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THE ILL-HEALTH OF FRIEDERICH NIETZSCHE.

BY

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"Es geht uns in diesen Dingen wie es uns im ganzen Leben geht: wir bringen es schon zur Erkennung eines Uebelstandes aber ist auch damit kein Finger gerührt ihn zu beseitigen." (Letter of Nietzsche, 1867, aged 23.)

"In my eyes I have a dynamometer of my entire condition." (Letter, 1888, aged 44, and just prior to his collapse.)

The amusingly unsuccessful attempts of Professor Möbius¹ to read his own preconceptions into the life, character and illness of Nietzsche, have no better illustration than that pertaining to ancestry and heredity. If "science" is capable of such unscience then may the sponge be drawn over the slate, and the whole supplanted with the single sentence of Nietzsche's sister that there was in Nietzsche's case a sound and healthy ancestry. Many pages have been written concerning Nietzsche's father, and the cause of his death, and Möbius has made it sure to his own satisfaction—certainly not to that of his readers—that there was glioma of the brain. The simple fact is that having previously been in every way normal in mind and body, a dog one day caused him to stumble and plunge down a stairway, severely injuring his face and head. Cerebral symptoms at once followed and he died eleven months after with symptoms of brain trouble and meningeal irritation. Young Nietzsche was then three years old. He was born in 1844.

There was strong complaint and criticism in later years of the wretched darkness of the rooms at home and at school in which the boy was compelled to study, and at the miserable oil lamp by which the family read, wrote, or worked, in the evenings.

In 1861 he had been a model boy at school but suddenly changed and became a somewhat careless scholar, the reason for which his sister could not explain; he was enthusiastic in roaming the woods, and in chopping wood. He complained very much about the conditions of his school-life, throwing

¹ Ueber das Pathologische bei Nietzsche, von Paul Julius Möbius, Wiesbaden, Bergmann, 1902.

himself with great passion into other interests which lay beyond his studies. (Biography.)

From January to autumn, 1862, he appeared sound and healthy but suffered greatly during these months from c.c.s, hoarseness and frequently recurring pains in the eyes and head preventing study, etc. (Aged 18.)

He was excused from school in order to get relief from severe headache and pain in the eyes; by means of walks and baths he recovered "soon and completely." (18.)

He was always backward in and disliked mathematical studies. (19.)

After a number of instances of breaking school rules, he seemed to have gathered himself together and made himself a model scholar, well liked by his companions. (20.)

"He writes and reads daily from the rising hour until 8.30 evenings without intermission except to eat." (Letter, aged 20.)

He was the picture of health and strength, broad-shouldered, brown with heavy dark hair, etc. (21.)

"Health from day to day pitiable. What will be the end?" (Letter, 22.)

"Since the last vacation I have suffered severely with rheumatism in my left arm." (Biography, 21.)

"I have been very ill during the last weeks, have been confined much to bed, even during the most beautiful days. My complaint is a violent rheumatism which crept from my arms into my neck, from there into my back, thence to my teeth and at present daily causes me the most intense headache. This continuous suffering has very much exhausted me. On certain days when I was better I went to Ems with most gratifying results from the quiet life there and the freshness and exhilaration of nature." (Biography, 21.)

During his vacation the rheumatism again "crept" back from the head to his arms and spoiled the first weeks. (Biography, 21.)

"Bodily suffering persisted; for 14 days I was forced to go to bed at two o'clock in the morning to rise at six. A nervous excitability seized me and who knows to what extreme of folly I might not have gone had not the pleasers of life, vanity, and the compulsion of regular study prevented."

Suddenly in February word came home that he had twice fainted away during the drill, and it was found that two days previously he had severely injured his breast bone against the pommel of his saddle in attempting to mount a fiery horse. In spite of great and increasing pain in his left side, he continued his drill, etc. Fever, confinement to bed, and severe pus-formation followed, and after a long convalescence he recovered his health with the exception that the wound remained open and the pus continued to flow. (24.)

The abscess continued to discharge and in June an operation was considered necessary. He was sent to Halle and placed under the care of Volkmann, who succeeded in closing the wound and healing the abscess without an operation. The injury never troubled him any more. (24.)

He was appointed professor at Basel in classical philology in 1868.

In attempting to be of service to his native land he went to Erlangen to care for the sick and wounded. He contracted diphtheria from a patient; to this his sister traces much of his later bad health. (26.)

"My health is so bad that my physicians are sending me south. Inflammation of stomach and intestines. Horrible insomnia!" (Letter, 26.)

He was exceptionally moderate in all things, quiet in his manner and bearing—prone to gaiety—in all things the opposite of a nervous or excitable person. In 1888 he wrote. "My blood runs quietly;" a physician who treated me for a long time as one nervously ill, finally said, "No, it is not your nerves that trouble you—it is I myself that am nervous. . . . Before he lost his health and even afterwards my brother was a great friend of hygiene and natural cure; cold rubs and baths, walks, house gymnastics, were zealously carried out, and even the problems of nutrition occupied his attention while his digestion was still good. He even tried vegetarianism for a while. . . . He was incited to this by the example and the enthusiastic advice of Wagner." He finally thought that nature revenged herself upon Wagner in this respect,

and speaks also of the sacrifice of another friend to such an experiment. (Biography, 26.)

"... A long intermission of idleness and some natural methods of cure were necessary to restore him. He would not be sick, he had no time for that! His creative mind scorned every inactive hour. He would be well quick and thought to bring this about by drugs. One who like myself has seen such a normal and splendid nature gradually ruined as was his, will understand my passionate wish that the whole science of medicine were finally unlearned. Individual physicians have already done this. With bitterness I think how little the extraordinary and entirely varied influence of place, nutrition, and climate upon different persons is recognized and taught; for instance I hold that the climate of Basel is entirely inappropriate to all those disposed to migraine. Life and experience have taught me this, too late to help the one whom I have most loved." (Biography, 26.)

"Drugs destroyed my brother's good stomach; after his recovery, so far as external appearances went, from a great shattering of his health, there was a severe occurrence every two or three weeks of his migraine. He now sought to overcome it by every kind of treatment, but this made it only the worse. To this was added severe ocular troubles attended at times with great pains in the eyes. Stomach difficulties, headaches, eye troubles, sleeplessness, such were his afflictions. Finally he lost all faith in physicians, but not, alas, in drugs." (Do.)

His frequent illness made him more and more a subject of treatment and commiseration... He endeavored during the intermissions of his sufferings, and with his reduced power of work to bring the entire limitless circle of all his knowledge to word and system. (Do.)

"If only my eyes would hold out." (Letter, 26.)

In January, 1871, "His health continued to grow visibly worse. He became jaundiced, enteritis set in, and he was bitterly tormented by sleeplessness. Leave of absence was obtained from the university for an extended vacation in Italy. With out-of-door life he immediately recovered health and spirits and his playfulness was so noticeable that it was said of him that he must be 14 instead of 26 years of age." (Biography, 26.)

He returned to Basel April 10, 1871.

"Headaches," "uncertain nights, with terrible dreams," "headaches," are noted. "A horrible earnestness seized me in everything I attempt to do." (27.)

Extremely, extremely depressed... He suffered greatly with his eyes during the summer, and a friend attended to much of his correspondence for him... During the entire year his health was bad: it began with a severe cold and a week-long condition of grippe. In the summer his eyes plagued him, and in the autumn his stomach caused much uneasiness. Up to the end of the year his health was very miserable, but the two weeks of holiday season spent at Naumburg were of great benefit. He was much improved by his visit, especially as regards his nerves. (27.)

"In this way I will not spoil my stomach, my eyes and my vacation." (Letter, 28.)

"I was ill, lay abed—here at home—the old litany." (Letter, 29.)

"An extended grippal condition with inexhaustible colds." (Letter, 29.)

The spring of 1874 found Nietzsche in better condition than usual. (30.)

It seems to me at the age of 30, as if I had lived 60 years. Physicians and medicines have been banished since new-year's and still my stomach remains weak... I am not yet entirely recovered from my *Kindbettfieber*." (30.)

"... geistig! (alas not bodily)." (30.)

"Recent reports of disturbing bodily sufferings." (Bulow to Nietzsche, (1874.)

"From time to time we are revenged for the dominating concealment and compelled withdrawing; we come out of our holes with frightful countenances;

¹ Frau Förster-Nietzsche's homeopathic prejudices and education are frequently visible in the biography. Doctors she does not like.

our words and deeds are then explosions, and it is possible that we perish of ourselves, so dangerously do I live." (30.)

"Misery with stomach and eyes."

"Stomach, digestion, color, all healthy! And with this so, in strenuous condition of productivity." (Letter, 30.)

"I lay in bed the next day with a 30-hour headache and much vomiting of gall; this was the beginning of a very bad time of sickness. Even a trip to the mountains and forest did not help me much at this time." (Nietzsche.) In the spring of 1875 I found him very miserable. (Biography, 31.)

The slight improvement in the condition of my brother did not continue. He suffered especially from his stomach which was in a truly pitiable condition; he used during the spring an incredible amount of medicines. (Do.)

He went to Steinabad in the Black Forest to consult Dr. Weil, a famous specialist in diseases of the stomach. He writes: "My disease is recognized as chronic catarrh of the stomach with decided dilation. This enlargement of the organ moreover is accompanied by blood-stasis whereby the nutrition of the head by blood is prevented. In the first place the stomach must be reduced to its normal limits; a remarkable diet is prescribed, limited almost entirely to meat. Carlsbad Sprudel salts is ordered and also leeches to the head. I have been feeling badly up to now; yesterday I went to bed with headache and to-day am weak and tired. The abnormal acidity of the stomach, it seems, depends upon the brain and nerves, indirectly however from its enlargement in so far as concerns the lack of blood circulation. The dilation is very decided, and moreover very interesting, because it is in an unusual direction, towards the right. The question remains, what is the cause of this dilation? Usually it is due to a narrowing of the pylorus, from tumor. Now you know exactly how the matter stands. The boundaries of the stomach have been marked with points and it is hoped to drive it back to its normal position."

Later he writes: "The diet has been very much changed; at my request I eat very much less. I grew tired of meat. I take a bath at six o'clock in the morning and then walk for two hours before breakfast.... Wandered about three hours in the afternoon nursing my hopes for the future, getting a glimpse of the happiness which I had known for a long time." Still later again he writes: "I have had a long talk with Dr. Weil; yesterday I lay in bed again with violent headache and yesterday afternoon and night was tormented with great vomiting. The dilation of the stomach has been conquered with very happy results during the two weeks of the cure.¹ The stomach was retracted to its normal limits, but the nervous condition of the stomach is a tiresome matter. According to the demands of the cure you must be very strict and lose no patience. During the fresh cool weather I had some very good days, and wandered about through the mountains and forests, always alone, with great pleasure and joy."

"....For my pleasure and instruction, Dr. Weil will cook with me. He is a famous artist in cookery and an author of a much used, much translated, dietetic cook book. He yesterday delivered a lecture to me upon enamelled cooking utensils, and a new meat-chopping machine, and in this way I learn much for my own housekeeping."

He returned in the fall in excellent health and full of cheerfulness. Even when in bad health he was never in bad humor. He reserved the morning for his original work and considered it criminal even to read in the forenoon. He was taking long walks at this time and had his sister with him. (31.)

By the end of November his health had grown decidedly worse, but how much work he was doing! Feeling himself so well it seemed he could not give himself sufficiently severe tasks in working and study. Besides historic, mathematic, physical, scientific and economic studies, he planned a collection of empirical materials of human knowledge. (1875.)

Not feeling himself so well his sister read to him during the evenings. The fortunate domestic relations which he had then established, proved in reality bad for him. Finding himself so comfortably situated at home he

¹ A very accommodating stomach!

went out less, and was less inclined to take pleasure trips, and plunged with redoubled energy into study. Before either his physician or himself had recognized it, I saw that the stomach was not the sole cause of his troubles, but that his intellectual exertions were equally to be blamed, and that the only way of saving him was by frequent change of climate and surroundings. But the worst of it all was that as soon as he felt himself worse he began treating himself with the old drugs. Shortly after Christmas his health broke down altogether, he suffered with frightful headaches and painful vomiting of mucus, for almost four days continuously; after a short omission the same thing again occurred. It was plain that he must leave Basel. (31.)

"It has not been well with me: very frequent sufferings of stomach, head, and eyes." (Do.)

"A bad time behind me and perhaps a worse to come. The stomach could not be conquered even with most ridiculously severe dieting; several days of the most violent headache, returning every few days, hour long vomiting although nothing had been eaten; the machine seemed bound to go to pieces, and I will not deny that I often wished it would. Great exhaustion followed, walking in the street was painful and there was a great sensitiveness to light. Immerman treated for something like a gastric ulcer, and I expected bloody vomiting. For fourteen days I took solutions of lunar caustic,—nothing availed. I am now taking enormous doses of quinin.... I have continued my lectures and readings, interrupted only on the worst days when I was confined to bed.... I have planned a new sketch of my lectures for the next seven years. (Do.)

"For several months in an accursed crisis of stomach troubles which begin to shatter the very foundations of my existence. With difficulty I live from one day to another. Every week or two the physicians try something new. What headaches!... the burden of my special work, of itself enough, becomes doubly oppressive.... As things are I really can write no letters.... My literary work had of course to be given up, I am not able to write a line. (Do.)

"Who can say so definitely that my disease is migraine? Immerman has no such certainty, and himself says that he is only experimenting with the nerves since previous remedies were resultless. If this does not help, something new must be tried. Acidity oppresses me and everything except the tenderest meat, becomes acid: I am therefore convinced that the nerve hypothesis is wrong. Besides, headache in migraine is one-sided, but mine as you know is not so. The torment in and over both eyes is great. God! help Immermann, then will he help me. In the meantime—*dubito*. (Do.)

"At Steinabad near Bonndorf, with triple modified diet and an experienced old physician.... With the greatest foresight and care, as a whole I am better. The quinin-cure continues. (Do.)

"For weeks in the power of a desperate disease of the stomach and head." (Do.)

"Two severe attacks, sending me to bed. The treatment at the institution was not sufficiently active and specific, as the doctors say. (Do.)

"That I must renounce all writing work for a longer time [than seven years] becomes ever more clear to me." (Do.)

"Like Immermann, Dr. Weil thinks I have a nervous affection of the stomach, which is always a chronic affair." (Do.)

"It is not death that could most frighten me, but only a sickly life, in which one loses the *causa vita*." (Do.)

"Relapses of my gastric disease." (Do.)

"The conviction of the worthlessness of life and the folly of all aims oppresses me so heavily, especially when I am sick abed." (Letter, 1875.)

"The chronic torment seize me two days or longer about every two weeks." (Do.)

"I cannot doubt that I am the victim of a serious cerebral disease and that stomach and eyes suffer only from this central cause. My father died at 36 from cerebral inflammation. I may go even sooner. I have used several-hour long ice-bags upon the head by Immermann's advice and head baths early in the morning and my utter exhaustion and bitter torments are some-

what relieved. But it is not even genuine convalescence; the secret misery is not ended and I am reminded of it every minute. . . . I live almost entirely upon milk,—milk and sleep are the best things now left me. If only the frightful attacks lasting days, would not return. (Letter, 32.)

