyperæmic, presenting serous infiltration and occasional hæmorrhages. The reddened lobules are surrounded by broad sinuses, 1 to 2 mm. across filled with serous fluid. At the height of the disease the lobular foci of inflammation have given place to an extensive lobar pneumonia affecting, it may be, the whole of the lobe of the lung. As in human

¹ Report on the Pathological Histology of Epizootic Pleuro-Pneumonia. London, British Medical Association, 1879.

² Friedberger and Frœhner, *Lehrbuch der Speciellen Pathologie, &c.* Vol. 1889, p. 590.

lobar pneumonia, the affected region is swollen, very heavy, sinks in water and does not crepitate. Upon section it has a marbled appearance.

The marbling is due to two processes: in the first place to the broad bands of reddish-yellow or greyish-white swollen interstitial connective tissue 2—4 mm. across. The swelling is brought about in part by new connective tissue growth, in part by the modified lymph distending the lymph sinuses. As Professor Welch has pointed out,¹ in acute cases four zones are to be distinguished in these interlobular bands. There is in the middle a network of fibrillated fibrin remarkable for the paucity of leucocytes: at the edge of this is a zone of irregular particles composed of nuclear fragments densely packed together and staining deeply with nuclear dyes; outside of this is a zone of packed polynuclear leucocytes, and outside again, connective tissue with proliferating fixed cells, and, if the disease is of long duration, a more or less thick band of young granulation tissue. "The impression is irresistible that some deadly cell poison is present in the lymph spaces, that the leucocytes are attracted in masses towards these spaces, but that they are killed as soon as they reach a certain point at the edge of these spaces where they leave behind them fragmented nuclei." In the second place the colour of the enclosed lobules varies; the oldest have a gray colour (gray hepatitis) the youngest a blood-red, reddish-brown or dark brown colour. It is this combination of broad bands and differently coloured lobules which gives to the lung of contagious pleuro-pneumonia its peculiar and characteristic marbled appearance. The blood vessels in the affected region present thrombi with small hæmorrhagic infarcts; the finer bronchi may contain a fibrinous exudate rich in leucocytes; the bronchial glands are swollen, the pleura over the affected region becomes implicated, and presents thick irregular masses of fibrin, which in the later stages may be found replaced by organising connective tissue.

These are the main changes in the acute disease. With those seen in the chronic form we have little to do, for as I have said, no case of this condition has ever been found in any lung removed from Canadian cattle.

That other pneumonic affections may occur in the cow's lung goes without saying. Just as in the human lung we may have true acute croupous pneumonia, due to the diplococcus lanceolatus, streptococcus pneumonia (as after diphtheria), pyæmic or tuberculous pneumonia and various other pneumonic disturbances, associated with specific

¹ Papers on the subject of the scheduling of Canada, Ottawa, 1895, p. 42.

diseases or due to inhalation, so in the cow's lung, although as Prof. Welch says, the subject has not received the attention it deserves, there have been recognised forms resembling, yet distinct from, the contagious pneumonia proper. Such forms as are associated with tuberculosis or due to the irritation of small nematode worms (*strongylus micrurus*) need not be more than mentioned, although the latter at times approaches in appearance singularly near to the true disease—nevertheless the presence of masses of minute worms in the bronchi is sufficient for differential diagnosis. Other foreign bodies in the bronchi may also lead to appearances closely simulating the contagious disease. Thus had not Dr. McEachran cut up one lung (sent to Montreal from the country) in the right plane, we should have missed the large thorn lying in the bronchus and setting up an extensive broncho-pneumonic condition, which, both in variegated colour and thickness of the interstitial bands, could not be distinguished from the true disease by the naked eye. There has, moreover, been recognised by a large number of authorities a form of croupous pneumonia, sporadic and non-contagious, differing only from the contagious disease in the fact that all the hepatised region presents the same colour and is apparently of the same age—just as in croupous pneumonia in man. A case of this nature will be found described in full by the authorities already mentioned (Friedberger and Fröehner).¹ Others like Poels have described a septic pleuro-pneumonia, undistinguishable in appearance from the contagious malady, although presenting a different bacteriology. In 1890 a few animals from a shipload of American cattle landed at La Villette, France, died of pneumonia. They were examined by Nocard and other French veterinarians. From the diseased lung Nocard obtained a microbe allied to the forms causing hæmorrhagic septicæmia in various animals—resembling the microbe of swine plague, hog cholera and chicken cholera. Judged from his description the lungs in these cases were not distinguishable from those of the suspected Canadian animals, and what is more, by inoculation of his microbe he was able to reproduce the disease.

In 1889 F. S. Billings, the head of the Agricultural Experiment Station of Nebraska, from an examination of various organs of animals dying from what is known as the "cornstalk disease," had concluded that this disease was due to a micro-organism of the same nature as that already mentioned, and Nocard therefore concluded that the pneumonia discovered by him was one manifestation of this cornstalk disease (which is unknown in Europe). Hence has arisen

¹ *Loc. cit.*, page 258.

the idea that American and Canadian cattle presenting suspicious lungs are suffering from the said cornstalk disease, an idea which it has been difficult to eradicate, notwithstanding the fact that the disease is an affection from which cattle sometimes suffer after feeding in corn fields late in the fall and early winter, that Canadian cattle are not so fed and that the suspected lungs have been found in the English abattoirs both in the spring and in the summer. Further, it would now seem clear that Dr Billings was wholly wrong in including the disease among those due to the small microbes of hæmorrhagic septicæmia in animals.

A very careful study of numerous outbreaks by Dr. Veranus A. Moore has failed to discover a specific or even constantly present organism in the diseased animals. Similar negative results have been obtained by Professor Burrill and by Dr. Niles. And lastly in not a single set of lungs of twelve animals examined, in eight different outbreaks, was there a sign of hepatisation. There can, therefore, be no longer any idea that possibly Canadian animals suffer from the curious cornstalk disease.

Now, it is interesting to note that so far as we in Canada have received information concerning the characters presented by the suspected lungs, with one exception, to be referred to later, all of them have been characterised by a condition differing from that which is recognised as being typical of the true contagious disease but resembling that found in the sporadic croupous pneumonia to which I have already referred. While they have presented marked distension of the interlobular lymph sinuses, and the presence of well-defined whitish bands in the diseased areas, the hepatisation has not been variegated, but there has been an even reddish discoloration of all the diseased lung tissue. This has been noticed by the English authorities. Thus in his report upon three condemned cases in May, 1893, Professor Brown, at that time head of the Imperial Veterinary Department, admits that the lobules in the diseased part, instead of varying in colour from light pink to dark red or nearly black were of a uniform vermilion tint. He admits that this appearance distinguishes the lungs in question from those of pleuro-pneumonic cattle in the Old World, but with a charming *naïveté* points out that these peculiarities have "*from the first been recognised as special characteristics of pleuro-pneumonia in animals which have been landed in this country from the United States regularly since 1878,*" (the italics are mine), and he adds: "No satisfactory explanation of the deviations referred to has been offered, but the history of pleuro-pneumonia on the North American continent proves beyond doubt that it is as

contagious and fatal as the pleuro-pneumonia of Europe." It is upon scientific evidence of this nature that the Canadian animals have been scheduled. Professor Brown continues (and here I can confirm what he says, though probably I should use a more correct nomenclature) that "microscopical examination showed the interlobular bands to be composed of extremely fine fibrous tissues, forming a delicate network in which were enclosed cells similar to those found in the air cavities of the lungs." By "fine fibrous tissues," the director of the Veterinary Branch of the Imperial Board of Agriculture evidently means the delicate fibrinous reticulum, noticeable in the dilated lymph spaces. This confounding of "fibrous" with "fibrinous" is a mistake that is often made by third year medical students when first they begin their pathological studies. The specimens made by me from these doubtful lungs have shown the lymph channels filled with such a fibrinous reticulum and devoid of the zones of breaking down and polynuclear leucocytes characteristic of the true disease. With one exception, to be presently noted, so far as information has reached us here in Canada, all the suspected lungs of Canadian animals have failed to show true marbling, the appearance of the affected lobules in different parts has been the same, there has been wanting that variation in tint characteristic of the true disease, and if other American cattle whose lungs have been termed pleuro-pneumonic have shown the same peculiarity, the only inference to be drawn is not that they were suffering from contagious pleuro-pneumonia, but that subjected to like influences American and Canadian cattle developed—a form of pneumonia, it is true, but not necessarily of contagious pleuro-pneumonia. The one exception is the lung of a steer which was landed from the steamship "Toronto" in the year 1894, in which apparently there was a close resemblance between the post-mortem appearances and those presented in true pleuro-pneumonia. The experts in London were practically unanimous on this point, and the lung showed the variegated hepatisation characteristic of the true disease. Unfortunately no microscopical examination is recorded of the Toronto lung.