"Much suffering and bad outlook as regards my health." (Do.)

"In Naples I consulted a most excellent and famous physician, Professor Schrön. One has the choice between six other German physicians." (Letter 33.)

"No considerable improvement, although the last attack of yesterday was not so long, owing perhaps to a salve for my forehead, which Schiess had ordered." (Biography, 33.)

He was sick in Genoa. Found the journey improved his eyes although he was allowed to write but brief notes. The winter passed very pleasantly with walks, lectures and dictation. His health however remained poor, and he gradually came to the conviction that not even the south and freedom would give him back his health. Towards spring his eyes especially began to suffer and an unpleasant shimmering prevented him from writing and reading. He returned to Switzerland in May in order to undergo a "cure" and to be in the mountains. (Do.)

"The mountains always have a good influence upon me, although I lie here in bed or drag myself about all day with pain. The thinner the air, the better for me. I have just begun a 'cure' with St. Moritz water which will take me several weeks." (Do.)

It has been recommended especially for deep-seated neuroses. . . . My very problematic thinking and writing has always made me sick. So long as I was really a teacher I was healthy. (Do.)

"My power of resistance was at last broken." . . . "Violent headache."

The winter was begun bravely, for he had found an excellent physician and expected good results from his treatment. . . . "He is experienced; the son of a physician and about 40 years of age. I have confidence in born physicians." (Do.)

" . . . But towards Christmas the old experiences, as in 1876, were repeated: headache and pain in the eyes became so severe and continuous that we did not know what to do. Part of his duties at the university were given up; later his physicians concluded that frequent change of air would be the only method of alleviating his sufferings. He went to Baden-Baden and the spring found him so much better that he became confident and hopeful." (Biography, 34.)

"Half-dead with pain and exhaustion. The entire week one attack after another." (Letter, 34.)

"Only with difficulty and as it were in a one-sided manner he seemed to drag himself along and his speech was often slow and halting." (Deussen, 34.)

"A bitterly bad Sunday of pain. . . . I was compelled to telegraph my non-arrival at Zurich and remain in bed. . . . One attack after another for a whole week." (Biography, 34.)

"I hate Basel more and more and shall quit it so soon as possible." (Postal card, 35.)

"A winter filled with misery." (Do.)

"At Easter he went to Geneva without finding any relief. Upon his return there was a frightful crisis, attack after attack of the severest headache and pain in the eyes, with day-long vomiting: all his patience and bravery were utterly exhausted. He seemed a broken, tired, aged man." (Do.)

"He appealed to the university to accept his resignation. He had lost all hope of being able to resist his disease longer." (Do.)

My eyes gave me the greatest concern, they alone not improving and according to three authorities no improvement possible for them. Find me some one to read and write for me. (Do.)

By September he had wonderfully recovered and hope again filled his heart, but in 14 days he found the gardens so bad for his eyes that he could no longer hold out; the whole year of 1880 was the worst that he ever endured. "A heavy, heavy load is upon me; during the last year I have had 118 severe attacks." (Do. 36.)

His sufferings gradually increased enormously, although he had no work to do and no book to write. Before this he had said: "I dare not die, I have so much to do." But now for the first time his wretchedness was so extreme that he longed for death. He bade farewell to all those whom he loved. (Do.)

"With terrible energy however he gathered himself together, hastened to the south and began a passionate struggle with his disease and with relentless fate that threatened to annihilate him." (Do.)

"My existence is a frightful burden. I would long ago have thrown it off if I had not precisely in this condition of pain and absolute renunciation been making the most instructive tests and experiments in these mental and social things. This joy in knowledge brings me to heights where I win the victory over all martyrdom and hopelessness. In a general way I am more fortunate than ever in my life, and nevertheless, continuous pain and many hours of the day a feeling like seasickness, a semiparalysis in which speech is difficult, alternating with attacks of rage, the last resulting in vomiting for three days and nights. I longed for death. Inability to read, seldom to write. To be alone, and to walk out, mountain air, a diet of milk and eggs.... Cold is hurtful to me. I shall go south in order to begin the life of walking." (Letter, 36.)

"I had in the last year 118 severe attacks; the slight ones not included. If I could describe them for you, the continual pain and pressure in the head, over the eyes, and that general feeling like paralysis from the head to the toes!" (Do.)

"Nearer death than life." (Do.)

"Cured, or at least on the road to cure." (Do., 38.)

"I myself am perhaps on the other side of the good and bad, but not of disgust, boredom, melancholy, and pains in the eyes." (Letter, from Venice, Do., 42.)

"My wish to winter once more in some German place of learning among friends and books—a wish that rises to hunger and torture has always been wrecked by my health. But 'the day will yet come.' (Do., 44.)

"A most violent and obstinate headache exhausted my powers. It increased to the highest degree of habitual painfulness until at one time I had 200 sick days in the year. The evil must be utterly of local origin and every sort of neuro-pathologic bases is wanting." (Nietzsche, quoted by Möblus, 44.)

In one of the last days of December, 1888, or in the first days of January (dates not definite) Nietzsche fell, near his lodgings in Turin, and could not rise again. A servant found him and led him home with much difficulty. For two days he lay silent and still on his sofa, when abnormal cerebral activity and confusion were evident. He spoke much in monologue, sang and played the piano loud and long, lost the sense of money value, and wrote fantastically to and about his friends, etc. Overbeck hurried to him and brought him to Basel, to the sanatorium of Professor Binswanger, the alienist, where the diagnosis, according to Deussen, of progressive, later corrected to that of atypical, paralysis, was made. His mother had him brought to Naumburg, cared for him until her death in 1897, after which his sister moved with him to Weimar. He died August 25, 1900.

According to Dr. Reicholdt the immediate cause of his death was pneumonia, with edema of the lungs. There was no autopsy.

Nietzsche's Personal Character, despite all the calumination, and misunderstanding of many that have written of him, and despite the character of some of his writings, was one of exceptional purity and perfection. This is the testimony of all who knew him. In the agony of suffering, in the extremes of mental disease he showed, indeed, occasional hauteur, hardness toward friends and relatives, qualities that would scarcely be noticed were it not for the antipathies, literary and critical, actuating the enemies of his philosophy and opinions. With-

out a hundredth of his physical wretchedness and irritation others have exhibited unblamed faults a hundred times greater. His sister writes of him:

"At all events the word 'friend' for him spread a thick, brilliant, and illuminating covering over any beloved and honored being. He decked it out with all of his own best qualities and made of it a real work of art."

Even Möbius says he was friendly, compassionate, sympathetic, and thoughtful of others. He was always of a bright and joking disposition, and was beloved by all who knew him at the many houses, hotels, and lodging houses, in which he lived. He had at these places in later life the reputation of one who had given up his professorship because of his nearsightedness.

As a boy of about 15, to show his companions that some historical anecdote was not impossible, he took a bundle of matches, lit them in the palm of his hand, and held it extended while they burned.

In 1863, aged 19, he was greatly grieved by having been tipsy, and his disgust with smoking, drinking, "Kneipe," and "Burschenschaft" grew until, in 1865, he renounced them all for the rest of his life. His sister, in 1869, speaks of his "musical voice, pleasing appearance, strong stature, noble face, brilliant eyes—'Götteraugen.'" She also says of him that she never knew him to be in a "bad humor," and that he was the best of patients even during his years of paralysis. Seydlitz says his character was clear and pure as a mountain brook, and that purity and modesty gained from him a new worth. Because of the silly and nauseating attempt of Möbius to fasten upon him the stigma of "exogenous disease"—syphilis, a charge that appears utterly without justification medically, scientifically, individually, or socially—one must allude to the story of his fleeing horror-struck from abandoned women in whose society he was once accidentally led. Deussen correctly says:

"From all that I know of Nietzsche I believe that the words may be applied to him which Steinhart uses of Plato:—*Mulierem nunquam attigit.*"

As to his original intellectual vigor and startling strength of purely mental endowment, apart from its later affection through long wreckage of disease, the fact stands out with wonderful clearness in that at the age of 24 he was unexpectedly called to the professorship of classical philology at Basle. His sister says in the midst of his greatest suffering:

"His disease was especially unendurable because it continued all day and permitted him but a few hours of sleep at night: despite his suffering his intellect kept steadily at work. He says of himself at this time, that 'in the midst of his martyrdom during an uninterrupted headache of three days together with exhausting vomiting of mucus, my intellectual clearness did not fail. I thought things cold-bloodedly through, which even in my more healthful condition was impossible to me.'" (35.)

Writing of this period at a later date, he said:

"All true symptoms of disease are wanting in me. Even in the time of

the most severe illness I am really not sick. One will seek in vain in me for any trait of fanaticism. . . . One must have no nerves."

The Synchronous and Equal Suffering of Eyes, Head, and Digestive System, is the most striking peculiarity of Nietzsche's case, which singles it out distinctively from that of the others that I have studied. Rarely, most rarely, have I found such an equal resistance to disease, and such a combined affection. In the average system one set of organs will bear the brunt of the reflex, and will give away first. The fact shows the utmost extraordinary strength and perfection of his organism—a fact that is borne out by all the data concerning his life and illness. At times the attention of the patient or of his many physicians was directed to one set of symptoms or organs, but there is never any doubt that although the eyes complained always and often first, the brain and stomach were almost equally and severely and usually synchronously affected. And the intensity of the pain and morbid action were perhaps greater than any other man ever endured. All things considered no patient ever suffered more grievously, no martyr ever endured more intense and continuous torment. The pathetic tragedy of Nietzsche's life seems to me unexampled.

All Symptoms caused and intensified by Ocular Work, and relieved by Walking and Ocular Rest. In every case of these *Biographic Clinics*, and in thousands seen in private practice the fact is evident that all the reflex symptoms, ocular, cerebral, neural, psychic, and digestional, depended accurately upon the amount of ocular labor, and were relieved precisely in proportion to the amount of walking or physical exercise done, or in other words, upon the rest given the eyes from reading and writing. In Nietzsche's case this relationship is as clear, and in order to make this manifest I feel compelled to copy so large a number—by no means all—of the passages which bring it out. Even at the age of 21, he complains of his handwriting, although all through his life this was of exceptional excellence and accuracy in the formation of individual letters.

"My intolerable handwriting. . . . and with it how my thoughts cease."
(Letter, 21.)

"Pardon this stupid letter; but the violent pain in my head prevents all proper writing." (Do.)

Although he seems to have written a very clear and beautiful hand, he speaks with vexation of his handwriting and that his thoughts suddenly stopped with the effort of writing, "I cannot control myself as regards pen and ink; during the last four pages all my good nature has left me, and I can only note the driest of facts." (Biography, 21.)

He was very musical, often inclined to adopt music as a profession, and while officially studying theology was more earnestly devoted to art and philology. (Do.)

"Lonesome walks." (Letter, 22.)

"So soon as my [literary] work was compelled I flew to the Bohemian forest in order to bathe my tired soul in nature, mountain and wood." (Do.)

"His energetic nature drove him to gymnastic and all sorts of sports, because he thought that this was necessary, more for himself than others, on account of his eyes." (Do.)

"Nature originally endowed him with a robust body; so soon however as he was no longer in possession of his primitive health and strength, he was compelled all the more toward struggles of the intellect more grievous and torturing." (Do.)

"To-day, also, I can write no more." (Letter, 24.)

"Writing becomes difficult." (Letter, 26.)

"I read and again reread. . . . A long time ill and had to lie in bed, and even now have not fully recovered." (Letter, 29.)

"But my eyes—those obstinate, dangerous, and risky things—command me to stop, when I was just about to write you a good letter." (Do.)

"The weakness of my eyes permits me to congratulate you only in a few lines." (Do.)

"All this is little and poor, but alas, much too much for my eyes." (Do.)

"A laborious winter, working from 8 o'clock in the morning until 11 or 12 at night." (Do.)

"I write to say that I cannot write." (Letter, 31.)

"The detestable winter half-year is not yet past." (Do.)

"Had to fly away. . . . because I was compelled to take to bed for the second time." (Do.)

"The summer was heavier because of the eyes which often pain. I rise at 5 which does me good." (Do.)

In 1876 a friend acted as amanuensis and helper to him because of his bad eyes. Before his journey to Italy he spent five weeks in special treatment ("Atropincure") of his eyes. "About every eight days I make a 30-hour sacrifice to my health. . . . my eyes forbid letter writing." (Letter, 32.)

"Even the condition of my eyes does not influence my regained confidence in myself. Shiness finds them worse; I need an amanuensis, that is the chief thing." (Do.)

"Complete rest is not so easily carried out." (Do.)

"Only since I have given up my lectures have I detected any betterment." (Do.)

"Improvement in health, . . . diversion and movement from place to place." (Do.)

"I cannot write, myself, but must use the pen and hand of my sister." (Do.)

"In snow, rain, storm, and sunshine wandering about, and therewith I have found myself." (Do.)

"Six days in Geneva rich in many experiences. . . . and mastered sickliness and whimsicality. . . . I found once more the good conscience." (Do.)

"Only a postal card, my eyes permit nothing more." (Do.)

"I breathe and see coming health." (Do.) (From Rome.)

"I climb the mountains to run away from my headache." (Do.)

"My intolerable headaches, for which no treatment has done any good, forbid my writing. The exception I am now making to the rule must be expiated." (Do.)

"My sister reads to me a great deal because reading and writing is hard for me." (Do.)

"It hurts me to write." (Do.)

"Bettering health." (Do.) (From Sorrente.)

"Slow improvement. But I cannot read." (Postal card, 33, Sorrento.)

"My eyes have almost suddenly become so bad that I am nearly unable to read at all." (Letter, 33.)

"My eyes are worse, my head not better." (Do.)

"My health remains bad, very fickle, the eyes a little better." (Do.)

"I felt well one day and I wrote five letters, and the next day was confined to bed; the last 15 days have been pitiable." (Do.)

"But the eyes say, stop!" (Do.)

"Your novel twice read; . . . between times I vacillated with my health to and fro, and yesterday, lying abed, etc." (Do.)

"My brain and stomach is ugly with overfilling. Much reading dulls the brain frightfully." (Do.)

"In spite of it I do not write, and I wonder why. This reason just occurs to me: The hand which writes the entire day, and the eye, which sees white paper become black from early morning till evening—both demand change or rest." (Do.)

"The 100 books which are before me on the table are so many forceps which burn up the nerve of independent thinking." (Do.)

"I dare not write any letters. . . . Next week I go to Heidelberg and Frankfurt to see physicians:—electrotherapy recommended." (Postal card, 33.)

"Do not blame me because I write no better to-day." (Do.)

"My health is bad, head and eyes refuse to work more than ever. I had therefore to dictate." (Letter, 33.)

"My eyes will not let me answer your letters." (Do.)

"Letter-writing no more. . . . weakness and deeply shattered health. . . . A hermit-life as of an old man. . . . In spite of this I am courageous; forward, excelsior!" (Do.)

"I must have the blue sky above me when I attempt to gather my thoughts. By a mountain brook overhanging an abyss, he said, Here I love to lie and have my best thoughts." (Deussen, 33.)

"In his house, or as he said, in his hole." (Deussen, 33.)

In breaking up housekeeping he selected two large trunks full of books to take with him upon his journey.

With the departure from Basel the worst condition of his health was at an end, but he always expected it to return. Half blind as he was and so exhausted, we travelled much about. In three weeks he was considerably better. . . . Later he was accustomed to say "the Engadine gave me back my life again." (Biography, 33.)

Despite his bad health he completed his book by the aid of his friend as an amanuensis. (Do.)

"My health is better. I am tireless in walking and in solitary thought." (Letter, 34.)

"Instead of recreation at the end of the week he worked with inexhaustible zeal at his new writing." (Do.)

"No letter has been possible for weeks." (Letter, 35.)

"In order to venture on a letter I must on the average wait for four weeks until the permitting hour arrives,—and then afterwards I must atone for it." (Letter, 36.)

"I have brought a big basket of books with me up here." (Letter, 39.)

"From year to year my eyes permit me less writing." (Letter, 40.)

"I am suffering very much with eyes and long for the shadows of the streets [of Venice]." (Letter, 41.)

"My three-fourths blindness compelled me to desist and to fly to Rizza which my eyes have learned by heart. There is more light there, it is true, than in Munich. I know of no place except Rizza and the Engadine where I am still able to use my eyes for a few hours a day. But this winter will probably see an end even of that." (Letter, 44.)

"Dog's weather in which my health is wrecked." (Do.)

"For eight days the sky continuously overcast, cause enough to warrant a deep nervous exhaustion with relapse of my former sufferings. I have never seen worse weather than this here, precisely when I have journeyed in order to escape bad weather." (Do.)

"The weather is extremely changeable and is not the same for three hours. My health vacillates with it." (Do.)

"His rule was: The method of Julius Cæsar against illness and headache: frightful marching, the simplest living, uninterrupted life in the open air, continuous hardships." (His sister, in *die Zukunft*.)

Great despair in 1888, "almost the prey of dark determination." "The awful labors of 1888." (His sister, in *die Zukunft*.)

"In my eyes I have a dynamometer of my entire condition. (Letter 44.)

"In fact I have only a few hours of each day only a very few hours for reading and writing, and when the weather is gloomy, none at all." (Do.)

"Health has returned with better weather." (Do.)

"The most incredible tasks easy as play; health like the weather, daily returning with boundless clearness and certainty." (Do.)

"The history of my spring times for fifteen years at least was always one of horror, a fatality of decadence and weakness. Places made no difference. No recipe, no diet, no climate could vary the essentially depressive character of this season." (Nietzsche, quoted by Möbius, 45.)

The Ocular History.—In the biography his sister writes as follows:

He suffered much from coughs, colds and hoarseness during his boyhood and youth, and from his twelfth year, his eyes caused him great trouble. But the examinations of a famous oculist in Jena proved that there was no inflammation, or abnormality of any definite kind except that the ball of the eye, as in all myopes, was highly rounded. "I think that this myopia may have been caused by somewhat too dark rooms during childhood, for I am also near-sighted. While a pupil at Pforta he complained very much of the very bad lighting of his class room and chamber; at all events his short-sightedness increased very much. Twice, also, he suffered for long periods from headache caused, as it was believed, by over strain of the eyes. One did not notice the large, beautiful and brilliant eyes because they were never inflamed. In his first year at Pforta he grumbled very much at the fact that so little attention was paid to the eyes, and himself as student, undertook great care of them, sparing them as much as possible, although owing to his excessive desire for knowledge I do not think he succeeded very well."

His sister thinks that probably to his short-sightedness was due the accident that occurred during his military service, and afterwards a certain impracticality in the ordinary affairs of life, although in her preface to the second volume she combats the prevalent idea that would explain mental and spiritual greatness upon pathologic grounds.

The examining surgeon refused to pass him for military service on account of his great near-sightedness, although in other respects he was strong, healthy and sound. A revision of this order, however, was later made whereby those who required No. 8 spectacles were passed if otherwise sound and healthy. Although this number of glasses was altogether too weak for his eyes, it was what he had recently been wearing. His eyes were not examined, except to judge from the glasses he had been wearing. He was therefore entered for service. (Biography, 33.)

He was exceptionally enthusiastic and active in carrying out his severe military duties. (Do., 34.)

"Graefe found him wearing $\frac{1}{8}$ [i. e., 5 D. lenses] before his military service, and that these were too weak, so that he gave him instead 1-5 [i. e., 8 D.]. Later Nietzsche needed stronger lenses, from 7 to 10 D., but only for reading and writing. To this defect was added insufficiency of the interni." (Personal letter, 1903, from Dr. Vulpius, who attended Nietzsche for ocular disease in 1899, and 1900.)

In March from Gersdorff he wrote:

"It goes somewhat better with me after a long and painful period of ill-health." He returned for the new term at the university feeling much better and full of hopes, but the condition of his eyes remained unchanged. Professor Schiess found his myopia and ocular weakness increased, but Nietzsche said that the disease of his eyes, which at times threatened blindness was only a consequence and not a cause, so that with increase of vital energy, even his visual ability also increased. (31.)

"Time, and especially eyes, fall me to thank you. It is now floodtide with me in all necessities which my bit of eyepower entirely absorb. You fortunately do not understand the physiologic condition. I have to use, for reading and writing, No. 3 spectacles. If my three ophthalmologists had been right I should years ago have been blind." (Letter, 44.)

"The spectacles preserved by his sister, are 'No. 3,' having also prisms bases in. These were used only for reading." (Personal communication, 1902, Frau Förster-Nietzsche.)

"After his paralytic attack in 1889, he never wore any glasses, and never read and wrote." (Do.)

Möbius says that the examination at the Basel Insane Asylum after his attack showed that he had convergent strabismus. In that of Jena in 1890 the right pupil was found dilated, the left myotic and irregularly so. All reactions were preserved in the left, but in the right only convergence reaction.

"In 1899-1900 he had an obstinate relapsing trouble of the left eye; Dr. Vulpius finally effected a cure. The right pupil was wider than the left." (Personal communication, 1902, of Dr. Vulpius.)

According to Dr. Möbius, Professor Graefe of Halle told him: "Your eyes are both a clear and an evil example of the extent to which great students can ruin their eyes. I should advise you not to write or read a word for years. But I might just as well forbid you not to breathe."

Möbius contends that his myopia was inherited, as his father was also nearsighted, and his sister is so. One may accept this theory or deny it, or accept it as in part true, and still emphasize a number of deeper-lying questions. But the most fundamental of all errors made by the majority of Nietzsche's oculists and general physicians was excusable, perhaps, thirty years ago, but is utterly beyond pardoning in those who treated him in late years. This blunder, for such it must be called, is manifest in the monograph of Professor Möbius, issued in 1902, in which he says:

"Since shortsightedness causes no pain, it remains a question of atypical migraine."

And again he repeats:

"Myopia does not cause migraine."

In these sentences is revealed the fatal defect of European ophthalmology, which to-day ignores astigmatism,¹ almost entirely, and especially myopic astigmatism. Astigmatism exists in myopia as constantly as in hyperopia. It may not and usually does not cause the severe reflexes and morbid results as in hyperopia, but it may do so, and in many cases does do so. In Nietzsche's case it is astonishingly clear that it did. That astigmatism was present is demonstrated in the following extracts from letters written by Nietzsche in 1876:

"At first I could not write, and then came the eye treatment, so that I am not allowed to write for a long time. In spite of that I read your two letters, —perhaps I read them too long."

"My eyes are being treated with an atropin-cure, and they will not allow any letter-writing, even if it were possible, of which I doubt."

All oculists, of the American type at least, will readily see that cycloplegia induced in highly myopic eyes without astigmatism does

¹ And also anisometropia.

not prevent ability to read and write. Such oculists will also recognize that atropin in nearsighted eyes will not "cure" myopia, nor will it lessen the eyestrain and its reflexes and more than cessation of reading or writing would do. More certain is the inference that the lessening of his visual acuteness and power to read with atropinization was due to the fact that it paralyzed his accommodation power to neutralize partially his astigmatism. One wonders if the *Atropin-kur* is still carried out to-day upon the million or more myopes of Germany.

Nietzsche's myopia also increased very much during his short life, and this as we now know was the natural and inevitable result of over-correction of myopia and noncorrection of his astigmatism and anisometropia. Another astonishing fact is that he wore high power myopic lenses for reading but not for distant vision, and this again proves how incorrect his glasses were. Finally one must notice the odd contradiction that he wore prisms bases in for insufficiency of the interni, and that when examined at Basel he had convergent strabismus. The acute attack of cerebral paralysis may however serve as a partial explanation. In spite of the fact that pain in his eyes was the bitterest complaint during his adult life it must not be forgotten that there never was any inflammation except the iritis in his last year. Considering the lack of proper correction of his eyestrain, and the terrible abuse of his eyes, that Nietzsche did not become blind from malignant myopia is indeed a wonder, and a tribute again to the magnificent powers of resistance of his organism.

Colds, Influenza, Rheumatism, etc., afflicted Nietzsche as much throughout his life as they did Mrs. Carlyle, and other sufferers from eyestrain.

"He suffered much from coughs, colds, and hoarseness, during his boyhood and youth." (Biography.)

"From January to autumn, 1862, aged 18, he suffered greatly from colds, hoarseness and frequently recurring pains in the eyes and head." (Do.)

"In 1863, aged 19, he was seized with severe cold and was confined for a long time to bed." (Do.)

"During the entire year of 1872, aged 28, his health was bad; it began with a severe cold and a week long condition of grippe." (Do.)

Further citations need not be made to illustrate the frequently noticed connection between eyestrain and inflammation of the mucous membrane of the upper air-passages. The probably self-made diagnosis of "rheumatism" illustrates in excerpts on a previous page also illustrates the observation that muscular pains, anesthetics, numbness, temporary pareses, etc., are often forthcoming in severe eyestrain, and disappear at once upon its relief.

"*Migraine*" is a word often as loosely applied to "atypical" diseases, as "biliousness," "nervous dyspepsia," and many such used both by physicians and laymen. These words appear to satisfy many

otherwise intelligent people, and by applying them to a set of symptoms there is a seeming belief that the disease is explained. Learned medical articles have been and continue to be written on "migraine" with no trace of curiosity or care as to the cause of that mysterious malady. Labeled with a name its nature and etiology no longer concern. In different treatises upon it by equally great authorities the most glaring contradictions and illogicalities constantly reappear. In many the eyes as a cause are mentioned only incidentally and, as it were, as a routine sacrifice to or flattery of encyclopedic knowledge. Möbius thinks that Nietzsche's migraine must have been "inherited"—that favorite word for inability to explain—while at the same time he had glioma of the brain which caused his wrecking. Again he says that his migraine was "due to his mental activity. It was always the same; the fresher he was the more passionately he worked, and the more he worked the more he brought on the return of the attacks." But he admits there was no trace of "progressive" or "atypical" paralysis prior to 1875. And yet how much the man had endured for years prior!

In the text-books hemierania is put down as a synonym of migraine, and yet the fact that his particular migraine was not one-sided struck Nietzsche's attention and caused him perplexity.

In all that has been written by himself or others concerning Nietzsche's illness the old but ever noteworthy wonder appears at the sudden changes from the most violent suffering to the most complete relief and apparent health. In his case these lightning-like changes are so remarkable that they confuse himself, friends, and physicians, as might be illustrated by many quotations. His sister thinks he was as well, from 1882 to 1889 as other people, and that his complaints were due to psychic suffering, loneliness, non-recognition, etc., and yet he himself writes that he had some 200 sick days within one year during this time. She also says that during these years his headaches were rather a *Benommensein* (stupor) for which he walked a great deal, and that he had on the average only from seven to ten migrainous attacks a year without vomiting. Once more she says that in these years he only had eye-troubles, not bodily suffering, and that these consisted only of *Flimmern* and poor vision, adding that these symptoms were due to intense overwork of the eyes. "His tired eyes produced his *Benommensein*," for he was most actively writing and reading proof all this time.

It must be remembered that during this time he daily walked a great deal, developing his aphorism-style, by thinking during his walks, and by jotting down his thoughts as they occurred to him in his note-book always in hand. Although intellectually keeping up the strain the

relief to his eyes often lessened the general and especially the diges-tional reflexes. In a letter to me his sister says that from 1881 and 1882 he thought himself cured; that his headaches were changed in character, he had much less vomiting; and he had not to go to bed with headaches—except in 1883. But all agree that his excessive application brought on his "sudden" paralysis in 1889.

Instead of "migraine" let us call his disease by the old-fashioned popular name of sick-headache, and add that the oculist who to-day is not able to cure 99 cases out of 100 of this common and terrible disease by relief of its causing eyestrain is—not so expert as he should be.

In an article in *Die Zukunft* (no. 14, vol. viii, Jan. 6, 1900) Nietzsche's sister, concerning her brother's illness, writes the following astonishing paragraph:

"His physicians could never determine whether his headaches were caused by his ocular disease, or whether his weak eyes were the result of his cerebral disease. Four physicians treated him in 1878-79. Two said that his headache was the cause of his trouble and two heaped his entire sufferings upon the condition of his eyes. One of those was Professor Graefe. It was by Graefe's advice that my brother gave up his professorship because reading and writing the Greek letters of the alphabet was particularly harmful. Later as the condition of the eyes bettered we have usually called his disease migraine."

Thus by the irresistible logic of the facts two physicians, long ago, were driven to the conclusion that the true cause of this man's awful sufferings was eyestrain. Of course they could not or did not, suspect that it was astigmatism, and they perhaps hardly dared to include in the results the vomiting and digestional reflexes always bound up with eye-work and other symptoms.¹

"*The Horrible Earnestness.*"—Driving his organism with reckless fury to its special work of erudition the young professor found that "a horrible earnestness," "a nervous excitability" seized him in everything he attempted to do. In almost every case of severe eyestrain there is a similar experience. I have found it in nearly all the cases of the literary workers so far studied who had great eyestrain. Carlyle has written:

"There is a shivering precipitancy in me which makes *emotion* of any kind a thing to be shunned. It is my nerves, my nerves."

"My work needs all to be done with nerves in a kind of a blaze, such a state of body and nerves as would soon kill me if not intermitted. I have to rest accordingly, to stop and sink into total collapse, to get out of which is a labor of labors."

¹ In 1874 the great eyestrain sufferer, Wagner, wrote to Nietzsche:

"My wife will soon write to you; she suffers from her eyes; without her I cannot get on. Overbeck alone delights me because he wears no spectacles."