In one other lung of an animal condemned at Antwerp there was similar variation in tint, here associated with necrotic areas—so that the appearance was still more nearly that associated with the true disease. In consequence of this discovery Canadian cattle were scheduled for the time being by the Belgian authorities, who, however, (contrary to the action of the Imperial Veterinary Department) afforded material for examination by Professor Nocard (in Paris) and myself. We arrived independently at the same conclusions,

namely that the pneumonia was associated with the presence of great numbers of a minute bacillus and also of a fungus, our only divergence being that he dwelt especially on the presence of the fungus, I upon the number and localisation of the bacilli. In consequence of our reports the Belgian authorities removed the embargo.

Herein is the weakness of the whole British case. The Veterinary Board at Whitehall declares itself satisfied solely with the naked-eye investigation. No account has been taken of the need that most certainly exists for attempting to study the matter thoroughly. For the continuance of kindly relations between the mother country and the colonies, it has not been thought necessary to take any further trouble. It is known, for example, that inoculation into young cattle with the fluid exuding from a lung affected with the contagious disease induces a somewhat characteristic inflammation at the seat of inoculation; a tumour forms slowly and eventually breaks down, undergoing necrosis. This, it is true, is not an absolutely certain test, but suppose that in any one of the suspicious cases Professor Brown had instructed that half a dozen calves be inoculated; then if only two of the six had presented lesions characteristic of inoculation with material from the undoubted disease his case would have been proved. Compared with the magnitude of the issue, the cost would have been as trifling as the resultant effect upon public opinion would have been great. Again, if employing ordinary bacteriological methods no cultures of bacteria had been found obtainable, then also the presumption would have been strongly in favour of the lungs being affected with the true disease, for as Nocard has pointed out, no growths can be obtained upon ordinary media in connection with the true disease.

But to put it shortly, the Imperial Veterinary authorities demand that Canada be satisfied with the finding of their inspectors. Possibly were these inspectors experts of the highest standing, with acknowledged reputations as pathologists, the position of the British authorities would be tenable; unfortunately, and here I come to the root of the whole matter, neither our colonies nor foreign nations have the slightest belief in the correctness of the decisions of the veterinary staff of the Board of Agriculture. Professor Brown, Mr. Cope and Mr. Duguid may be, nay, are excellent inspectors of the olden type, they are excellent officials for detecting disease by external examination wherever this is possible, excellent officials for seeing that the orders of the Board are carried out, but neither by their training nor by their records will anyone dare to say that they are capable of being the responsible scientific advisers of the British Government. This indeed is proved by their answers at the investigation held by the

late President of the Board of Agriculture, Mr. Herbert Gardner, in 1894, during which Professor Brown brought up as a convincing rebuttal of observations made upon a disease simulating contagious pleuro-pneumonia, that the case described could not be mistaken for the true disease, because the bands of marbling, 5 to 6 mm. across, were after all "mere streaks." A scientific expert ought surely to know that this amount is above and not below the average thickness of the bands seen in contagious pleuro-pneumonia. Again it is curious that Mr. A. C. Cope, who is now the scientific head of the Imperial Veterinary Department, should have to admit that he could not answer fully a simple question on the contagiousness of tuberculosis, and should state "I should not like to speculate too much upon it"—when all pathologists can determine by experiment that the matter has gone beyond the stage of speculation. For him to state that "the present *theory* (the italics are mine) is that it is due to the introduction of the bacillus tuberculosis into the system" displays a want of acquaintance with the present standpoint of pathological knowledge, indeed of every-day knowledge, with regard to tuberculosis, and want of information about the frequently confirmed results of recent investigations that coming from the mouth of one occupying so high a position is peculiar and surprising. With regard to Mr. Duguid, I need only remark that I discovered in 1889 that he had mistaken the bacilli of putrefaction for anthrax bacilli.

These are the "responsible" advisers upon whose decree the President of the Imperial Board of Agriculture declare himself "bound to act," who thus indirectly control the policy of the Cabinet, and upon whose judgment must depend a commerce important to the old country as it is to the Dominion. The spirit in which they perform their functions has been shown by their action in connection with one of the "Lake Winnipeg" cases. Sir Charles Tupper asked that he might be given portions of the suspected lungs for transmission to Canada and examination there. This altogether reasonable request was complied with in the following extraordinary manner: Specimens from a suspected lung were taken along with portions of the lungs of a cow that had been slaughtered in connection with a recent outbreak of the undoubted disease at Hendon—all the pieces were placed together in one bottle with not a single label or other sign to indicate the origin of any one of them, nor would the Veterinary Officers of the Board specify which belonged to the Canadian, which to the Hendon animal. This is the way Professor Brown and his staff saw fit to deal with a matter of international import. Had they been dealing with the local authorities of the hamlet of Peddling-

ton Parva, this piece of jugglery would have been altogether unbecoming and contemptible ; dealing with the High Commissioner of what is nearer to England and yet more worthy of due consideration than even a member of the quadruple alliance the transaction assumes the character of a gross and gratuitous impertinence.

I have already consumed an unreasonable amount of space in discussing this matter and have not nearly touched upon all the points which tend to prove that the Canadian animals condemned in England suffered, not from a contagious pneumonia but from a sporadic non-contagious trouble to which Dr. McEachran has given the satisfactory distinguishing name of "Transit" pneumonia. I have, however, I trust, stated sufficient to render it abundantly clear that the Imperial authorities not only are incapable of determining a matter requiring exact scientific knowledge and training—a matter not to be settled by mere naked eye inspection—but also that they have refrained from making any honest attempt to arrive at the truth or to treat the Canadian contentions with consideration and justice. To enquire why they have pursued this course lies outside the bounds of a pathological retrospect—however obvious the answer may be. But there can be no hesitation in stating here that the treatment accorded to the representations of the Dominion has been utterly reprehensible and as between the mother country and her colony in the highest degree deserving of condemnation.

J. G. Adami.

Canadian Medical Literature.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian work published in other countries) for notice in this department of the JOURNAL. Such reprints should preferably be addressed to Dr. Kenneth Cameron, 903 Dorchester street, Montreal.]

PERIODICALS.

FEBRUARY, 1896.

THE CANADIAN PRACTITIONER.

Puerperal eclampsia—H. C. Scadding, Toronto, p. 81.

A case of bronchiectasis—F. G. N. Starr, Toronto, p. 87.

A case of epileptic melancholia; foreign bodies in the heart and lung—J. M. Forster, Kingston, p. 91.

THE MARITIME MEDICAL NEWS.

Our profession—Jas. Coleman, Granville Ferry, N.S., p. 42.

Whooping-cough—G. Carleton Jones, Halifax, N. S., p. 59.

MARCH, 1896.

THE CANADIAN PRACTITIONER.

Asthma—H. J. Saunders, Kingston, p. 161.

The surgical treatment of empyema—A. Primrose, Toronto, p. 167.

[CANADA MEDICAL RECORD.]

Resection of the cæcum—J. A. Springle, Montreal, p. 255.

Gold a specific in inebriety—O. C. Edwards, Ottawa, p. 257.

Obstetric nursing and the importance of asepsis—James Ferrigo, Montreal, p. 259.

THE MARITIME MEDICAL NEWS.

The therapeutics of the circulatory system—M. Chisholm, p. 75.

Cataract operations—E. A. Kirkpatrick, Halifax, p. 85.

LA CLINIQUE.

Du veratrum viride—A. L. de Martigny, Sr., Montreal, p. 318.

QUARTERLY JOURNAL OF MICROSCOPICAL SCIENCE—Vol. 38, Part II., New Series.

Distribution of assimilated iron compounds other than hæmoglobin and hematins in animal and vegetable cells—A. B. Macallum, Toronto, p. 175.

REPORTS, BOOKS, Etc.

Consumption, its nature, causes and prevention, with an outline of the principles of treatment, for all classes of readers. By Edward Playter, M.D. Toronto: William Briggs. 1895.

JOHNS HOPKINS HOSPITAL REPORTS—Vol. 5, 1895.

A study of some fatal cases of malaria—L. F. Barker, Toronto.

A Case of Epileptic Melancholia; Foreign Bodies Found in the Heart and Lung—J. M. Forster.

The patient, a woman aged 32, was admitted to the Rockwood Hospital, Kingston, in August, 1889, suffering from insanity due to epilepsy. She was the victim of the most desperate suicidal impulses, and on several occasions almost succeeded in destroying herself, in

spite of the closest watchfulness. In May, 1895, she was trephined and a portion of the convolution, corresponding to the local origin of the convulsions, removed. She made an excellent recovery from the operation and her distressing mental symptoms were greatly relieved. Soon after, however, she developed symptoms of phthisis, which ran a rapid course and terminated fatally in January, 1896.