In 1879 the great eyestrain sufferer Nietzsche wrote a letter in which occurs this sentence:

"You will have heard from Overbeck how extraordinarily good has been the effect of his stay at St. Moritz, so that his fearful headaches since then have only returned in slighter degree. . . . Noteworthy improvement, lasting now five weeks."

"He wrote 'with his heart's blood' in a state of fevered tension," says Froude.

"Work is not possible for me except in a red-hot element, which wastes the life out of me."

This feverish intensity, I suspect, dictated the life, morbid mental activity, and character of Nietzsche's writings to an amazing degree. He said of himself that "an unendurable *spannung*—tension—lay upon him day and night." Some one has spoken of it as a "subterranean fire." Another phrasing of this condition is shown in a letter written in that ominous year 1888:

"I have lived through so much, so much willed, and perhaps attained, that a certain power is necessary in order to get loose and away from it. The vehemence of the interior vibrations was frightful. That this was seen even from a distance may be learned from the epithets of German critics—'eccentric,' 'pathologic,' 'psychiatric,' *et hoc genus omne*."

A friend, Sandberg, writing in 1899, puts it this way:

"He wrote once that he had body and soul of such a nature that he could suffer with both at once. 'Nothing,' he said, 'torments me more than when the fires burn me on both sides, internally and externally.'" *Die Zukunft*, No. 32.

I have elsewhere spoken of the physiologic cause of this morbidly feverish intensity of mental activity. It appears to me the inevitable irritation due to severe eyestrain. Nietzsche also thought of suicide. Nietzsche produced within twenty years sixteen volumes, all written by himself in small clear handwriting, all the result of independent philosophic and original thinking, besides several other volumes of technical philologic studies. He was moreover a busy, conscientious teacher and lecturer.

The Influence of his Disease upon his Character and Writings is everywhere painfully manifest. Nietzsche was seized with an enthusiasm for Schopenhauer and his works at the age of 21. With greater intensity his devotion to Wagner and his music, I gather, was turned to morbid dislike by the influence of diseased cerebral activity. Deussen, I feel, is in error when he writes that

"A deeper cause lay at the root of Nietzsche's resignation of his professorship in 1879 than his 'combined diseases of the nerves of his eyes, brain, and stomach.' The philologic profession of teachers, like a coat, became too small for him, etc. His internal unrest, etc."

But if so, it is an error which only extends the pathologic to the deeper activities of his mind. How far his cerebral irritation was responsible for his "aristocratic anarchy," his occasional lapses into egoistic disdain, etc., would be impossible to gauge. It surely was not wholly inoperative. Stringency, hardness, radicalism, it certainly helped to produce. Möbius thinks the *Zarathustra* would not have been written without the morbid cerebral irritation. It appears almost certain that the aphorismic form of much of his later writing is ex-

plained as the result of the manner in which he was forced to do his literary work, *i. e.*, by thinking and note-making while walking. The serious reflexes to eyes, head, and digestive system, which were induced by writing compelled him to collate these notes with the least overworking possible. Hence also result the growing contradictions and illogicalities, the discreteness and want of transitional, connecting, and modifying sentences.

A number of degenerates, Nordau especially, have written foolishly of Nietzsche's "degeneracy," his "sadism," etc. The inappropriateness of such silly charges is amusing or disgusting, according to the point of view of those conversant with Nietzsche's character and writings. The mistaken standpoint of such a critic as Möbius may be suggested by his remark that friendship in the physiologic sense is purposeless and that it rests on perverted sexual love.

Nietzsche was surely a very sick man during the twenty years of his working life, but none ever made a more heroic battle for health than he. Health, he contended, is always the basis of beauty and virtue. If his pessimism was due to his disease, one should not forget his own words:

"I made a philosophy of my will to health and to life. The year of my greatest loss of vitality was the year in which I ceased to be a pessimist. The instinct of self-preservation forbade the philosophy of despair." (Nietzsche.)

It is but natural that the subtle and malign influences of his suffering should weave themselves into the very texture of his philosophic writings. One has said of him that a big volume could be made of excerpts from his works concerning health and sickness. In this connection one may not overlook that in the fateful year of 1888 he also wrote of the *Umwerthung aller Werthe*.

After the Attack.—When brought to Basel he weighed 165 pounds, was not neurasthenic, maniacal, or melancholic, and was without imperative ideas. Speech was permanently lost from the day of the attack, and memory nearly entirely. He seemed to understand what was read to him, and enjoyed music. There was much gaping or yawning with cramp which sometimes made him utter cries of pain. This was better after the move to Weimar. There his chief pleasure was to enjoy the view from his house, in silence and reverie. Möbius makes a strenuous effort to bring the symptoms of the patient within the confines even of an atypical case of paralysis, confessing that real cases differ far more than the authorities and text-books make manifest. Especially does he acknowledge this to be true in Nietzsche's case. Professor Binswanger says important symptoms are wanting, notably the omission of letters, even in the latest writings. One feels like

smiling assent to Frau Förster-Nietzsche when she coolly says that by the term, *atypical paralysis*, nothing or not much is implied. Möbius's gratuitous assumption that syphilis was the cause of his collapse is without warrant and is contradicted by every fact of his life, character, and illness. It illustrates the tendency of ultra science to become non-science and even nonsense. That chloral, as Overbeck thought, contributed to the final breakdown seems to me extremely doubtful. Morphine he took only once, but chloral was used in large quantities prior to 1889, for the terrible sleeplessness which tormented him as it does most eyestrain sufferers. His sister thinks chloral simply made him drunk. Is it not clear that the so-called sudden stroke in 1889 was the more noticeable effect of thirty years of cerebral insult and disease, and that the real mystery is that it had not come long previously? What takes place in the mechanics of cerebral morbid physiology, in such cases, is of course still unknown to us in any scientific sense, and we often make our ignorance more ridiculous, at least more dense, by our pathologic satisfaction with nomenclature and picture studies. From whatever point of view we look, personal, medical, social, literary, or philosophic, it is true that Nietzsche's life was both a tremendous defeat and a magnificent victory. More emphatic is the truth, however, that whether victory or defeat it was an awfully pathetic and almost an unrivalled tragedy.

ACUTE LOBAR PNEUMONIA.

AN ANALYSIS OF 486 CASES AND 100 AUTOPSIES.

BY

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PART I.

The cases here tabulated constitute undoubted cases of primary lobar pneumonia admitted to the wards of the Montreal General Hospital, from January 1st, 1895, to August 1st, 1903; the autopsy analysis has not been made as a continuation of the clinical observations, but as a distinct series, which, in many particulars, gives the truer frequency of a complication, or the higher percentage of occurrence of some detail which is difficult to observe during life.

The entry into hospital by months is tabulated, and it is worthy of remark that the weather from December 1st to March 15th, is generally steady cold; March 15th to June 1st, very changeable, with considerable rain, June 1st to October 1st, warm and dry; October and November, cool and dry. The heavy snow fall of winter melts in April, and

during that month, though bright overhead, it is scarcely ever dry underfoot.

	No. of cases.	Per cent. of cases.
January..	39	8
February..	55	11.3
March..	56	11.5
April..	74	15.2
May..	80	16.4
June..	33	6.8
July..	26	5.4
August..	15	3
September..	14	2.8
October..	27	5.5
November..	25	5.1
December..	42	8.6

The largest number of cases occurs in these changeable spring months, but as soon as summer is established, the prevalence gradually lessens throughout the whole season, only attaining a moderately high figure after the setting-in of winter. It is not improbable that wet streets have a large share in the causation of spring pneumonia, and the intense steady cold of winter a less effect than would be expected.

SEX.—348, 71.6 per cent., were males, 138, 28.1 per cent. females.

MORTALITY.—The deaths numbered 104, 21.2 per cent.

Whereas less than 20 per cent. of the male cases died, more than 25 per cent. of the female cases were fatal.

AGE.—The ages divided into periods are given.

Age in years	No. of cases.	Per cent. of cases.	No. of deaths.	Per cent. of total deaths.	One case died in every
1 to 3..	16	3.3	5	4.9	3
4 to 15	67	13.9	5	4.9	13
16 to 22...	70	14.5	5	4.9	14
23 to 31..	98	20.3	19	18.4	5
32 to 41..	92	19.1	19	18.4	5
42 to 51..	84	17.4	29	28.1	3
52 to 61..	33	6.8	11	10.7	3
62 and over..	22	4.5	10	9.7	2

It will be noticed that after the age of 40 the chances for recovery are gravely lessened, whereas the mortality in youths, 16-22, is a comparatively low one, although the number of cases is perhaps greater than in any other half decade. Yet as an indication of the fallacy of making a prognosis upon the youth of the patient, it may be said that the approximate average age of the cases that died was 37.7, (average of 100 autopsies, given below, 38.8), while the average age of the cases that recovered was 35.5; these two averages show much less difference than one would expect.

ETIOLOGY.—Previous attacks had occurred in 53 out of 425 cases, 12.4 per cent. or approximately one in seven, a percentage of occurrence much lower than is usually found (Osler's Practice of Medicine,

IV, Ed., p. 109); in 372 cases previous attack is noted as not having occurred. Of the 53 cases, three had had three or more previous attacks, one had had two, and the others one.

TUBERCULOSIS.—Of 462 cases, family history of tuberculosis was present in 31, personal in 20, and nine had had previous pleurisy, a total of 60 (13%) in whom there is likelihood of tuberculosis having preceded the disease.

RACE.—During the summer and autumn months a large number of immigrants pass through Montreal, and it has been a frequent comment in the hospital that a good many poorly nourished Europeans, chiefly Italians, are brought in suffering from pneumonia, shortly after landing. Of 456 cases of our series, 74, 16 per cent., were immigrants, defined as having been less than six months in the country. From the Government statistics of the numbers of immigrants, and the most careful estimate at which we can arrive of city population, this indicates that the immigrant is at the very least thrice as liable as the native.

OCCUPATION.—We have endeavoured to ascertain what proportion of the population of Montreal is employed in out-door work, and this we find difficult, because of the great differences of conditions, due to climate, between summer and winter. Of 444 cases, 126, 28.4 per cent. were engaged in out-door work, 318, 71.6 per cent. in in-door occupations; if we allow that $\frac{1}{3}$ of the population is engaged in out-door work (this figure is probably too high), the out-door worker has suffered $1\frac{1}{2}$ times as frequently as the in-door worker; if we allow that 1-10 only of the population is so employed, the out-door worker is $3\frac{1}{2}$ times as liable. In any case our figures tend to show that the out-door worker is more frequently attacked.

THE USE OF ALCOHOL.—Of 190 cases in which the records are explicit, 62, 32 per cent., were alcoholics, 92, 46 per cent., moderate users of alcohol, and 32, 19 per cent., were teetotallers. This question of the liability of alcoholics to pneumonia, is so complicated by other questions of etiology, such as poverty, irregular habits, etc., that it is impossible to set a positive value upon figures.

INFLUENZA.—Acute influenza preceded the disease in five cases.

CATARRH.—Catarrh, defined as chronic inflammation of the upper air passages, was present in 90 cases (20.3%) in 90 per cent. of which cough was present.

DURATION.—The average length of time from onset until discharge from hospital (at which time the patient is presumably able to return to work), was in 351 cases, 27.5 days.

CRISIS AND LYSIS.—226, 60 per cent., ended by crisis, 106, 28 per

cent. by lysis. In 48 cases (12%) the fall of temperature was atypical. The fatal cases have, of course, been excluded from this calculation.

Of 211 cases in which the precise time could be determined, crisis occurred after the lapse of 7.1 days; in 106 cases of fall by lysis, the fall of temperature began after the lapse of 8.1 days; the cases of early crisis are not sufficiently authentic to state. Delayed resolution was found in nine cases, 1.9 per cent.

FEVER.—The height of the fever is classified below:—

		No. of cases.	Per cent. of cases.
Low..	99 to 102°	81	17
Mode ate..	102 to 104°	245	52
High..	104° and over	146	31

ONSET.—It has been noted above that 90 cases had previous catarrhal symptoms, 72 of these having cough. Of the usual symptoms of onset, the frequency was as follows:—

Cough (including cases with cough previously)	100%
Pain	92.1%
Chilly sensations	70%
Vomiting	35%
Rigor	6.1%

The pain was never referred to a region other than the seat of disease.

SYMPTOMS.—Respiratory system. Rusty sputum was present in 195 cases out of 434, 44.9 per cent., bloody sputum in seven cases and dilated *alæ nasi* in 190, 40 per cent.

NERVOUS SYSTEM.—The border line between delirium and mania is not a distinct one:—

Headache in	437 cases	184 times	42%
Delirium in	447 cases	157 times	35%
Mania in	447 cases	8 times	1.8%
Convulsions in	447 cases	8 times	1.8%

The cases of delirium were analyzed with respect to an alcoholic history: 93 cases, 59.2 per cent., occurred in non-alcoholics; 64 cases, 40.8 per cent. occurred in alcoholics. Of 62 heavy drinkers, 37 cases, 59.6 per cent. were delirious; of 92 moderate drinkers, 27 cases, 29.3 per cent. were delirious; of 154 users of alcohol, 64 cases, 41.5 per cent. were delirious.

All the cases of convulsions mentioned above occurred in children with the exception of one, a girl of twenty-five, non-pregnant, who recovered without apparent complication.

ALIMENTARY SYSTEM.—The condition of the bowels, if at all disturbed, has tended towards constipation.

Of 460 cases the bowels were normal in 242, 57 per cent.; diarrhœic in 55, 12 per cent.; constipated in 143, 31 per cent.

Jaundice is remarkably infrequent in this series, having occurred in 465 cases but 18 times, a frequency of 3.8 per cent.

THE URINE.—In view of the likelihood that every case of pneumonia is attended with a temporary kidney damage, it is interesting to note that this does not appear in the routine examination of the urine. Of 450 cases albumen was found in 22 per cent., casts in 1.5 per cent., both together in 25.7 per cent.; pus, dependent, in all likelihood, upon associated conditions, was present in 6.6 per cent.

Quantitative examination of the chlorides has been made in a disappointingly small number of cases; of 16, four showed normal, three increased, and 9, 56 per cent., decreased excretion of chlorides. Examination of the sediments, though tabulated in more than 100 cases, does not seem to be of sufficient value to merit reproduction.

VARIOUS.—Sweating, sufficiently profuse to be recorded, exclusive of the sweating of crisis, was found in 139 out of 434 cases, a frequency of 32 per cent. Herpes was present 124 times in 475 cases, 26.1 per cent; epistaxis occurred 12 times, 2.5 per cent; the spleen was found to be enlarged in 30 cases, 6.4 per cent.; the liver in three cases, excluding chronic cirrhoses. Erythema occurred twice, and a petechial rash once.

VASCULAR SYSTEM.—From stated measurements which we have gone over in 465 cases, it was determined that definite cardiac dilatation was present in 85 cases, 18 per cent.; this, no doubt, marks the number of extreme dilatations, and entirely fails to include the slight right-sided dilatation that must accompany every case of pneumonia with large involvement of lung. Considering the difficulty of observing slight degrees of dilatation at autopsy (see below), it is not strange that they should not be observed in life while the chest-wall intervenes. That cyanosis is noted in 15 per cent. of all cases, and accentuated pulmonary second sound in 16 per cent., implies failures to record these almost invariably present signs.