The interest in the autopsy centred in the heart and left lung. On opening the heart a needle was found embedded in the wall of the left ventricle, close to the interventricular groove. It was one and five-eighths of an inch long and distributed thus: Five-eighths of an inch in the ventricular wall, three eighths in the auricular wall, and five-eighths free in the cavity of the left auricle. It was black in colour and its surface quite smooth. In the inferior lobe of the left lung there was also found a broken knitting needle, four and five-eighths inches long, the broken end being slightly bent and the other end pointed and sharp. The needle had entered the lung at the anterior border of the inferior lobe about two inches from the lower margin, passed downwards, backwards, and slightly outwards, and reached the outer surface of the lung at a point about four inches from its posterior border and two inches from the base. The needle was completely encysted, quite black, but not in any way corroded.

There was no doubt that these foreign bodies had been present for a long time. The patient had shown no symptom of distress from their presence, and she had passed a careful examination of the heart before she had been trephined and had stood that operation well.

Kenneth Cameron.

Distribution of Assimilated Iron Compounds other than Hæmoglobin and Hæmatins in Animal and Vegetable Cells---A. B. Macallum.

Professor Macallum has continued his most valuable and laborious studies upon iron compounds in cells (to which we have already called attention in these pages), and now publishes a further instalment of his results in a paper of close upon 100 pages.

This paper is most exhaustive; 30 pages are given to introductory remarks and a description and critique of the methods of study employed. Following upon this he takes up the distribution of assimilated iron in highly specialised animal and vegetable cells, both in the nucleus and the cell body; and then describes his observations on the occurrence of assimilated iron in special forms of life, more especially in the protozoa, fungi, bacteria and the allied cyanophycæ. We regret that in the space at our disposal it is not possible for us to

enter at all fully into the many interesting special points brought into prominence by Professor Macallum in his studies. The general results attained by him appear to indicate that a substance in which iron is firmly held is a constant constituent of the nucleus of all nucleated cells, animal and vegetable, and of the cell body of non-nucleated organisms and of organisms possessed of apparently rudimentary nuclei. This iron-containing substance, to which the name chromatin has been given, cannot be regarded as constant in its molecular structure; its most marked characteristic, apart from the iron in the composition, is the occurrence in it of nuclein or nucleinic acid.

The apparently universal occurrence of these iron compounds in living matter renders intelligible the fate of the iron salts absorbed by plants from the soil and seems to indicate the absolute necessity of iron, if even in only minute amounts, in the food of animals, for, in animals, iron is not, as has previously been held, solely of importance in connection with the hæmoglobin of the blood, but is a necessary constituent of each single cell of the body. That there is a relationship between hæmoglobin and chromatin has been pointed out by Macallum, who in one form (*Amblystoma*) has shown that the former is directly derived from the latter.

From these facts Macallum concludes that anæmia and chlorosis cannot now be referred merely to a diminished production of hæmoglobin, but must be referred to a deficient supply of the primary iron-containing compound, chromatin, in all the cells of the body, and it is suggested that the consequently lessened proliferation of cell and tissue due to this poverty in the essential chromatin brings about that hypoplasia of the vascular system to which Virchow has called attention in chlorotic human subjects.

Professor Macallum's observations upon iron compounds in bacteria and the cyanophyceæ are in accordance with the results obtained by other methods of study, and appear to confirm the belief that in these lower and minute forms of life, the nucleus as such has not become specialised, the chromatin being distributed throughout the cell body.

A Study of Some Fatal Cases of Malaria---L. F. Barker.

Vide Dr. C. F. Martin's retrospect upon malaria in this number.

Consumption, Its Nature, Causes and Prevention, with an Outline of the Principles of Treatment, for All Classes of Readers'---Edward Playter.

We congratulate Dr. Playter upon the remarkably interesting form which he has been able to give to his treatment of this subject of consumption. And although we disagree with him in not a few of

¹ Toronto: William Briggs. 1895.

his scientific conclusions, we cannot but think that the very points in which we fail to be in accord with him are actual sources of strength in a book which is primarily intended for the general reader; by which we mean that for the general reader, as distinguished from the reader already versed in a subject, it is oftentimes an advantage to be dogmatic and to write with an air of conviction, and a positive disadvantage to present the subject with both sides of a question fully stated and conclusions drawn with hesitancy. To give one example: Dr. Playter lays down well and positively that there are two essential agents in the development of tuberculosis, namely, the tubercle bacillus and the receptive organism or soil, and he would speak of these as equally important causative factors. Nothing could better impress upon the general reader the extreme importance of a healthy condition of the body as aiding to ward off tuberculosis than this pronouncement on the part of the author; at the same time we cannot but feel that it would be more correct to say that there is one essential factor, namely, the bacillus, and that all others are secondary, for we have example after example, in bacteriological study, of animals immune to small quantities of a virus, being unable to resist the exhibition of larger amounts; provided, that is to say, a micro-organism is sufficiently virulent and present in sufficient numbers, however healthy the cells of the body may be, infection must ensue.

Again, the author describes in the most lucid manner the great importance of proper respiration, and almost dogmatically leads the reader to understand that imperfect respiration and a lowered condition of the lung substance, either by improper performance of the act of breathing, or by the inspiration of bad air, is at the bottom of most cases of tuberculosis. He could not better inculcate that most valuable lesson that proper respiration of good air is the best preventive against possible pulmonary tubercular infection. To drive home this lesson he is led to lay down that improper respiration induces an excess of waste matter in the body. "The bacillus," says he, "is a natural organism; the defective breathing and excess of waste in the body constitute an unnatural condition which exists previous to, and seems to be the cause of, the virulent action of the bacillus; if so, this abnormal condition rather than the bacillus is the actual exciting cause of consumption, and in preventive action demands first consideration." To us it seems that, scientifically speaking, it is not possible to make so positive a statement; to mention but one objection, there is that curious fact that has been frequently noted, namely, that in cases of heart disease inducing pulmonary congestion and in which through obstruction to the circulation there must of necessity be that heaping

up of waste matters upon which Dr. Playter lays stress, instead of their being a frequent development of consumption it is relatively unusual to find tuberculosis of the lungs.

Still, as we say, we cannot but hold that these weaknesses, from a scientific standpoint, are a source of strength to a work intended to be read by the general public, and so clear and satisfactory is the general treatment of the subject, so sound the recommendations with regard to prevention and the broad outlines of treatment, that we cordially recommend our readers to place the book in the hands of intelligent laymen to whom they hold it would be beneficial to have a clear knowledge concerning the nature, causes and prevention of this sadly widespread disease. A.

Reviews and Notices of Books.

A Text-Book upon the Pathogenic Bacteria. By JOSEPH MCFARLAND, M.D., Lecturer on Bacteriology in the Medical Department of the University of Pennsylvania. With 113 illustrations. Philadelphia: W. B. Saunders. 1896.

Dr. McFarland has succeeded in writing an interesting and very fairly satisfactory text-book upon pathogenic bacteriology, and almost disarms criticism by the modesty of his acknowledgement in the preface that in writing this work the standard text-books have been drawn upon. There is no pretence, therefore, that the work has been written with personal authority; the author would appear solely to have attempted to put clearly before his readers the main results that have been gained by various workers. And in this he has succeeded. There are one or two obvious slips; for example on page 235, beneath an admirable reproduction of one of Fraenkel and Pfeiffer's photographs of the tetanus bacillus, showing perfectly the terminal spores, we note that it is stated that the bacilli are not sporiferous; presumably, not aërobic, is what ought to have been printed. So again the 9th line on p. 66 contains an evident transposition of words and idea. And some of the proper names throughout the volume are incorrectly given. In general, however, the arrangement and the printing are excellent. Certainly there has been no text-book yet published in any country in which the illustrations are so uniformly excellent.

The Journal of Experimental Medicine, edited by Professor WILLIAM H. WELCH, published by D. Appleton & Co., New York.

We would again call attention to this new journal, which, judging from the influential body of supporters, from the contents of the first number, and last and not least from the great reputation of the editor, is assured of being the leading organ upon this continent for the publication of original research in all branches of medicine. The first number is in every respect admirable, not only as regards the high quality of its contents, but also in appearance and illustrations. So earnest an endeavour to provide for America a journal of the highest class, which shall more than compare with the best in the Old World, deserves general support. Subscriptions (\$5.00 per annual volume) may be sent to the publishers, or to Mr. N. Murray, Johns Hopkins University, Baltimore.

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, March 6th, 1896.

A. D. BLACKADER, M.D., PRESIDENT, IN THE CHAIR.

Notes on the Treatment of Diphtheria by Antitoxin.

Dr. A. T. BAZIN read a paper under this title. (See page 741 of the April number.)