LEUCOCYTOSIS.—Considering 7,500 as normal, leucocytosis occurred in 43 out of 45 cases, 95.5 per cent.; 32 cases that recovered showed figures varying from 8,400 to 34,000, average 22,000; 11 cases that died varied between 9,800 and 50,000, and averaged exactly the same, viz., 22,000. Of these 11 deaths it should be mentioned that five cases had severe septic complications, which would, in every case, naturally lead to leucocytosis.

DISTRIBUTION OF DISEASE.—Of 473 cases the involvement was as follows:—

Right lung only..	226	48%
Left lung only..	141	30%
Both lungs..	106	22%

31 per cent. of bilateral cases died, 15 per cent. of the left lung cases, and 21 per cent. of those in which the right lung was affected. In five cases all lobes were affected, and 2, 40 per cent., recovered. It is a coincidence that the number of cases in which three or more lobes were involved, was 104, exactly the number of deaths in the series.

One lobe was affected in....	190 cases	40.1%
Two lobes were affected in.. . . .	179 cases	38%
Three lobes were affected in.. . . .	94 cases	20%
Four lobes were affected in.. . . .	5 cases	1%
Five lobes were affected in.. . . .	5 cases	1%

The most frequent involvements were as follows (173 cases):—

		Clin. Ser.	Autopsy Ser.
Lower left....	81	17%	5%
Lower right.. . . .	67	14%	7%
Middle and lower right.. . . .	53	11%	4%
Whole left.. . . .	46	10%	17%
Whole right.. . . .	44	9%	18%
Upper and middle right.. . . .	25	5%	2%
Both lower....	25	5%	3%
Upper right....	22	5%	5%
Whole left and lower right.... . . .	16	3%	2%
Lower left and middle and lower right.. . . .	15	3%	3%
Upper left.. . . .	14	3%	4%

No other lobe or combination of lobes was involved as often as ten times in the series. The mortality for three lobes or more was 46.1 per cent.

If anyone should be interested in the frequency of any given combination of lobes, we append our full figures, asking the forbearance of the general reader for the following table:—

	Clin. Series.	Autopsy Series.
Lower left and upper and lower right....	1.6%	5%
Whole right and lower left.. . . .	1.2%	3%
Upper left and upper right.. . . .	1.2%	1%
Whole of both lungs.. . . .	1%	1%
Lower left and upper right.. . . .	1%	0—
Whole left and lower and middle right.. . . .	.6%	0—
Upper left and upper and middle right.... . . .	.6%	1%
Upper left and lower right.. . . .	.6%	2%
Whole left and upper right.. . . .	.4%	0—
Whole right and upper left.. . . .	.4%	3%
Upper left and middle and lower right.... . . .	.4%	0—
Lower left and middle and upper right.. . . .	.4%	1%
Whole left and upper and lower right.. . . .	.2%	3%
Whole left and upper and middle right.. . . .	.2%	0—
Lower left and middle right.. . . .	.2%	2%
Upper left and upper and lower right.. . . .	.0—	1%
Middle right.. . . .	.2%	0—
Upper and lower right.. . . .	1.6%	0—

It will be observed that there is little or no correspondence between the figures of the two series, a fact which is to be explained by the comparative rarity of all these combinations.

In the autopsy series, the lobes have been involved in the following

Fregularity..	5 (abortion in 4.)
Hepatic abscess	2
Occlusas..	1
Gonorrhoea..	1
Syphilis..	2
Malaria..	2
Typhoid..	2
Measles..	2
Rheumatism, Chronic (sic).. . .	4
Rickets..	2

We have purposely refrained from comment upon these complications, because we feel that in many cases such as pleuritis, empyema, etc., the autopsy findings are distinctly more valuable. One cannot be sure that the so-called complications are really such, or should more properly be included in associated conditions. At the same time we have not felt justified in omitting them from a strictly statistical article.

PART II.—ANALYSIS OF 100 AUTOPSIES.

The autopsies are partly comprised in the cases analyzed from the wards, but to complete the number it was necessary to go back as far as the record of 1890; so that for purposes of comparison the two series are essentially different. All the cases are selected with a view to the exclusion of those in which the pneumonia could be considered secondary to any other disease; by which carefulness one doubtless rejects many cases which are true lobar primary pneumonias, which occur in those slightly debilitated by some other cause; so that the series is really a synopsis of cases of pneumonia arising in the comparatively healthy. It is obvious that one must not rule out cases past middle life with marked kidney change, or else the search for cases would be interminable. The numbers throughout designate percentages, as well as numbers of cases; in many cases comparisons are instituted between these figures and the figures of the same conditions obtained by clinical observation.

SEX.—77 cases were males, and 23 females.

AGE.—The average age of these cases was 38.8 years. The average age of all the cases in the previous series was 31 years.

Age by periods.	Autopsy series.	Clinical series.
1 to 3..	3%	4.3%
4 to 15..	1%	4.3%
16 to 22..	6%	4.9%
23 to 31..	17%	18.4%
32 to 41..	26%	18.4%
42 to 51..	28%	28.1%
52 to 61..	11%	10.7%
62 and over..	8%	9.7%

It is to be noted that there is a striking similarity in the percentages, especially after the age of 15, when the number of cases in each period becomes at all considerable.

INVOLVEMENT OF LUNG:—

	Autopsy series.	Clinical series.
Right lung.....	43%	48%
Left lung.....	26%	30%
Both lungs.....	31%	22%
Involvement of		
5 lobes.....	1%	1%
4 lobes.....	3%	1%
3 lobes.....	31%	20%
2 lobes.....	33%	32%
1 lobe.....	21%	40%

The conclusion derived from this comparison is, that the amount of lung tissue involved has a very direct bearing upon prognosis, since so comparatively few one lobe cases, and so many three and four lobe cases appear in the autopsy records.

STAGE OF DISEASE.—Of the cases in which the color of the lung is mentioned, red hepatization was present in 23 per cent., grey in 55 per cent. This indicates roughly that in a majority of cases the lung is grey in colour, due oftener at autopsy to purulent infiltration than to a true grey hepatization, which we are accustomed to think of as a first stage in resolution. It might be said in this connection that the classic division of pneumonia into stages, has misled and will continue to mislead many into the supposition that these are hard and fast sequences following a rule, rather than hazy indications of the progress of the disease, which in most cases encroach upon one another so greatly as to lose their individual characters.

INFECTION.—Of about 60 cases in which bacteriological examination has been made, pneumococcus was present in 65 per cent., in five per cent. of which it was mixed with other organisms to the extent of being a "mixed infection"; 20 per cent. were mixed infections of other kinds, while streptococcus was the main agent in eight per cent. While dealing with the kinds of infection, it is of interest to note the effect of the different ones upon the size of the spleen. The late Dr. Wyatt Johnston on one occasion remarked that he had observed that the spleen was rarely enlarged in cases of infection by pneumococcus, while it was frequently enlarged in other infections. With a view to determining this, we have tabulated the results as follows:—

In 23 cases infected by pneumococcus alone, the spleen was not enlarged in 19, 83 per cent., and was enlarged in 4, 17 per cent.; in 12 cases of mixed infection, without pneumococcus, it was not enlarged in 4, 33 per cent., and was enlarged in 8, 66 per cent. Of six cases of mixed infection including pneumococcus, it was enlarged in three and not enlarged in three. Whatever the size of the spleen (120 grms. in the male adult was the standard), it was in the large majority of cases (64%) soft and pulpy. As far as these figures go, the truth of Dr. Johnston's observation is strongly supported.

COMPLICATIONS AND ASSOCIATED CONDITIONS.—The relative frequency of certain complications in the two series is of interest; the discrepancies which will be seen to exist in pleuritis and pericarditis will be easily understood, when one remembers the comparatively short time in which a friction rub may be present, and the small amount of fluid which is effused in many cases. The second column exists only for comparative purposes.

		Clinical series for comparison.
Pleuritis, total..	91%	38%
Pleuritis, purulent ("empyema")....	12%	
Pleuritis, serous ("effusion")...	28%	
Pleuritis, fibrinous..	51%	
Pericarditis, total..	17%	3.4%
Pericarditis, purulent....	10%	
Pericarditis, fibrinous and sero fibrinous...	7%	
Endocarditis, acute...	8%	3%
Endocarditis, chronic (Assoc. condition)..	23%	
Myocarditis, acute...	4%	2.3%
Myocarditis, chronic (Assoc. condition)..	8%	
Arterio-sclerosis, extreme (Assoc. condition)..	8%	
Dilatation of right heart...	18%	18%
Dilatation of left heart....	10%	
Clots in heart chambers....	42%	
Meningitis, purulent...	5%	4.7%
Bronchitis, acute..	61%	
Bronchitis, chronic (Assoc. condition)....	6%	
Nephritis, total..	78%	
Nephritis, acute parenchymatous (cloudy swelling)..	45%	49%
Nephritis, acute, suppurative..	1%	
Nephritis, chronic..	32%	

Of the cases of pericarditis, seven occurred with involvement of both lungs, four of the left and five of the right lung, supporting the frequency of occurrence with disease of the left lung.

Of the five cases of meningitis, pneumococcus was found in the meninges in four; it also was found in one case of ulcerative endocarditis upon the heart valves, and in four cases of septic pericarditis.

Seven cases of abscess of the lung occurred and one case of abscess of the abdominal wall; mediastinitis occurred twice, peritonitis once; icterus was noted but once and tuberculosis, obsolete, or obsolescent, eight times.

Special interest attaches to the following points in this series:—

1. The liability of immigrants to the disease.
2. The frequency with which people of out-door occupations are attacked.
3. The infrequency of the rigor of onset.
4. The non-enlargement of the spleen in most cases of pneumococcus infection.

The apparently awkward divisions of the age tables may be better understood if we explain that a patient is classified in the column in which belongs the figure he states as his age in years.

TOXIC AMBLYOPIA CAUSED BY METHYL ALCOHOL.

BY

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Toxic amblyopia caused by the ingestion of methyl alcohol, appears to have been first mentioned by Viger in 1877, and in 1879 Mengin called attention to the same subject apparently as a further report on the same case. Knies, in his well-known work published in 1895, barely mentions the subject, and in the same year Casey Wood, in his monograph on the Toxic Amblyopias, states that there were several well authenticated cases in which "vision has been affected by indulgence in this strong-smelling liquid," but he only makes definite mention of Mengin's (Viger's) case.

According to DeSchweinitz the first case reported in America was in 1896 by J. M. Ray, of Louisville, Ky. Since then the literature of this subject has become quite extensive and has disclosed much difference of opinion as to the pathology of this, now from a clinical standpoint, well recognized form of toxic amblyopia.

Curiously enough, in spite of the many cases now on record, with similar history and presenting almost identical clinical pictures, there are still some well informed ophthalmologists unconvinced as to the part played by methyl alcohol in bringing about loss of vision in the cases reported. I need not discuss the possible reason for this curious unwillingness to accept obvious facts, the same unreasonable reasoning is singularly liable to occur in every controversy between members of the medical profession, in which public interests are at stake, or in which the general public is in any way involved.

The question of tobacco amblyopia was for a long time disputed in the same way, and has only been settled by accumulated experience, just as this must be. One great difficulty in the way of carrying conviction to the minds of unbelievers is that of obtaining a sufficient number of pure, or unmixed cases, so straight in every particular that deductions drawn from them are beyond dispute. This happened in the case of tobacco amblyopia until accumulated evidence from year to year finally compelled a general recognition of it as a reality about which, as a genuine toxic effect, there can remain no longer a shadow of doubt.

The pathogenesis of toxic amblyopia presents many points of interest which at the present time cannot be regarded as definitely settled; in most of them the primary lesion seems to have been a local one in the optic nerves, or in some of the structures of the eyeball, rather than a

series of changes induced in the nerve centres. In two of the most typical forms, viz.: tobacco and quinine amblyopia, the changes are certainly of a strictly local character and sufficiently pronounced to account for all the visual defect. I mention these two in particular because the visual disturbance in both has been attributed by some observers to primary changes in the optic nerve and by others to intra-ocular changes involving chiefly the retina in the region of the macula lutea and leading to secondary changes in the optic nerves. However this may be, there is one remarkable difference which shows that the two processes involving, as they undoubtedly do, both optic nerve and retina, produce their effects in an entirely different, I may say in an exactly opposite manner. The chief characteristic of tobacco amblyopia being a central scotoma, whilst that of quinine is loss of peripheral, with preservation of distinct central vision.

As already stated the pathogenesis of wood alcohol blindness is still a matter of dispute; one side contending that the primary lesion is in the retro-bulbar portion of the optic nerve, the other that it is in the macular region of the retina. A brief summary of the arguments as given by DeSchweinitz is about as follows:—

In 1896 Rymowitsch observed fatty degeneration of the ganglion cells, varicose hypertrophy of the nerve fibres and oedema of the nuclear layers in rabbits poisoned by methyl alcohol. Ward Holden and Birch-Hirschfeld believe that they have experimentally shown the amblyopia of methyl alcohol depends on nutritive changes in the ganglion cells of the retina, such as degeneration of the ganglion cells, breaking down of the chromatic bodies, development of vacuoles, shrinking of cell nucleus, and finally destruction of the cell body. Both these observers also found changes in the optic nerve which they regarded as secondary to the ganglion cell alteration. Birch-Hirschfeld admits the similarity of the nerve lesions to that which has been found in ordinary ethyl alcohol amblyopia. Gifford holds that the orbital pain and ophthalmoscopic evidences of positive neuritis met with in some cases, together with complete blindness followed by a temporary improvement, indicate a primary affection of the optic nerve. Holz, who has seen optic neuritis in this affection, considers that if the primary effect were, to destroy the central nerve elements of the retina a partial recovery followed by a second lapse of visual acuity would not be likely to occur, but that this would be the natural sequence of a nerve lesion of an inflammatory type, the effusion at first clearing away with relief to the compression of nerve fibres, then follows renewed pressure on these with the advent of atrophic changes. Gifford noticed total absence of retinal changes, as seen by the ophthalmoscope, a few hours after the

blindness had come on, and holds this to be proof that the primary lesion is not in the retina. On the other hand, DeSchweinitz states that in animals experimented on with methyl alcohol, its toxic action is first upon the ganglion cells of the retina and that the optic nerve changes are secondary.

Notwithstanding all this, the early and often complete loss of vision can scarcely be regarded in any other way than as positive proof of profound disturbance in the optic nerves and the subsequent rapid alterations in the vision without visible ophthalmoscopic changes in the fundus seem to point in the same direction. There are changes in the optic nerves in my third case, which indicate a retro-bulbar neuritis at an early period, but nothing that would justify the assumption of pathological alterations in the region of the macula-lutea.