Discussion.

Dr. J. A. SPRINGLE said that in his experience there seemed to be no question that we had in antitoxin a specific remedy for diphtheria. In comparing the present treatment with that formerly in vogue, namely, by local applications and tonics administered internally, we now find in this new remedy a substance preventing a growth of diphtheria upon the body as a medium. The resistance offered by children and their terror the various local applications were used could not but help causing ill effects, especially in severe and advanced cases. Tracheotomy hitherto was a *dernier ressort*, and the speaker had been singularly unfortunate in his operations. The disease is now shortened to a few days instead of many, and the sequelæ, such as paralysis, nephritis, etc., are now rare. As regards obtaining a bacteriological confirmation in suspected cases, it is advisable to inject first and get the report afterwards, for it is very doubtful if any ill results follow the use of the serum, beyond those cutaneous affections already spoken of.

It is especially advisable to inject from the first and immunise those who may have come in contact with the disease. It is not rational to reserve this treatment for bad cases only, as has been done, for the full measure of success by its use is only to be obtained when the disease is ousted early and before its toxins have affected the system generally. Probably tracheotomy and intubation will become still more a temporary procedure; not only that, but it may be feasible in tracheal diphtheria to curette or remove the membrane so that time might be gained until the serum has acted.

Possibly a rubber tube introduced either through the mouth or trachea beyond the obstruction might gain necessary time. The speaker had used the serum of Roux and Schering and found that

the shedding of the membrane generally commenced in nine to fifteen hours, glandular enlargement subsiding rapidly. He was unable to express any opinion of the effect upon the temperature, beyond that it was variable. Erythema and urticaria were seen frequently, but abscess, nephritis and paralysis had not been found in any of his cases.

A flexible rubber attachment between the syringe and the needle lessened the danger of breaking the latter in children. The use of an antiseptic spray to the air passages should always be continued, peroxide of hydrogen giving him the best results. Hospitals, as a rule, received the worst or neglected cases, and consequently would show less favourable results. In cases in which scarlatina and diphtheria existed together it would be interesting to ascertain the effect of the antitoxin upon the former. He considered that the injection, when made into the subcutaneous tissues, caused less after discomfort than when introduced into the muscles.

Dr. D. F. GURD had used the antitoxin eleven times, always subcutaneously, making the injection in the back. Every case had recovered. The majority of the cases had been verified by bacteriological examination. No case had been followed by paresis. Two very young children with laryngeal stenosis were out of danger in twenty-four hours.

Dr. H. A. LAFLEUR drew attention to the fact that herpetic angina might cause difficulty in the diagnosis of diphtheria, inasmuch as the vesicles, after the scabs had fallen off, left small shallow ulcers covered with a greyish membrane. These vesicles, if close together, tended to coalesce and invaded the same parts as diphtheria, namely, the pillars of the fauces, uvula and tonsils.

He could not go as far as Dr. Birkett in believing all cases of membranous croup to be diphtheria, but thought that 5 to 10 per cent. were due, not to the Klebs-Löffler bacillus, but to a streptococcus. Membranous rhinitis was often present for weeks without producing constitutional symptoms in cases in which the Klebs-Löffler bacillus could be found, and which could transmit virulent diphtheria to other individuals. Antitoxin acted on the system by neutralising the poisonous secretions of the bacilli, as the latter were often present in the throat in a virulent condition long after the membrane had disappeared.

Dr. ROBERT WILSON asked Dr. Bazin what his experience had been with the antitoxin in cases of mixed infection, and if he ever made use of any local treatment.

Dr. F. J. SHEPHERD asked for what length of time the bacillus of diphtheria could be found in the throat after an attack. He had

seen a German authority quoted as saying that it might be for a year, and he would like to know whether the antitoxin shortened the period of the presence of the bacilli. He did not think that tracheotomy was always followed by such fatal results as stated by Dr. Springle. He had himself had a continuous series of five or six successful cases some years ago, when tracheotomy was more often performed than at present.

Dr. G. GORDON CAMPBELL, referring to the zone of hyperæmia described by Dr. Birkett as characteristic of diphtheritic membrane, related a case in which this appearance had been particularly remarked at the time, yet both the bacteriological examination and the subsequent history had proved it to be due to a staphylococcus and not the Klebs-Löffler bacillus. With regard to the site of injection he preferred the infra-clavicular region, as the soreness following injections made in the back sometimes prevented patients from resting comfortably in bed. Local treatment, except a simple antiseptic gargle, was unnecessary. The erythematous blush described he had not seen in ten cases in which he had used antitoxin, but from the description it was probably very similar to the slight erythema so often met with about the shoulders and neck at the commencement of ether anæsthesia.

Dr. D. J. EVANS referred to two cases of membranous rhinitis which had come under his notice. The first was a child aged six years, in whom he saw the membrane in the nose, but as there was no bleeding, the temperature normal and the pulse good, he reserved his diagnosis. Forty-eight hours later there was evidence of pharyngeal diphtheria, and the child died subsequently from it. In the other case, a child aged six, a culture was made from the nose, and a guinea pig inoculated from it died. Later a brother and sister developed distinct attacks of diphtheria.

Dr. F. R. ENGLAND had treated twelve or fourteen cases with wonderfully favourable results. The question of immunising was of great interest. He had recently injected 6 cc. of Roux's serum into four cases that had been exposed to the infection, three of whom, however, had developed diphtheria, which had a very brief course. He had on one occasion to perform intubation in a case of laryngeal obstruction, and at the same time injected the antitoxin. Complete relief followed the introduction of the tube, and in twelve hours the child was sitting up and playing in his bed. Suddenly the membrane separated, the tube became obstructed, and before assistance could be obtained the child had choked to death. He therefore strongly advised that the tube should have a string attached to it, and that the parent should be instructed how to remove it if necessary.

Dr. F. G. FINLEY drew attention to the fact that there was a form of membranous sore throat due to streptococcus infection and that epidemics were occasionally due to it. In the earlier investigations made by Delafield, he had not been able to find the Klebs-Loeffler bacillus, and had concluded that diphtheria was not caused by it. No doubt his work had all been done on cases of streptococcus disease.

Dr. Finley related a case in which a distinct membrane on the back of the pharynx had been shown to be due to diplococci.

Dr. H. D. HAMILTON referred to several peculiar cases of diphtheria which had come under his observation, one in which no Klebs-Loeffler bacillus had been found, while the membrane was present and the child in the hospital, but two or three days after coming out, although antitoxin had been used, the bacillus had been found. In another case, where there was only a superficial stomatitis, he found the Klebs-Loeffler bacillus present. In a third instance, several virulent cases of diphtheria in a house had been directly traced to a membranous rhinitis in a servant girl in the family. On investigation it was found that for two weeks previously the girl had been bleeding from the nose and coughing-up membrane without being ill enough to be confined to her bed. A child had died of so-called pneumonia (in spite of intubation) the day before the speaker had been called. On examining the surviving three children and the servant, two children presented typical nasal diphtheria and the servant nasal and pharyngeal (Klebs-Loeffler bacillus present) which had been overlooked for fully ten days. A prophylactic case remained well in this household. Antitoxin, with peroxide of hydrogen, had given great improvement in results, and he mentioned having used the antitoxin (Schering's) on 13 cases without observing a rash; one pharyngeal case had severe pains in the abdomen and extremities for twelve hours following a single injection; one a laryngeal case showed signs of collapse after a treble dose, but soon rallied. Of these 13 cases 7 were pharyngeal, 3 were laryngeal, 3 were nasal, and one of these was faucial as well. Two of the thirteen died; one being mixed with scarlet fever, passed on to gangrene of the neck; the other died from the intubation tube being coughed out and its not being possible to replace it in time. An injection of 3 ccm. in a seven month infant was successful as a prophylactic.

Dr. J. B. McCONNELL considered it most important that the treatment should be begun early before the parts had become infected with staphylococci and streptococci. He had had very good results from the local treatment before the antitoxin had been introduced, but he considered that to be successful, the application had to be con-

stantly and persistently made, at least every fifteen minutes during the first twenty-four hours. He could not agree with Dr. Lafleur that the antitoxin had no local action upon the bacilli; it not only counteracted the toxin, but inhibited the growth of the bacillus. He had recently had a case so mild that he did not think that it would be necessary to use the antitoxin, but, all the same, had administered it. Next day the child appeared perfectly well, but on the fifth day developed rapid heart-failure and died. He felt inclined to believe that this fatal result was largely due to the antitoxin.

Dr. J. R. SPIER thought that, in diagnosis, too much stress could not be laid upon the general appearance—the great prostration with paleness and puffiness of the face and neck, even when the glands were not involved, and the odour of the breath, were distinctive. The two most difficult problems in diagnosis, which he had seen, were from syphilitic membrane on the back of the throat and a case of thrush occurring on the tonsils and pharynx. With regard to treatment, he thought where there was no involvement of the larynx the old treatment was very successful, iron, strychnine and glycerine, and local applications of some cleansing solution, (50 per cent. of hydrogen peroxide in water). Antitoxin, Dr. Spier said, when it first came out had often cured the disease and killed the patient. It had given rise to a good many complications, and once or twice had been to blame for severe albuminuria. Since then, however, he had very good results from it.

Dr. W. F. HAMILTON had seen a case in Prof. Ganghofner's clinic in Prague in which a very typical scarlatiniform rash followed the use of the antitoxin. The similarity in this was very striking. The Professor pointed out that in such cases the whole surface of the body was usually involved, while early in scarlet fever the chin is generally free of rash, presenting a marked contrast to other portions of the face and body.

The PRESIDENT drew attention to a point in the treatment which had not been sufficiently emphasized, namely, the irritating properties of hydrogen peroxide in cases in which the tissues were weakened. In these cases the normal saline or weak perchloride solution had been found more successful. If local applications were used at all during the antitoxin treatment, they should be as bland as possible.

Dr. A. T. BAZIN, in reply, said that cultures had been made from the throat in every case of the hundred and four, and in nine the Klebs-Löffler bacillus was not found; of these two were croupy, and in one it seemed as if the bacteriological diagnosis were at fault, as the bacilli were found in two sisters of the patient who were suffering

from pharyngeal diphtheria. In the other croupy case, a tracheotomy, nothing but cocci were obtained. In another case, clinically typical diphtheria, the membrane gave pure cultures of streptococci.

In all cases, repeated cultures were made and the patient was not discharged till the bacilli were absent. As a rule the bacilli were present for a full week after the disappearance of the membrane. Some recent German statistics on the point state that in 50 per cent. they were present for one week, in 25 per cent. for two weeks, and in the other 25 per cent. for from three weeks to nine months.

With regard to the use of antitoxin in immunising, Dr. Bazin's experience had naturally been small. He had used it for this purpose three times, in all with good results. Two of these were adults, nurses in the diphtheria wards, the third being a child of four months whose mother was admitted with diphtheria. The child showed no constitutional disturbance, no temperature, but subsequent examination of the throat gave a culture of *B. diphtheriæ*, although no membrane was present.

With regard to local treatment, it was entirely rational as preventing septic poisoning, over which the antitoxin had no control. When there was glandular enlargement, as was invariably seen in severe nasal cases, cold compresses were employed as well.

Of scarlatina and diphtheria together Dr. Bazin had had two cases, both of them croupy. In one, thirteen months of age, the throat cleared and the labour of respiration disappeared, but the child died on the eleventh day. The other, seven years of age, died in two days after admission, having a temperature of 105°, which was unaffected by the antitoxin.

He considered constitutional treatment other than antitoxin unnecessary, except to relieve special symptoms. He gave no iron, no strychnine, as routine. If anæmia followed he gave iron, but while giving tinct. ferri perchlor. as a routine the frequency of albuminuria was greater.

Stated Meeting, March 20th, 1896.

A. D. BLACKADER, M.D., PRESIDENT, IN THE CHAIR.

Plasmodium Malariae.

Dr. F. G. FINLEY demonstrated specimens of the malaria plasmodium taken from a patient suffering from tertian ague, acquired six months previously in Massachusetts.

The plasmodium is now universally recognized as the etiological factor of the disease in Europe and America, although a number of

Indian medical men still denied its presence altogether, or regarded it as being of accidental occurrence.

All Western observers, however, agree in regarding the parasite as being constantly present in malaria and in no other disease. Unfortunately the organism has not yet been obtained in pure culture outside the human body, but inoculations of blood from malarial patients into man have produced the disease in a number of instances, the incubation period being usually eleven or twelve days.

In making observations on malarial blood, strict attention to technique is necessary. Cover glasses and slide must be carefully cleansed in alcohol and ether. A small drop of blood is taken from a finger which has been washed with alcohol, the cover glass brought in contact with it, and the cover laid on the slide so that the drop spreads out in an even and thin layer. The preparation, if successful, should show neither rouleaux nor crenated corpuscles. The plasmodium is picked out readily by the minute specks of pigment in the blood corpuscle, when examination with $\frac{1}{2}$ immersion lens shows the rapidly moving amœboid body within the corpuscle and the pigment at its periphery. Different forms, representing some of the phases of development and their relation to the stages of the paroxysm, were shown, and described.

Dr. J. G. ADAMI called attention to the rather curious fact that in the East, where malaria is so prevalent, instead of the tendency being to confirm the observations of Laveran and of the Italian and American observers, the opposite appeared to be the case, and there was showing itself a remarkable amount of scepticism on the part of some of the leading medical men in India, Hong Kong, &c. Probably in these regions the very frequency of malaria complicating other conditions was the main cause of the doubt that was beginning to find definite expression.

Dr. H. A. LAFLEUR did not think that any observations made in the East at all weakened the evidence that the plasmodium malarie was the cause of malaria. If there was one disease in which observation was conclusive, it was malaria. To claim that the parasite was present in patients suffering from diseases other than malaria, was begging the question. The consensus of opinion now was, that when the parasite was present, one was dealing with malarial infection no matter how atypical the symptoms might be. This was particularly the case in chronic forms with symptoms of anæmia and splenic enlargement, in which, by repeated examination, crescentic bodies could be demonstrated. The history of the discoveries made in malaria illustrated the point that a disease is often best studied where it is not very prevalent.

Dr. T. D. REED had had an opportunity, while in Baltimore recently, of seeing a brilliant diagnosis by Dr. Osler. Observation of a slide was made, happily, just at a time to find the peculiar appearance of the organism which precedes a chill. The patient had a chill just as predicted.

Primary Cancer of the Vagina.

Dr. F. A. L. LOCKHART exhibited the specimen and related the history of the case, which will be published later.

Gangrene of the Lung with Multiple Hepatic Abscesses.

Dr. J. G. ADAMI exhibited specimens from a case, a report of which will be published later.

Dr. C. F. MARTIN referred to the point that in abscesses of the liver caused by the amœba of dysentery, the products of purulent inflammation, were generally absent. One did not get pus cells, but necrotic material. In two cases of abscess of the liver, which he had recently examined, he had searched in vain for the amœba of dysentery. The contents, however, had also shown a similar necrotic material, and yet cultures had not shown the presence of bacteria. The question was thus raised whether, in an abscess of the liver, the leucocytes were especially apt to be broken down and nothing but detritus to be found. Possibly the structure and nature of the liver tissue would account for this tendency to the necrosing of cells.

Dr. H. A. LAFLEUR had seen a similar case in Baltimore, which had been looked upon clinically as one of pulmonary tuberculosis, although the examination of the sputum failed to show the bacilli. At the autopsy there were found patches of interstitial pneumonia with several necrotic areas, which were looked upon by Dr. Welch as due to pressure of the sclerosed tissue cutting off the circulation. He (Dr. Lafleur) once, while examining a horse, had met with a condition exactly similar to Dr. Adami's specimen, and had thought that it was tuberculosis until the veterinary clinician explained that that disease was very rare in the horse.

Thyroid Feeding in the Treatment of Insanity.

Dr. T. J. W. BURGESS read a paper on this subject. (See page 482.)

Dr. WESLEY MILLS was surprised that there had not been more applications of this remedy reported before the Society. He referred to a dog, shown by him three months before, from which he had removed one-half of the thyroid gland. After the animal had thoroughly recovered from the operation, he had removed the other half, when the dog had presented the same symptoms as after the first operation. He had, the day before, commenced feeding the dog (as

well as an intact dog, as a control experiment) with thyroid extract. Within two weeks he had commenced to emaciate, etc., but finally developed tetanic spasms and died in a fit, just two months after the operation, while the usual time was less than two weeks. The feeding with the extract was continuous and the dose varied from one to three (mostly two) of Armour's five grain tablets daily.

Dr. W. S. MORROW, referring to the marked effect of thyroid feeding in cases of Cretinism, related the following case: On February 27th he was called to see a baby five months old and found its tongue greatly swollen and almost filling its mouth. The large size of the tongue had been noticed immediately after birth. He put the case upon $\frac{1}{4}$ grain doses of Armour's desiccated thyroid, and in a few days there was marked improvement in the prominent symptoms, which had been dyspnoea and constipation. After three weeks treatment the tongue was now almost down to the normal size. Enquiry as to the occurrence of goitre within the family of either of the parents had led to negative results, and the only fact he thought likely to be of interest was that they were both natives of Glengarry where goitre was fairly common.