The symptoms of this toxæmia are not by any means always the same, modified as they may be by innumerable collateral circumstances. Gastro-intestinal disturbances is one of the most common symptoms and may be intense. With large doses this is followed by intense headache, giddiness, and sometimes coma. Rapid failure of sight, often becoming complete, but returning again for a time and soon relapsing, is the most characteristic symptom. Contracted visual fields are the rule, as well as central scotoma; the latter being usually found absolute if carefully sought for. The ocular disturbance is symmetrical and the blindness often total, for a time at least. Great variations in visual acuity occur before the conditions settle down into progressive and permanent atrophy. Ophthalmoscopic signs are variable. Blurring of the edges of the discs, and in some cases cloudiness of the retina; positive optic neuritis, and complete atrophy without signs of antecedent inflammation, are the more important changes so far observed. Retinal vessels sometimes are diminished in calibre and sometimes normal. Pain on moving the eyes and pressing them backwards has been noticed in some cases.

The quantity of wood alcohol necessary to induce this toxæmia is also variable. Estimated quantities have been all the way from two to eight ounces, but even $5\frac{1}{2}$ drachms have produced headache, nausea and vomiting. In one case two doses estimated at two ounces each at an interval of twelve hours, caused death a few hours after the second dose. An interesting series of cases occurring in one household, is reported in the Transactions of the American Ophthalmological Society for 1902, by H. W. Ring, of New Haven, Conn. Seven persons in all were affected, two of whom died; four suffered more or less loss of vision, and one, who took the least quantity, only slight gastric disturbance.

It is with the object of pointing out the dangers of this drug now

come into such common use, that I call the attention of this Society to the subject, and in so doing place upon record three additional cases that have come under my own observation.

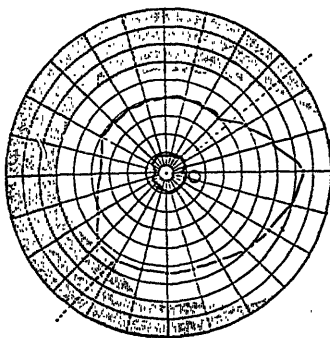
Case I. Mrs. P., *et.* 34, widow, by occupation dressmaker, residing in the State of New York, was admitted to the Royal Victoria Hospital on the 6th of May, 1902, with the following history:—

Was married at the age of 23, two years afterwards her husband died, had no family; general health always fairly good, but for the past eight or nine years has worked very hard at her trade, subject to insomnia as well as some sort of nervous attacks not of a character to interfere with her work. Never had any visual trouble up to the time of taking by mistake a large dose of wood spirit containing wintergreen and intended for use as a liniment in rheumatism. The quantity, as near as she could estimate, was less than half a tumblerful.

The facts with regard to taking this dose, as far as she remembered, were these:—Some time in February, 1902, she came home one afternoon fatigued by a long walk in a snow-storm and found her aged mother very ill; this caused her to feel nervous and distressed. After attending to her mother she took a vapour bath and in the dim light towards evening drank by mistake about a wineglass of the preparation just mentioned, instead of a dose of Hood's Sarsaparilla, which she had been in the habit of taking from time to time. Shortly afterwards she fell asleep and at the end of two hours awoke feeling very ill, with intense headache and, to her great dismay, quite blind. This total blindness lasted some two weeks, then vision gradually returned and has been as at present for several weeks.

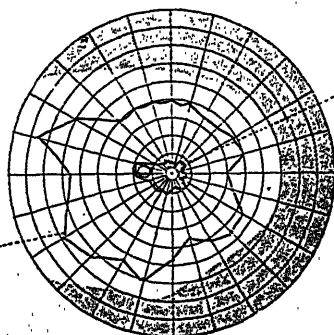
The notes as to her general condition on admission state that she was a medium sized woman, well nourished and apparently in good general health, all the functions being normal, with no evidence of organic disease, except the blindness and certain visible changes in the optic nerve. Vision reduced to fingers at 3 feet in each eye in good daylight, thinks she sees rather better in a somewhat subdued light; refractive media normal; emetropic or very nearly so; pupils about 5 mm. in ordinary daylight, react sluggishly in focal illumination, normally in convergence; no ophthalmoscopic changes in choroid or retina, except diminished size of the blood vessels associated with an advanced atrophy of the optic papillæ, exactly alike in both eyes. The visual fields, as shown by the accompanying chart exhibit very little restriction of the field for white, but there is a small complete central scotoma for all colours. Apart from this the fields for red and blue are

nearly normal, but has not perception for green at all, not even when large squares of this colour are used.



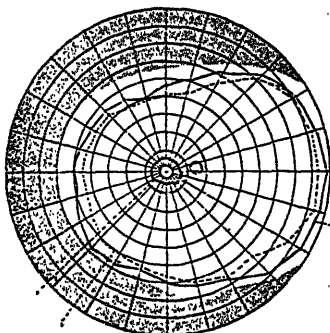
CASE I.

FIG. 1. Large broken line, field for blue, inner continuous line shows scotoma in right eye upon admission.



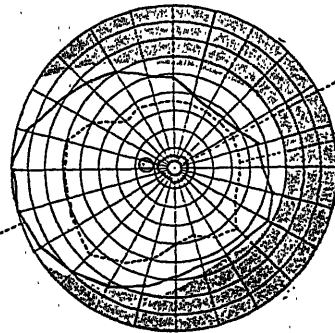
CASE I.

FIG. 2. Large broken line, field for blue, inner continuous line shows scotoma in left eye upon admission.



CASE I.

FIG. 3. Outer line shows field for white, inner dotted line red. Central area, total scotoma; green absent—right eye.



CASE I.

FIG. 4. Outer line shows field for white, inner dotted line red. Central area, total scotoma; green absent—left eye.

This patient was kept under observation in the hospital for two months; treatment by pilocarpine hypodermically, strychnia ditto, and iodide of potassium internally yielded no results whatever and there was not a vestige of even temporary improvement after amyl nitrite inhalations. Vision was no better and no worse when discharged from hospital on July 6th. I have recently been informed that her condition remains about the same.

Case II. Dr. Byers kindly examined this patient for me and sent in the following report together with charts of the visual field.

F. W., æt. 39; a barber, came for advice on October 22nd, 1903, and gave the following history:—

In the spring of 1903, the patient, on account of some slight ailment, was taking some medicine, which he kept in a cupboard. On March 9th, after finishing work, he put the light out in his shop, and by dim illumination from another room took "about a wineglassful" of what he thought was his medicine, but which proved afterwards to be "wood spirit" placed there by some other person as a practical joke or with malevolent intention.

After taking the draught he felt no symptoms whatever until the following morning, when the head began to ache and the eyes to blur. On going to his shop, a man told him he was looking ill, and he found vision so poor that he was unable to do his work. The patient then went home with headache and blurred sight. During the next three or four days, the acuity of vision varied greatly, being at times comparatively clear, at others, clouded, as if by a dense fog. At the end of this period, he went "stone blind" for eight or ten days. He then began to see, first with the outside corner of the left eye, and two days later, out of the same quarter of the right eye. Gradually his distant vision became as good as ever, and he could see to thread a needle. About the middle of April, work was resumed, but somewhere between May 1st and May 10th the sight began again to fail. Dimness of vision increased till about two months ago (August 22nd) since which time both eyes have recovered somewhat, the right more so than the left.

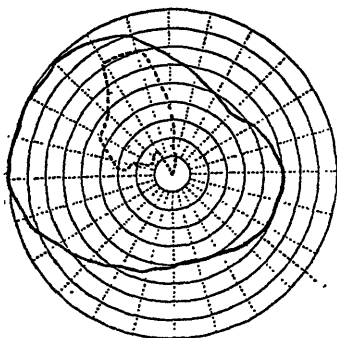
Present condition: Married 18 or 19 years; no specific history; pupils equal; right reacts promptly and well to light; left incompletely and rather sluggishly. The eyes are sensitive to light and have been so ever since taking the wood spirit. He says even during the time that he was completely blind a lamp held before his eyes pained him enough to make its presence known, although he was absolutely unable to see the outline or colour of the flame.

R. V.—fingers at 8 feet, eccentrically with the nasal side of the retina; L. V.—fingers at 3 feet, with the nasal side of the retina.

The ophthalmoscopic picture is that of a primary optic atrophy; both optic discs extremely pale, the left a little more so than the right; laminae cribrosæ clearly exposed. Macular areas normal; slight strippling of the retina about the optic discs. Very faint lines of exudate in places along the arteries which are slightly sclerosed.

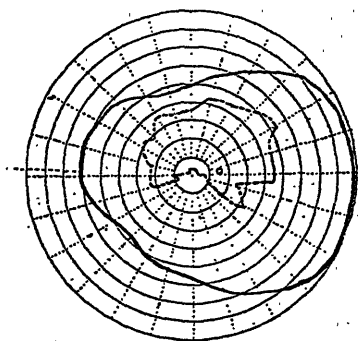
The accompanying fields of vision show the extent to which the peripheral vision is affected, and also the disturbance of the colour sense. On the left side, white only is perceived within the limited area indi-

cated; on the right side the sense of green only is lost, the other colours—blue, red and yellow—being mostly restricted in the order named. Dr. Ridley Mackenzie examined the urine with negative results, and found nothing abnormal in the general condition of the patient, apart from evidences of an old right-sided pleurisy.



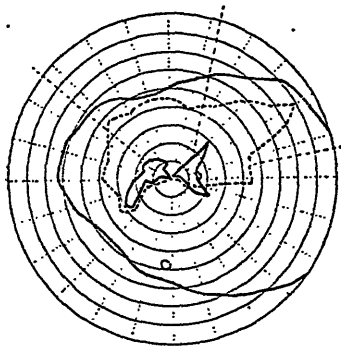
CASE II.

FIG. 1. Dotted line shows field of vision remaining in left eye; continuous line shows normal field.



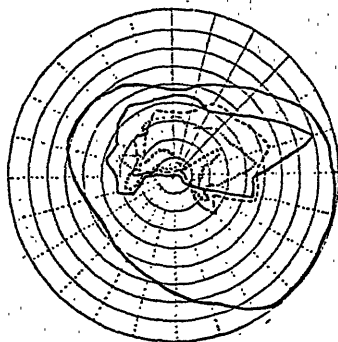
CASE II.

FIG. 2. Dotted line shows field of vision remaining in right eye; continuous line shows normal field.



CASE II.

FIG. 3. Dotted line shows field for white, two small continuous areas show field for blue.



CASE II.

FIG. 4. Inner continuous line shows field for white. Large dotted line, yellow, small dotted line red, x x line, blue.

This patient could not remain in town for treatment, and was sent home with a letter to his family physician recommending a course of strychnine injections. Recently, slight improvement in vision was reported, under this treatment.

Case III. Geo. C., æt. 42, carpenter by trade, came to me on November 15th last, on account of defective vision and was admitted to the Royal Victoria Hospital the same day. He has always enjoyed good

health; no evidence of constitutional disease of any sort; heart, lungs, and renal organs normal in their functions; appetite and digestion good. Four months ago was struck on the head with an axe and was rendered unconscious for a short time but soon recovered and felt no ill effects from the accident since.

Early in November he spent a few days in a lumbering camp in the Adirondack Mountains. On Saturday morning, November 7th, took a drink of what he supposed to be ordinary alcohol, about a small wine-glassful he thinks. This was repeated in the evening and also on Sunday morning, three doses in all. Hunted as usual on Sunday and felt no ill effects, but on Monday rowed with a comrade about fifteen miles on the way home. During this journey he noticed a curious mistiness before the eyes, and the trunks of trees on the lake shore looked flat instead of rounded. Daylight was waning when they landed and by that time he had great difficulty in seeing the things that were to be taken out of the boat, though his companion had none, and, on walking home, a couple of miles, could scarcely see to guide himself. He arrived home with a splitting headache which lasted about an hour, after which he fell asleep and on awakening the following morning found himself entirely blind. He was seen that morning by a doctor who gave him some medicine. By Wednesday evening there was some return of vision so that he could distinguish people moving about. This improvement continued very slowly up to the time he came to see me on November 15th.

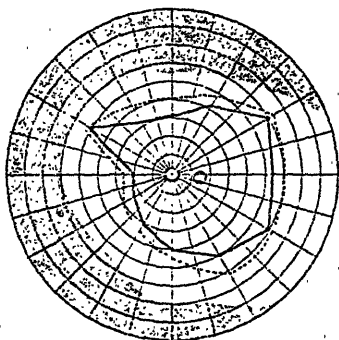
Vision tested in good daylight showed ability to count fingers at about two feet distance with either eye; pupils somewhat dilated and reacting to light rather sluggishly; media clear and refraction emmetropic. Slight pallor of papillæ, vessels about normal; retina at fundus decidedly cloudy, especially above and below the optic nerve entrance. Beyond this slight cloudiness of retina; the macular region showed no deviation whatever from the normal.

I made a chart of the visual field of one eye which indicated a considerable area of great dimness but no complete defect, except a small central scotoma for all colours.

I sent for a specimen of the alcohol this man had consumed and received a small vial of clear liquid having all the characteristics of wood alcohol. This, together with the characteristic subsequent attack of blindness I think established the diagnosis. The comparatively long interval between taking the stuff and the occurrence of visual disturbance is decidedly unusual; at the same time it must be borne in mind that the attack was in no respect so violent as in many of the recorded cases. The patient being in good health and pursuing an invigorating

outdoor life no doubt possessed much greater powers of resistance, which only gave out after repeated doses followed by considerable physical exertion, so that the depressing effect came on later and less forcibly than usual.

The patient was treated in hospital for three weeks, rest in bed, mercurial inunctions and hypodermic injections of pilocarpine were the



CASE III.

Dotted line shows field for red ;
continuous line, field for green ; no
scotoma.

chief measures employed. When discharged on December 7th, vision had improved to 6-22 Rt., 6-27 L., and the central scotoma had disappeared. The fields for red and green are shown by the accompanying chart.

He himself is conscious of a vast improvement in the condition of vision. This, together with the almost normal condition of fundus, justifies the expectation that the improvement will be progressive and permanent.

The three cases I have had the opportunity of observing, all within the past eighteen months, indicate that the affection is by no means uncommon. They may all three be classed as pure cases, for, although the first one took the alcohol mixed with wintergreen, there is no reason to believe the ingestion of wintergreen of itself ever produces any such results. In the other two, wood alcohol alone was the toxic material consumed. They may therefore be useful as a further demonstration of the toxic effects this drug undoubtedly possesses, when taken in any considerable quantity, upon the organs of vision. It is time the public be better informed as to the dangers of drinking wood alcohol, or even working with materials, such as varnish, largely containing it, since its vapour alone has been found capable of exerting the same toxic effect. Probably very few persons realize how exten-

sively this substance is used in many trades and manufactures, giving the ignorant public, who evidently think there is no such thing as bad alcohol, many opportunities to commit the fearful mistake of using wood spirit as a beverage. This is more likely to occur since a less repulsive article, known as Columbia Spirit, has come largely into use. Its poisonous qualities, though perhaps not so virulent as the coarser varieties of wood spirit, are still sufficiently great to render it extremely dangerous, and in my opinion, to demand the use of a caution label on every bottle or package of it sold.

Knowing, as we do, that not very large doses may have a fatal effect, this substance might, if labelled "poison," be used too conveniently by persons possessed of suicidal tendencies; probably, therefore, a label stating that "*this liquid taken internally is likely to cause blindness,*" might have a sufficiently deterrent effect. Unquestionably a general knowledge of the fact that wood spirit cannot be used as a beverage without serious danger would prevent many an unfortunate from suffering the greatest of all calamities, *to wit*, irreparable loss of vision.

The original communication by Dr. George M. Gould, in this issue, upon the ill health of Friederich Nietzsche, adds another to his series of studies on the influence of eye-strain upon civilization. The value of these studies is literary and philosophic as much as scientific. It is probable that the association between ocular conditions and the mental and physical states of such men as Parkman, Carlyle, Wagner, De Quincey, Darwin, Huxley, Spenser, Browning, Whittier, and Nietzsche cannot be demonstrated to a scientific certainty, nor could be, even if these illustrious sufferers were to rise from the dead. Yet Dr. Gould's studies are full of suggestion and interest and deserve careful reading, if only for their literary and philosophical value.

The thirty-third annual dinner of the Medical Faculty of Bishop's College was held at the Place Viger Hotel on the 3rd December, Mr. C. F. Crutchlow presided and about a hundred persons sat down. After the toast of the King, Dr. George Hall proposed "Alma Mater," and it was responded to by Rev. Mr. Abbott-Smith. Mr. T. E. Donnelly proposed the "Dean and Professors," and it was responded to by Dr. F. W. Campbell. The dean spoke in his best vein and he received a most cordial reception. The toast of "Sister Universities" was proposed by Mr. J. J. McGovern, and was responded to by the various representatives. Dr. G. E. Armstrong and Lt.-Col. Burland replied to the toast of "Our Guests," which Dr. Macphail had proposed.

THE

Montreal Medical Journal.

A Monthly Record of the Progress of Medical and Surgical Science.

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No. 1.

DENTISTRY AND MEDICINE.

An application received recently from the Dental Association of the Province asking that McGill University consider the means whereby that University could afford teaching to the dental students of the province, is still, we hear, *sub judice*. It, however, raises so many important considerations that we feel justified in considering the general subject of the education of dental students and the relationship of dentistry to medicine.

It would be needless and would serve no useful end to gloss over the fact that not merely the members of our profession, but the community in general, regard the dentist as on a distinctly lower plane than the medical man, be he a specialist in any branch of medicine, however limited. The main reason upon which this view appears to be based is that the work of the dentist is very largely mechanical, consisting mainly in excavating cavities in the teeth and filling them with metal, in replacing teeth that are lost, or removed, by false teeth which are

bought wholesale; at the highest it is taken to embrace the performance of delicate and elaborate crown and bridge work. Even at its best, it is felt that this work is of a mechanical nature and we are apt to consider that, in the main, dentistry is an art rather than a science. But a reason, almost equally potent, is that the education of the ordinary dentist has been very largely practical, that his general knowledge of the principles of medicine and his general culture have been and continue to be below the standard demanded from those entering the medical profession.

Is this a right view to take of dentistry and the dental profession? We have no hesitation in saying that we consider that it is correct so far as it refers to the ordinary dental practitioner of the present day. On the other hand, it is incorrect as regards the leaders of that profession while it does not take into account the possibilities of what that profession may become under right guidance. Certainly the leaders in the dental profession consider it wholly unjust and they, nowadays, have themselves undergone such a course of education and have developed so scientific a study and treatment of their subject as to demonstrate to us that, whatever may be true of the general run of dental practitioners, their subject is capable of being placed upon a much higher level and, to their credit, it must be said that in every civilized country the dentists as a body are seeking to attain to this higher level. The evolution of the complete dentist and his assumption of a proper position in the community, is following exactly along the lines traced in the evolution of the modern surgeon. We are apt to forget that, not much above a hundred years ago, the surgeon and, let us add, the general practitioner, or apothecary, occupied in the community a position, if anything inferior to that occupied by the dentist of the present day. A century before that, his status was even lower; he ranked with the barbers and blood-letters. The physician who had had a university education was the only member of the profession who, speaking generally, had social rank and influence. The surgeon was supposed to need purely a practical education, to be purely a specialized mechanic. It is difficult, as we say, to realize this, but so it was. There were, even in those days, leading and influential surgeons just as, in these days, there are leading and influential dentists in our community, but, as a body, surgeons were regarded as of an inferior order. With a recognition of the possibilities of surgical development all this has altered; the same high standard of education has been demanded from surgeon and physician alike, and, nowadays, the consultant surgeon takes, in popular estimation, identically the same position as does the consultant physician, even if, in his heart of hearts, and with an historical memory, the physician hugs the comforting belief that he is somewhat the superior.

Now the same course of events is in progress with regard to the dentists. Give the dental student the same university and general education as has the ordinary medical student, make of him a specialist who has had a broad general medical education and, not only will his individual capacity be raised and will he elevate his subject into a definite science, but, coincidentally, his position in the community will be improved. It is for us to recognize this general tendency and to afford to the dental student such an education as shall raise him to a higher, more self-respecting and more respected status, and this for the benefit of the community at large as for his own sake. The question is, how is this to be done?

We have before us already certain examples. In the United States the tendency has been to establish separate dental faculties and these have been established in connection with even the leading universities such as, for example, Harvard and Pennsylvania. We question whether this is not on the whole a mistake, and whether it has resulted in raising the dental students into a right position in relation to students in medicine in general. As members of a separate faculty, even though for a time taking the same courses as ordinary medical students, the dentists have been confirmed as a class apart and what, it seems to us, is more serious, managing their own faculties, they have been cut off from intercourse with and the influence of the leaders in the medical profession. In the Old Country, if the advance has been slower, it has, it seems to us, been along better lines. There, nowadays, the tendency is to encourage the dental student to obtain a degree in medicine before he proceeds to specialize in dentistry. And the results are showing themselves very markedly in the higher standing taken by the modern dentist in popular estimation, not to mention the better and more thorough quality of his work.

This, it seems to us, is the ideal plan. We should do well to demand this medical education and, on the whole, considering that dentistry is the one profession nowadays that is not overstocked, the one profession, we may add, which promises to every competent member an assured competency, there is no reason why we should not make this our ultimate goal. We doubt, however, whether the dental profession is prepared for so big a leap forwards. In so very many respects Canada and Canadian methods are intermediate between Great Britain and the States, and here also an intermediate course would seem advisable, for the present at least. As far as we can learn, the general impression of those connected with the medical faculty and with the university, is strongly against the establishment of a separate dental faculty. The *via media* would seem to be found in the creation of a dental depart-

ment in immediate connection with the faculty of medicine, so constituted that dentistry should be recognized as a branch of medicine. In such a department, those teaching general medical subjects to the dental students would be combined with the dental specialists in developing the curriculum and controlling the development of the school.

This intimate relationship would, in itself, tend to raise the standing and the standard of the profession in this province and throughout the country. The more progressive and liberal minded among the students would be encouraged to take not simply the first two years of, but the whole medical course, before specializing in this one branch. Such a scheme, in short, prepares the way for a future when every dentist shall, like every other specialist in medical subjects, be a full graduate in medicine. It is, we understand, some such scheme as this which now is under consideration.

Let us admit that in enunciating this view we may be in advance of the general trend of professional opinion. We, nevertheless, think that the more the matter is considered, the surer will become the conviction that here we have outlined the right treatment of the problem. Are we justified in regarding dentistry as other than a special, if but limited, branch of surgery? If we are not, then our only right policy is to help forward the dental profession until it comes into line.

THE INFECTIVE ELEMENT IN SCARLET FEVER.

The debate upon the signification of the streptococcus so commonly found in the throats of scarlet fever patients will be familiar to most of our readers. Certain leading German physicians have concluded that this organism is the direct cause of the disease, and have explained thus the favourable results of the employment of antistreptococcic sera. Upon this Continent the other view has been taken, namely, that the streptococcus, when present, indicates a secondary infection and, more particularly, Charlton, here in Montreal, has laid down that thus antistreptococcic serum is of use, not in arresting the disease proper, but in arresting this dangerous secondary infection, which he regards as the main cause of the glandular abscesses, the nephritis and other serious lesions. The fact that in certain mild cases no streptococci are to be found, and that in these same cases the serum is of no use, seems strongly to support this view.

Though other bacteria have been brought forward as the causative agent, in every case other workers have been unable to confirm the observations of the original discoverers of such. At a recent meeting of the Boston Medical Society, Dr. Mallory brought forward evidence to show that, as a matter of fact, scarlet fever is not a bacterial disease,

but is due to a protozoon organism, allied apparently, to the hæmatozoon of malaria, present in the subcutaneous tissues—if the reports reach us aright. He has discovered not merely isolated amoeboid individuals, but has recognized the process of sporulation and the formation of rosettes similar to, but larger than, those formed by the malarial organism. Dr. Mallory has achieved the reputation of being so careful a worker and has proved himself, more particularly, so expert in histological technique and in devising methods of staining, that we are prepared beforehand to accept any statement made by him in a matter in which results depend upon exact processes of staining. At the same time, it would seem that much is still to be done before it can be regarded as established that the disease is due to a protozoon form; the existence of the organism has to be demonstrated, not merely in the skin, but in the tissues of the throat, and the mode of entry and propagation of the organism within the body has to be established. Arguing from analogy, it is doubtful whether we would be able to grow the organism outside the body, at least in pure culture. Acceptance of these results will, therefore, depend very largely upon the confirmatory discovery of the organism by other discoverers in other cases, and the demonstration that it is not to be found in conditions other than scarlet fever.

We now know that infection in malaria is brought about by the intermediation of the mosquito and in these insects only through the growth in their bodies of a sexual cycle of forms. This very fact brings difficulties in the way of our immediate acceptance of Dr. Mallory's results, for so far all the evidence before us points to scarlet fever as a contagious disease, as one conveyed directly from individual to individual. If Dr. Mallory be right, we must, therefore, be prepared to find that his organism, while morphologically similar to that of malaria, has a totally different life history.

POISONING BY WOOD ALCOHOL.

Dr. Buller's paper, on Toxic Amblyopia following the use of Wood Alcohol, which appears in this issue, is of great economic importance. Few persons are aware of the extent to which methyl alcohol is employed as a beverage, nor of the evil effects which may arise from its use. Dr. Kerry's remarks after the reading of the paper before the Society were also suggestive and instructive, particularly his observations that the increase of amblyopia due to the ingestion of wood alcohol is probably owing to the fact that commercial methylated spirit contains fifty per cent. of wood spirits instead of ten per cent. as formerly. It was not unusual about fifteen years ago to hear of factory-

hands being intoxicated from drinking methylated spirits, yet cases of blindness due to this cause were not reported. Whether the ganglion cells of the retina be the vulnerable point or whether a parenchymatous neuritis be induced, it seems sufficiently obvious, from the sudden onset, that pyrolyxic spirit acts in these cases as an essential poison to nerve tissue. It is well known that ordinary alcohol exerts a powerful and injurious action upon the nerves, and considering the much greater energy with which the compounds of the first-member of the paraffin series act, the toxicity of the alcohol of this group is not remarkable. Idiocyncrasy also seems to play an important part in cases of poisoning by this drug and the relation of the dose of the alcohol with the effect produced is not at all constant. Probably the condition of the arteries and the degree of auto-toxæmia present play an important part.

At the meeting of the Maritime Medical Association held in St. John, on the 22nd of July, 1903, Dr. M. E. Armstrong reported a case of death preceded by blindness arising from the same cause. The amount consumed was about seven ounces diluted with Bay rum, and as soon as symptoms of blindness supervened, the victim unwisely had recourse to the homœopathic procedure of continuing the use of the spirit as a remedial measure. It is clear that in this substance we have a very dangerous poison, and one that should be surrounded with all the restrictions that protect common poisons and drugs, and that its sale should be forbidden in shops other than qualified drug stores. At the meeting referred to, a committee was appointed to have such a restriction made, an example which other associations would do well to follow. Dr. Buller makes the wise suggestion that the spirit should bear the label—liable to cause blindness.

The event of the month in Montreal's little world of medicine was the visit of Dr. Osler, and his appearance before the Medico-Chirurgical Society to read a paper upon Aneurysm of the Abdominal Aorta. This condition is not so common as the disorder of Chauvinism, and yet Dr. Osler dealt with it in an equally interesting way. Of equal interest was the evidence of pleasure which the Society gave in meeting one of its past presidents, and the pretty reminiscences which his visit recalled to some of the older members. In proposing the usual vote of thanks, Dr. Shepherd graced the traditional ceremony with many happy references; Sir William Hingston drew illustrations from the great store house of his memory; Dr. F. W. Campbell, who was present with Dr. Roddick at the second birth of the Society, recalled its early days, and Dr. Mills ended all very happily in the words of longing: "Wullie, we hae miss'd ye, sair; will ye no come back again." There is many a true

word spoken in jest. Dr. Osler, in reply, could not let the occasion pass without speaking the great word—Professional Charity. All pathologists learn that word early.

The Health Committee is not to be applauded for its display of wisdom in accepting the offer of a local undertaker for the erection of a Morgue, in the face of other proposals which it had received. The Montreal General Hospital offered to equip a modern morgue on its own property. Much of the work in connection with the present morgue is done in the pathological department of the hospital, and the erection of a morgue in so central a position would render it assessable to students of the three universities. In addition to this, no special grant for carrying on the work was demanded. The Committee acted with its usual wisdom, and as usual the rightness of its decision does not appear to the ordinary observer.

Toronto is making headway with the movement for a municipal Sanitarium for consumptives. Public meetings are being held, and the facts are being laid before the people. During the past ten years in Toronto, 5,280 persons died of tuberculosis; in Canada 8,000 die every year, and 30,000 are habitually sick of this disease. In Germany there are sixty public sanitarium and twenty-two others in course of construction, and it is estimated that in eight years 24,000 lives have been saved. The profession in Toronto have a good case and they are making the best of it.

Reviews and Notices of Books.

GYNÆCOLOGY: A Text-Book for Students and a Guide for Practitioners. By WILLIAM R. PRYOR, M.D., Professor of Gynæcology in the New York Polyclinic Medical School; Attending Gynæcologist, New York Polyclinic Hospital; Consulting Gynæcologist, St. Vincent's Hospital, New York City Hospital, St. Elizabeth's Hospital. One hundred and sixty-three illustrations in the text. D. Appleton and Company, New York and London, 1903.

In this work the author has endeavoured to confine himself strictly to a description of the diseases of women and to their treatment, non-operative as well as operative. It is his opinion, in which we heartily concur, that works on gynæcology are made "too general and discuss subjects which properly belong to other departments, notably surgery and pathology." We are accordingly given a thoroughly practical

gynæcological manual of some 374 pages, in which there is a marked absence of anatomical and pathological detail.