Dr. W. E. DEEKS referred to a case which he had reported a year previously of what he supposed to be ichthyosis simplex, and he had administered desiccated thyroids in five grain doses, and very soon the case was completely cured. Since then another marked case had been treated, but so far without benefit.

Dr. J. G. ADAMI referring to the tremor that had been observed in overfeeding with thyroid extract, pointed out that a similar tremor had been noted in the lower animals in the very opposite condition, namely, after removal of the thyroid gland; and asked Dr. Wesley Mills whether he had, in the animals experimented upon by him, been able to distinguish between the two tremors.

Stated Meeting, April 3rd, 1896.

A. D. BLACKADER, M.D., PRESIDENT, IN THE CHAIR.

Angioma of the Skull.

Dr. G. E. ARMSTRONG showed a patient on whom he had operated for this condition, a report of which will be published later.

Dr. JAMES BELL stated that the patient had been under his care in the Royal Victoria Hospital about Christmas time. The case had puzzled him very much, but he had arrived at a conclusion different to that of Dr. Armstrong. The question, to his mind, had been

whether the growth was an angioma or angio-sarcoma. He had been under the impression that the growth had commenced either inside the skull or between the tables. Had it been an angioma originating within the skull, it was strange that such a growth had not produced brain compression instead of growing outwards, nor could he explain how it had eroded the skull in irregular lines and set free floating islands of cranial bones. The man had stated that all his life he had been subject to epistaxis until the tumour appeared, when it had ceased. Following this line of reasoning he had come to the conclusion that it had originally been an angioma, but that the indications had pointed to sarcomatous development. He, therefore, had considered that it was an angio-sarcoma, commencing probably in the diploë. He had punctured the tumour, and had obtained fluid, which proved to be pure blood.

The only case which Dr. Bell knew of, which at all corresponded to this, was one described by Müller, and noted in Bland Sutton's work on pathology. The man died and the tumour proved to be a plexiform angioma, but it had commenced externally, although it appeared to have eroded the cranial bones.

In answer to Dr. Adami, Dr. Bell said he had seen several plexiform angiomata on the exterior of the skull.

Dr. J. G. ADAMI pointed out that small nævi were occasionally to be found in connection with the vault of the skull. During the last year, in performing autopsies at the Royal Victoria Hospital, he had come across two examples of the condition; in each case, upon baring the cranium, he had noticed small dark areas close to the longitudinal sinus, of roughly spherical shape, and in one case actually rising slightly above the general level of the bone. These were situated close to the longitudinal sinus, but upon examination were found to be, not as might be expected, pacchionian bodies, but were distinctly of nævoid character. Possibly Dr. Armstrong's case was a development of such nævoid conditions, starting in the diploë.

Dissecting Aneurism.

Dr. J. G. ADAMI showed a specimen of this case, a report of which will be published next month:

A Years Experience in the Bacteriological Diagnosis of Diphtheria.

Dr. WYATT JOHNSON read a paper on this subject, which will be published next month.

Dr. F. W. CAMPBELL thought that the profession in this city owed a great debt of gratitude to Dr. Johnston, for the way in which he

had carried on the work. The question of not waiting until the diagnosis was confirmed was very important. In his opinion, it was wise to use the antitoxin at once, in cases where there was the least suspicion of diphtheria.

Dr. J. G. ADAMI asked whether a note of the day of the disease on which the culture had been taken, in cases of mixed infection, had been made. This he thought would greatly influence the statistics, for there would be a great difference in the relative number of streptococci present. In these cases of streptococcus diphtheria, he thought that the patients should be isolated as well as in true diphtheria.

Dr. J. B. McCONNELL asked if the Klebs-Loeffler bacilli, which were found in the throat a number of days after the attack, were as virulent as those present when the diphtherial attack was in active progress, and if so, how could they remain in the throat without developing the disease. Ruffer considered that antitoxin had a bactericidal action on diphtheria bacilli, and Dr. McConnell thought there must be some such action as this which prevented growth and reinfection, in addition to its toxine destroying powers.

The PRESIDENT, referring to Dr. Johnston's suggestion of using an organic acid for the destruction of bacilli, said that Dr. F. Gordon Morrill, of Boston, at the last meeting of the American Pædiatric Society, reported good results from the use of strained lemon juice sprayed into the nose and throat six times a day. He said that cases in which the bacilli persisted, notwithstanding the use of hydrogen peroxide, yielded promptly to this treatment.

Dr. JOHNSTON, in reply, stated that the cases were primary and the cultures were the first taken in each case, but there was no uniformity about the date. In subsequent cultures he had found a steady decrease in the number of the bacilli and an increase of the micrococci. Bacilli from the throats of convalescents are often extremely virulent. Dr. Park, of New York, had obtained the most virulent bacilli he had ever met with, from a mild convalescent case. The antitoxin did not seem to affect the virulence of the bacilli.

Some Interesting Cerebral Conditions.

Dr. C. F. MARTIN showed two specimens of diseased brains.

I. Porencephalus. He said: the first specimen here shown represents a lesion not infrequently found in the brains of infants. There is a large cavity in the cortex of the right cerebral hemisphere immediately beneath the pia mater which completely closes off the cavity above. The specimen was removed from the skull of a female infant thirty days old, who had been admitted some months ago to the Foundling

Hospital, under the care of Dr. Kenneth Cameron. The birth had been an easy one and during the first ten days of her life the child had presented no evidence of disease. Then for the next five days diarrhœa supervened with slight elevation of temperature, up to a maximum $101\frac{1}{2}^{\circ}$; she seemed quite well for the ensuing week. On the twenty-second day the temperature suddenly rose and assumed an irregularly intermittent febrile character, ranging between 97° and 107° , while diarrhœa supervened from time to time. The cold bath treatment was adopted and the usual internal medication, but without avail, the child dying seven days after the onset of the fever.

No hemiplegia had been observed, nor was the condition accounted for apart from the intestinal symptoms present.

The autopsy revealed mainly two conditions, one a very moderate catarrhal colitis, the other, the cerebral cyst here shown.

The right hemisphere, as is seen, contains a large cavity situated immediately beneath the pia and measuring in greatest diameter $6\frac{1}{2}$ cm. It has not extended as far as the lateral ventricle, but involves the main portion of the motor area on the right side. It contained at the autopsy a very little fluid, and the overlying pia was partly collapsed into folds upon it. Its walls were of a pale greyish-white colour, with no sign of rusty pigmentation, and it was lined by very shreddy material, presenting fine irregular filaments throughout.

The skull itself was mesocephalic and rather thinner than normal.

The condition is of clinical interest, inasmuch as death had been preceded by some days of pyrexia and other evidence of constitutional disturbance, so that it would suggest that the cerebral condition was the exciting cause of the symptoms. Granting this to be true, it would give evidence of a most rapid destruction of cerebral substance, and it is, I believe, generally recognized that in infants the brain tissue may be lost in an astonishingly rapid manner, while in adults the process is much more slow. It would here, however, be impossible to state that the condition had only commenced since birth.

The etiology of the condition is obscure and it has been attributed to a variety of processes, such as various obstructive and destructive lesions in vessels, to arrested development, general encephalitis, etc., but it would seem that some of these different conditions may each alone induce the formation of a porencephalus.

It is a common cause of infantile hemiplegia, and Osler has gathered

together 24 cases out of records on 90 autopsies performed upon infants with paralysis.

II. Pyocephalus. The second specimen was that of a pyocephalus, i.e., the presence of pus in the greatly distended ventricles of the brain.

It is interesting chiefly because of the extent of the suppuration and the fact that no originating cause could be detected.

The brain was removed at the autopsy on a male infant, thirty-three days old. No special history accompanied the case, but the charts give evidence of very irregular pyrexia—averaging perhaps 101° —the maximum (105°) being attained three days before death. The stools were constantly loose and of a green or greenish-yellow colour and vomiting came on from time to time. It is further said that a kind of opisthotonos was present during the last three or four days of the infant's illness, while the lower extremities were especially noted to be stiff. At the autopsy, in addition to some redness of the gastro-intestinal tract, there was found no sign of disease in the abdominal or thoracic viscera. The brain, as seen in the specimen, was extremely soft, much enlarged in size, and on horizontal section, (according to the French method of examining the brain) the ventricles were found very much distended with pale greenish pus which had a sweet odour. The walls of the ventricles were ragged and showed considerable destruction of adjacent cerebral substance, though there was no evidence anywhere of communication with external structures.

An examination of the body elsewhere, the joints, the naso-pharynx, auditory canal, for caries, trauma, etc., failed to reveal any evidence of disease, while there was no sign in the lungs of gangrene, nor in other parts of the body of foci of suppuration.

The cause must remain here undiscovered, as it is in not a few similar cases.

Cover slip preparations of the pus revealed a diplococcus of no special characters, and cultures taken from the pus were unsatisfactory in view of the method by which the brain was opened.

Hydatidiform Mole.

Dr. C. F. MARTIN presented for Dr. A. E. Vipond a specimen of hydatidiform mole which had been obtained in the latter's practice. The patient had been in the fifth month of pregnancy, when serious and even alarming flooding supervened. Examination showed a dilated os upon which lay a soft friable mass, which bled easily. Pieces, which were easily removed, showed the condition to be a hydatidiform mole, and by firm pressure, it was nearly all removed.

Ergot and hot douches had arrested the hæmorrhage, while during the next twenty-four hours the remaining portion came away of itself and the patient made a good recovery.

Cancer of the Rectum.

Dr. WYATT JOHNSTON exhibited for Dr. Armstrong a specimen of cancer of the rectum of the adenoid type. The disease had involved the whole circumference of the gut for between two and three inches above the anus.

He also showed for Dr. Armstrong an adenoid cancer of the sigmoid flexure, which showed great constriction at the point of disease and great dilatation above.

Dr. G. E. ARMSTRONG read the history of the first case (reported by Dr. Kinghorn) as follows:

Wm. M., aged 58, was admitted on February 25, 1896, to the Montreal General Hospital complaining of passing blood *per rectum*. The trouble was first noticed ten months previous to admission, and up to that time he had had no trouble of any kind about the anus.

The onset was gradual and the first symptom noticed was irregularity of the bowels. Previous to this time the bowels had been very regular, but it gradually came about that they moved only every third day. The stools were fairly formed, but rather contracted and of a pale colour. Some months later he noticed the bed-clothes soiled in the morning with a blood-coloured fluid, having a peculiar, rather sweetish, offensive odour. This fluid came to be passed both day and night and increased in amount. Pain was first noticed about four months after the onset of symptoms and was felt at the bottom of the spine and at the anus.

Five months after onset he had great frequency of micturition during the night, but had to wait sometimes fifteen minutes before the stream would come away. This condition lasted until six weeks previous to admission.

About six months after the onset he had an attack of diarrhœa, which lasted one week, but otherwise the bowels gradually became more constipated, and finally would not move without a purgative.

While the above symptoms were developing he lost about ten pounds in weight, and though his appetite continued good he became pale and lost strength.

He was born in England and when younger was ten years in the British Army, in an infantry regiment. Of late he has worked at dry goods packing. His occupations have always kept him on his

feet. His health has always been good and there is no history of disease either in childhood or adult life. He has always been a heavy smoker and up to the present year has used alcohol very freely. Other than a bubo thirty years ago he has had no venereal diseases. There was no history of hæmorrhoids or other trouble about the rectum.

The family history as regards malignant disease was quite negative.

On admission his appearance was that of a well-nourished man of 58 years. The face had a pale and rather cachectic look. When in bed he had to lie on either side, not in the dorsal position, as this position caused him pain in the rectum and over the coccyx.

Examination showed a few external hæmorrhoidal tags. The entrance of the finger into the rectum caused a rather profuse hæmorrhage, accompanied with a blood-tinged serous liquid. There were felt masses of tissue which were soft, friable and bled readily and entirely surrounded the lumen of the bowel, and at the site of the prostate the lumen of the bowel was almost occluded. The finger could just reach above the growth.

The respiratory, vascular, digestive and urinary systems were normal.

On March 5th he was given ether and an inguinal colotomy performed after Maydl's method. The rectum was daily irrigated with boracic acid solution and the bowel opened by a cautery on the third day. Three weeks later the bowel was divided completely across with the thermo-cautery.

Pathological Report by Dr. Wyatt Johnston.—The bowel presents very large ragged ulcerations with raised edges and infiltrated base involving the entire circumference of the gut for the extent of about three inches. Microscopic examination shows the growth to be adenoid carcinoma, with secondary involvement of glands, some of which are situated on the limits of the incision.

Dr. Armstrong added that he had removed the growth by Heinecke's method.—The patient was first placed in the lithotomy position and a curved incision made in front of the anus, and while an assistant held a sound in the urethra the rectum was carefully separated from the urethra, prostate, and vesiculæ seminales. The patient then being turned on his side, the soft parts and sacrum and coccyx were divided longitudinally up to the lower border of the third sacral foramen. The sacrum was then chiselled across and the osteo-plastic flaps turned out. The rectum was then brought well down, the peritoneal cavity deliberately opened, and the bowel and meso-rectum divided.

well above the limits of the disease, the peritoneal cavity being closed by suturing the peritoneum to the anterior wall of the rectum. The osteo-plastic flaps were then replaced and the end of the bowel brought out for drainage. This method gives good access, permits the perfect control of hæmorrhage, and interferes very little with blood or nerve supply. The patient is making a very satisfactory recovery.

Aortic Aneurism.

Dr. A. E. ORR exhibited the specimen and read a report of the case, which will be published later.

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THE NEW PHOTOGRAPHY.

Two months ago we published some of the early results which were obtained in this connection at McGill University. We believe that the case then published was the first in which Dr. Roentgen's discovery was put to any practical use. It was also one of the first cases in which the new process was introduced into a court of law as evidence, the man who fired the revolver in this case being condemned to fourteen years in the penitentiary.

Since then experiments have been carried on systematically in the William C. McDonald Physics Building, with a view of perfecting the apparatus and settling many of the vexed questions regarding the source and quality of the actinic rays. Some results have been obtained and the experimenters hope soon to be in a position to publish these. One fact has been pretty well established, which is, that without a powerful automatic air pump it is impossible to keep the tubes at a sufficiently high vacuum, therefore only those who have a well appointed laboratory can hope to obtain any uniformly good results.

To show to what perfection the apparatus has been brought, we print a photograph of a case in which a needle had been accidentally run into the palm of the hand of a girl. This happened on August 15th last, and the needle was searched for at the time through a crucial incision, but not found.

The photograph was taken on April 1st by Professor Cox, and three days later Dr. J. J. Ross removed the fragment, finding it lying on the palmar surface of the metacarpal bone between the tendons of the flexor muscles, in close proximity to the deep palmar arch.

It will be noticed that in the photograph the needle appears to be superficial to the bone, while in reality it lay beneath it. This is

caused by the greater opacity of the steel, the rays having penetrated the bone but not the foreign body.

AMERICAN PÆDIATRIC SOCIETY.

This Society will hold its annual meeting this year in Montreal on the 25th, 26th and 27th May, under the presidency of Dr. O'Dwyer, of New York. Its list of members includes Drs. Jacobi, Lewis Smith, Rotch, Holt, Northrup, Booker, Koplik, Caillé, Osler, Vaughan and Forchheimer. Many interesting papers have been promised, among others will be a report on the antitoxin treatment of diphtheria. The meetings will be open to the profession. The preliminary programme is promised very shortly.

THE BRITISH AND OTHER MEDICAL ASSOCIATIONS.

At a meeting of the Montreal branch of the British Medical Association, held upon April 15th, it was unanimously resolved to invite the parent association to meet in Montreal in 1897. It is not necessary to dilate here upon the warmth of the welcome that the British Medical Association will receive if it accepts this invitation, or upon the advantages afforded by Montreal for holding such a meeting. It is, we think, within our power to make this one of the greatest medical conventions of the decade. If Russia be unwilling to extend her hospitality to English-speaking members of our profession, Canada is not. Montreal and Moscow are both distant from the old country, but travel now-a-days is easy. It is better and healthier that the old country practitioner should seek to know the resources and resorts of his own rather than of a foreign empire. Nor is the benefit one-sided. Coming into intimate contact with all sorts and conditions of men, medical practitioners, visiting Canada, can on their return diffuse widely a knowledge of what they have seen, and can more surely help to make us and our country known and appreciated than can any other class of men.

We hope in our next issue to publish the preliminary programme of the meeting of the Canadian Medical Association, which will be held in Montreal upon the 26th, 27th and 28th of August of this year. Those desirous of contributing papers are requested to communicate at an early date with the General Secretary, Dr. F. N. G. Starr, 471 College street, Toronto.

The next meeting of the Ontario Medical Association will be held in Windsor on June 3rd and 4th. Dr. W. B. Geikie, of Toronto, will

open the discussion in medicine, Dr. Burt, of Paris, that in surgery, Dr. H. T. Machell, of Toronto, in obstetrics. Several medical men from over the border have promised to attend.

At the meeting of the American Association of Physicians, in Washington, beginning on April 29th, Dr. H. A. Lafleur contributed a paper upon "Syphilitic Nephritis."

The American Medical Association held its annual meeting this year at Atlanta, Georgia, on the 6th inst., the American Academy of Medicine meeting in the same city upon the 2nd. Dr. Osler delivered the Address in Medicine before the former body. The leading feature of this year's meeting was the celebration of the centenary of Dr. Edward Jenner's discovery of the value of vaccination, the address opening the celebration being delivered by Dr. N. S. Davis, of Chicago, Surgeon-General Sternberg contributing a paper upon "Scientific researches relating to the specific infectious agent of smallpox and the production of artificial immunity in the disease." We notice that in the section on State Medicine Dr. W. Bayard, of St. Johns, N. B., read a paper upon "Alcoholism and its relation to Public Health."

The American Orthopædic Association will hold its meeting this year at Buffalo, from the 19th to the 21st inst., under the presidency of Dr. Royal Whitman, of New York. The only Canadian name upon the preliminary programme is that of Dr. B. E. McKenzie, of Toronto, who will read a paper upon "Congenital defects of the long bones with report of cases and operations."

INTERNATIONAL MONUMENTS TO PASTEUR AND MAYER.

We have received a letter (of which the following is an abridged translation) from Dr. J. M. Beausoleil who, we gather, is working at the Institut Pasteur in Paris, and who has been nominated General Secretary for the Province of Quebec of the international subscription for the Pasteur monument in Paris:

"RUE DUTOT 25, PARIS.

"The town in which Pasteur was born, that in which he passed his youth and other towns, centres of districts which have gained benefit from his discoveries, are erecting busts or statues in his honour, so as to perpetuate within their walls the memory of a great and noble son or to acknowledge the services rendered by him to local industries.

Over and above these well-deserved acts of homage it is fitting that there should be a monument in Paris, erected by international subscription, and serving to call to the minds of all, Frenchmen and foreigners alike, the services which Pasteur rendered to humanity. His memory is such that all can celebrate it with common accord, for to him we owe means of victory against the common enemies—Disease and Death.

“This sentiment it is that led to the formation of a committee which met at the Institut Pasteur and unanimously determined to erect a monument of Pasteur in one of the public squares of Paris. This central committee suggested the formation of subsidiary committees, both in France and abroad, for the purpose of collecting subscriptions to this end.

“In the name of the central committee we beg you to contribute to the successful outcome of our endeavour to the extent you believe yourself capable.

“We believe that it is useless to insist further upon this matter of affording homage to a great Frenchman, and we beg you to accept the assurance,” etc.

This letter carries such well-known names as those of Bertrand, Permanent Secretary of the Académie des Sciences; Proff. Grancher and Brouardel; Duclaux and Roux, of the Institut Pasteur; Count Delaborde and Baron A. de Rothschild. There is, we think, no need to add any words of recommendation in favour of this proposal. What Pasteur accomplished for science and for humanity is known to all, and there will surely be many here in Canada who only require to know of this proposed monument to aid the project. Subscriptions in Canadian notes or postal orders should be forwarded to Monsieur le Trésorier de la Subscription, Institut Pasteur, 25 rue Dutot, Paris, and marked “Section Canadienne.”

A similar memorial is proposed in honour of the great Danish physician, the recently deceased Prof. Wilhelm Mayer, to whom we owe the recognition of adenoid hypertrophy of the roof of the pharynx. He it was who first recognized the prevalence of this condition, the serious troubles to which it gives rise, and devised the means for its prompt and easy cure. Compared with Pasteur and his work, Mayer's work may seem relatively small, but its outcome is perhaps more easily recognised in individual cases, and undoubtedly there are hundreds of thousands throughout the world who have reason to thank him.

It is now proposed to erect a monument to his memory in his native

city, Copenhagen, and committees have been formed in all the principal countries of Europe to this end. Canadian contributors are begged to forward their subscriptions to Dr. H. S. Birkett, 123 Stanley street, Montreal.

MONTREAL GENERAL HOSPITAL LIBRARY.

A library has been established at the Montreal General Hospital for the use of the resident staff, and already a number of volumes have been donated. The Committee of Management desire to thank the following members of the attending staff and others for the gift of books to the library of the resident medical staff: Drs. D. C. McCullum, T. G. Roddick, F. J. Shepherd, Wm. Osler, Geo. Wilkins, A. D. Blackader, G. E. Armstrong, F. A. L. Lockhart, J. M. Elder, F. G. Finley, J. A. Hutchison, R. C. Kirkpatrick, T. J. Alloway, H. S. Birkett, H. D. Hamilton, Alex. Proudfoot.

The following is the list of books given :

Annual of the Universal Medical Sciences, 1894; Foreign Bodies in Surgery (Poulet) two volumes; Diagnosis and Treatment of Ear Disease (Burk); Science and Art of Surgery (Erichsen), two volumes, 1895; American Text-Book of Surgery, 1895; Minor Surgery and Bandaging (Wharton); Diseases of the Skin (Crocker); Duplicates from Library Medical Faculty; Practice of Medicine (Osler), 1895; Diseases of the Nervous System (Hammond); Clinical Diagnosis (Von Jaksch); System of Medicine (Reynolds); Practical Therapeutics (Hare); Webster's Unabridged Dictionary; Clinical Atlas of Venereal and Skin Diseases (Taylor); Diseases of Women (Thomas and Mundé); International Clinics, 12 volumes; Physical Diagnosis (Mussen); Treatise on Continued Fevers (Murchison); Treatment of Wounds and Fractures (Sangée); Encyclopedia of Obstetrics: Diseases of the Stomach (Ewald), 1895; Practical Dietetics (Thompson); System of Gynecology (Mauer); Minor Surgical Gynecology (Mundé); Diseases of the Nose and Throat, two volumes (Bosworth); Diseases of the Ear, Nose and Throat, two volumes: Diseases of the Eye (Burnett).

At the last moment before going to press we learn that our *compère*, Dr. T. G. Roddick, has consented to become a candidate in the Conservative interests for the St. Antoine division of Montreal at the forthcoming elections for the Dominion Parliament. With Sir W. Hingston in the Senate and Dr. Roddick in the lower house the medical profession in Montreal would be efficiently represented in Dominion politics.

The following appointments to the resident staff of the Royal Victoria Hospital have recently been made: House Physicians, Drs. Robins and Argue; House Surgeons, Drs. Carron and Archibald. Drs. Robertson, Nicholls, Fry and McCarthy, who have retired, leave shortly for a prolonged course of study at German and Austrian universities.

Drs. Hogle, Fisk, Mitchell, Patrick, McDonald, Leslie and Macartney have been appointed to the resident staff at the Montreal General Hospital. Drs. Byers and Kerry, whose term of office has expired, have already sailed to Europe. Dr. Kinghorn is undertaking the duties of Medical Superintendent during the illness of Dr. Ridley Mackenzie.

We have received from the publishers the first number of yet another American monthly medical journal, *The Clinical Recorder*. The opening words are, "Were we to attempt to explain why we appear we would apologise for our existence. This we do not propose to do." Judged by this first number the journal has no *raison d'être*. We would suggest that an apology would be welcomed, in fact is urgently demanded.

NEW BOOKS, ETC., RECEIVED AND NOTED.

Voice Building and Tone Placing. By R. Holbrook Curtis, Ph.B., M.D. New York: D. Appleton & Co. 1896.

The International Medical Annual. New York; E. B. Treat. 1895.

Diseases of the Rectum, Anus and Contiguous Parts. By S. G. Gant, M.D. Philadelphia: The F. A. Davis Company. 1896.

The National Formulary. Lea Brothers & Co., Philadelphia and New York. 1896.

La Bicyclette. Dr. Just Lucas-Championnière. Extrait de la Revue Mensuelle du Touring Club de France.

Ueber das Leben und Werken von Henri Dunant. Bern, Berner Tagblatt.

La Hernie Ombilicale. Extrait du Journal de Médecine et de Chirurgie Pratiques, 25 Août, 1895.

Etude Clinique sur 64 cas de Trépanation du crâne, par le Dr. Just Lucas-Championnière. Extrait du Journal de Médecine et de Chirurgie Pratiques, 25 Mai, 1894.

Public Health Laboratory Work. By Henry R. Kenwood, M.B. London: H. K. Lewis. 1896.

Current from the Main. By W. S. Hedley, M.D. H. K. Lewis. 1896.

Obituary.

PAUL BERTHIAUME.

Dr Paul Berthiaume, who became house surgeon at Notre Dame Hospital on 1st of April last, succumbed to pneumonia on May 1st, death taking place under circumstances that have evoked much sympathy on the part of his friends. His life was sacrificed in devotion to duty. The case of one of the patients in the hospital was of a very critical nature and demanded unremitting attention. Dr. Berthiaume watched by the sick bed night after night, with the result that he contracted the acute attack of pneumonia which ended fatally. He was the third house surgeon, and by his demise a promising young life has been cut off, for he was only 21 years of age. He was a graduate of Laval, obtaining a diploma at the close of the last session.