In the first part, consisting of eight chapters, after the methods of examination have been detailed, the various diseases are discussed under general headings, such as inflammations, displacements, lacerations, fistulæ, diseases of the urethra and bladder, tumours, etc., etc. In each condition the etiology is briefly but sufficiently mentioned, the symptoms and diagnosis fully yet concisely set forth, and the appropriate therapeutic and operative measures indicated.

The second part, consisting of fourteen chapters, describes in a clear and practical manner, the various gynæcological operations, beginning with the lesser operations on the cervix and perinaeum, and going on to the capital operations on uterus and adnexa. There are also special chapters on preparations for operation, post-operative management, hernia, operations during pregnancy and hæmostasis.

Dr. Pryor does not lack originality, as is evidenced in his procedure for the correction of retroversion, in his "cul-de-sac" and iodine treatment of septic endometritis, in his cystoscopic methods and even in his theories regarding the causation of dysmenorrhœa, displacements of the uterus and lacerations of the cervix. Throughout the book, moreover, the writer's strong personality is everywhere apparent. His conclusions are based on his own personal experience and his convictions are voiced with "no uncertain sound." Without hesitation he expresses "his enthusiasm for silver wire," and his warm belief in the efficacy of the iodoform gauze pack; or in equally vigorous terms condemns the expectant treatment of sepsis and the employment of anti-streptococcic serum. Though sufficiently conservative to disapprove of hasty operating for uncomplicated retroversion, and to consider that a pessary may be of great service in suitable cases, he is nevertheless so radical that he advocates the most extensive abdominal operation for cancer of the uterus, and under "Pelvic Suppuration" goes so far as to make the statement that "the removal of the uterus is indicated whenever both tubes and ovaries are to be sacrificed."

The illustrations are well executed, suitably chosen, and for the most part original. The student and practitioner cannot fail to find the book of great service, and in it even the experienced gynæcologist may find food for thought.

INTRACRANIAL TUMOURS AMONG THE INSANE. By J. W. BLACKBURN, M.A.; Pathologist to the Government Hospital for the Insane, Washington, D.C. Washington Govt. Printing Office, 1903.

This monograph embodies a study of 29 intracranial tumours, found

in 1,642 autopsies in cases of mental disease. Inasmuch as clinical histories in such cases are usually so very deficient, the subject is considered purely from the pathological side; and, as such, the work constitutes a worthy contribution to the literature. To illustrate the text, which is perhaps more explanatory than critical, there are appended 30 photographs of the gross specimens, and 65 drawings of the various microscopical pictures, all of which are decidedly well done. Of the whole list no less than 17 belonged to the class of growths "commonly called endotheliomata," but which Blackburn prefers to call spindle-celled endothelial sarcomata, "spindle-cells being the predominating type of elements, and the endothelium of the dura mater and probably the soft membranes being the origin of the growths." The histogenesis of these growths is certainly often obscure, and the histological pictures reproduced seem scarcely to justify the new name which Blackburn proposes. At least they rarely represent the definite picture one associates with the term "endothelioma," which certainly arises from the lymphatics of the dura; while they do show the picture of the ordinary spindle-celled sarcoma, whose origin may be said to be the fibrous tissue of the dura. Blackburn finds transitions in the one growth from rounded or polygonal cells to spindle-cells; but that the former are proliferated endothelial cells is not frequently demonstrated.

Five of his list were gliomata, originating in the brain substance. Blackburn is inclined to view gliomata as compound tissue tumours, analogous, histogenetically, to the carcimonata, inasmuch as glia tissue is now believed to be of ectodermic origin. He would also retain the term *glio sarcoma*; not, however, in its old sense as designating "a variety of sarcoma or a transition form of growth," but to indicate those cases in which one finds a large admixture of round cells supposedly of mesodermic origin. In view of the occasional difficulty in the histological diagnosis of glioma, it would have been advisable to mention the staining reactions employed; of special stains, such as Weigert's and Mallory's, Blackburn says nothing.

A third group contains two sarcomata, one a *glio-sarcoma* (in Blackburn's sense), the other a small, round-celled sarcoma. Three tumours of the collection occupied the pituitary fossa; two were adenomata of the hypophysis; and one, which was so degenerated that its microscopical nature could not be made out, was situated in the fossa and had greatly enlarged it, but did not involve the pituitary gland. Although all were large and had pressed injuriously upon structures in the vicinity, in no case were there found signs of acromegaly, myxœdema, or allied conditions.

AN AMERICAN TEXT-BOOK OF SURGERY for Practitioners and Students. Edited by WILLIAM W. KEEN, M.D., LL.D., F.R.C.S., and J. WILLIAM WHITE, M.D., Ph.D. Fourth edition, 8vo., pages 1,363. W. B. Saunders & Co., Philadelphia, New York, London; Canadian Agents, J. A. Carveth & Co., Toronto.

The sale of this text-book, nearly 40,000 copies have been disposed of since the appearance of the first edition, may be taken as evidence of the popularity and excellence of the book. The same general plan has been followed as in former editions, but the work as a whole has been revised and many of the chapters have been partially, and some entirely rewritten. Special mention may be made of the chapters on Surgical Bacteriology, Tumours, the Osseous System, Orthopaedic Surgery, the Surgery of the Nerves, the Joints, the Head, the Abdomen, etc. The most recent researches on the intestines, on shock and blood pressure, aneurysm, renal decortication, and neural infiltrations; along with the treatment of facial palsy by anastomosis, goitre, hernia, the use of paraffin in nasal deformities, and the methods of spinal and local anaesthesia are all brought thoroughly up to date.

Five new chapters have been added dealing with Military Surgery, Naval Surgery, Tropical Surgery, Examination of the Blood, and Immunity. Though there was a brief chapter on the Pancreas in the former edition it has been expanded so greatly in the present as to be practically a new one.

It is to be regretted that the editors have not deemed it advisable to have the various chapters signed. To know who is responsible for an article certainly adds to the interest and impression derived from its perusal. The entire work does credit to the conception of its editors and deserves in even a much greater degree the popularity of its predecessors.

THE PRACTICE OF MEDICINE; A Text-book for Practitioners and Students, with special reference to Diagnosis and Treatment. By JAMES TYSON, M.D. Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University, Physician to the Pennsylvania Hospital. Third Edition, thoroughly revised and in part rewritten, with 134 illustrations, 1240 pages. P. Blakiston's Son & Co., Philadelphia.

This well known work requires very little in the way of review. It is certainly an admirable text-book for the undergraduate and a useful guide for the general practitioner. It has an advantage over many text-books of medicine because of the amount of space allotted to treatment. With regard to diagnosis it closely resembles other standard

works. The method of tabulating symptoms, etc., of one disease with another, which somewhat resembles it, is done in many instances and is a good one for the student.

The historical data, being in smaller type than the other portions of the work renders the book less bulky, besides separating in a manner, the less important, though perhaps not less interesting, so that unnecessary time need not be spent on them.

The temperature charts and other illustrations are well chosen and instructive. They are, of course, of the typical text-book type, and students would do well to remember that variations from the normal type are, perhaps, more the rule than the exception.

The exanthemata are fully described and as one would expect, it is in these largely that the work differs from the two previous editions. As our knowledge of these diseases increases, so long will new editions be necessary to keep up with the times. The newer methods of treatment are fully described, with notes upon their advantages and disadvantages.

The 200 pages given up to the nervous system show how more and more this vast subject is being handled in the general text-books. The latest physiology and pathology are given in a concise form, but quite explicit enough to show along what lines the investigators of this branch of medicine are working.

The table for reducing the metric system into the English, at the end of the book, should be found convenient. It is a feature of all three editions of Tyson's work, and is given because the author thinks that in the near future the metric system will become universal.

CLINICAL PATHOLOGY OF THE BLOOD: a treatise on the general principles and special applications of Hæmatology. By JAMES EWING, A.M., M.D., Professor of Pathology in Cornell University Medical College. Second Edition, revised and enlarged. Lea Brothers & Co., New York and Philadelphia, 1903.

The first edition of this book was published but two years ago, and we welcomed it at the time, as adding much to the literature of a subject which was receiving more and more attention as a helpful factor in many obscure cases of diseases other than those of the blood itself. In the short time that has elapsed since then, the study of the state of the blood in pathological conditions generally and in the blood diseases more especially has added so greatly to the sum of knowledge, that the author has been forced to enlarge his work considerably, even though he has omitted from the second edition much of what appeared in the

former edition, namely, detailed reports of cases and theoretical explanations of the pathological conditions.

Among the additions and changes one notes the following: In the chapter on technique a paragraph has been added on the medico-legal serum diagnosis of human blood from that of other animals, a description with a wood-cut of Dare's hæmoglobinometer and of the method of performing crioscopy with a description and cut of the crioscope of Beckmann. To the stains recommended, that of Jenner is added, a combination of eosin and methylene blue, apparently one of the many modifications of Romanowsky's stain, and possessing with these, the advantage of fixing and staining the blood film at the same time. A description of the apparatus and technique used in obtaining blood for bacterial examination is a new feature of this chapter.

In the section on Morphology and Physiology of the red cells, the recent work upon the effect of surgical procedures on the blood is incorporated. A plate is given of normal blood stained by the Nocht-Romanowsky method in the chapter on The Leucocytes and Leucocytosis, but it is apparently not referred to in the text, the principal reference to this method of staining being under the heading of Malaria, where its value in bringing out the minute structure of the malarial parasite is pointed out. Ehrlich's side-chain theories of immunity are explained, with illustrative woodcuts. The article on pseudoleukæmia has been rewritten and enlarged to fit the more recent work on the class of diseases included under this heading. Ewing believes that the majority of cases are of tuberculous origin, but considers that there is positive evidence that the common pyogenic bacteria and syphilis may also give rise to a condition with similar lesions and history, and indistinguishable from Hodgkin's disease of tuberculous origin.

Considerable additional work has been done upon the infectious diseases, but nothing is specially noteworthy. Reference is made to the discovery in the blood of scarlet fever patients by Class, Kurth, Charlton, and others of a streptococcus, but the author holds that at present it is impossible to decide what its relationship is to the disease. A couple of paragraphs are added upon serum-therapy in typhoid fever, and under Widal reaction, one on paratyphoid strains. "Trypanosomiasis" with a cut of trypanosoma gambiense has been added to the present edition.

Taken as a whole the book is a very decided advance upon the first edition. The four new plates and various other figures added to the illustrations very materially assist in the understanding of the subject. One regrets that after the very considerable increase in knowledge in

blood conditions which the book records, so little of practical value to the clinician has been found.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY. A guide to the application of water in disease. By SIMON BARUCH, M.D. 2nd edition, revised and enlarged. William Wood and Company, New York, 496 pages.

In this work of about five hundred pages an attempt is made, by a general practitioner, "to discuss water as a remedial agent, precisely as medicinal remedies are discussed in the text-books on therapeutics." The object held in view by the author is "to afford information in a concise and practical form," enabling others to obtain the good results of hydrotherapy from the simplest methods. With such an object before him Dr. Baruch deals with the subject from three standpoints, and into three parts his book may be divided. Hydrotherapy is defined as including "the application of water in any form from the solid and fluid to vapour, from ice to steam, internally and externally."

The first part, consisting of five full chapters, deals with the physiological effects of water, functions of the skin, rationale of action of water on health, reaction, etc.

The second part, comprising by far the larger portion of the work, consists of twenty-four chapters on the practice of hydrotherapy and its application to many diseases, as pneumonia, phthisis, anæmia and chlorosis, the exanthemata, etc.

The third part is an historical epitome, giving a general view of hydrotherapy in the different countries, Germany, Italy, France, England and America, closing with an appeal for more attention to the teaching of this branch in medical schools.

Dr. Baruch's work is a valuable one, and rendered particularly so, among other reasons, by the fact that high authorities are quoted and references given throughout its pages. We can strongly recommend it to practitioners of medicine.

W. F. H.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. BY GEORGE RICHARDS, M.D. Published by International Journal of Surgery Co., New York. Price, \$2.00.

This work is, as the author states in the preface, intended as a working guide for the practitioner and student, with little experience in the treatment of these affections, and as an introduction to the more complete treatises. In this respect the author has succeeded admirably in placing the subject clearly and concisely and yet with sufficient attention to detail that nothing has been overlooked. The

work is entirely the result of the author's own experience, and methods of diagnosis and treatment are dealt with as he personally found them of service, without discussing many mooted points. Such a manner of thus dealing with the subjects places them in a light readily to be understood and in a way which the student can best grasp a thoroughly practical knowledge of what is most useful. Most of the original diagrams are well done, but those contributed from other sources are not equally distinct. The publishers otherwise have done their work well and taken altogether the work is one highly to be recommended to students and beginners in this branch of medicine.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS, Vol. 18.
Philadelphia, 1903.

The present volume is of particular interest to us in Montreal in that it contains the papers read at the meeting in which one of our number, Dr. James Stewart, was President, was in fact, the first Canadian president of what is assuredly the most important and influential medical association upon this continent.

It is needless to pass the various communications in review. It is only necessary to say that the Transactions retain their accustomed high standard. We know, in fact, of no other society whose transactions maintain so consistently the same high level. It is not a little interesting to us to see how fair a proportion of the articles is by those of Canadian birth. Exclusive of Dr. Stewart's address, of the forty-five articles, nine are of this order. Dr. Lafleur records a case of gastric syphilis; Dr. John McCrae gives an analysis of 717 cases of typhoid fever; Dr. McPhederan records a case of pulsating serous pleural effusion; Dr. McPhederan and Dr. J. J. McKenzie one of massive hæmorrhagic infarction of the lung due to pulmonary endarteritis and thrombosis; Dr. Osler writes upon chronic cyanosis with polycythæmia, a new clinical entity, as again upon the visceral manifestations of the erythema group of skin diseases; Dr. W. G. McCallum on the production of specific cytolytic sera for the thyroid and parathyroid; and Dr. Lewellyn Barker affords a description of the brains and spinal cords of two brothers dead of hereditary ataxia

FUNCTIONAL DIAGNOSIS OF KIDNEY DISEASE, with Special Reference to Renal Surgery. By L. CASPER and P. F. RICHTER. Translated by Bryan and Sanford. Philadelphia, P. Blakiston's Son & Co., 1903.

This book, already well known in Germany whence it came, has been well translated to supply the demand of the American reader, although it has already been well known among surgeons on this side of the

water. The book deals with the problem of the so-called functional diagnosis of surgical renal conditions, and the authors hold that the mere examination of the urine in the ordinary way, even after catheterization, is in itself insufficient to determine what they call the sufficiency of the kidneys. They regard it as essential to calculate in addition the molecular concentration of the blood as done by Koranyi, and further, to determine the amount of renal function by estimating the sugar elimination of each kidney after the injection of phloridzin. The agreement in the results between the estimations of the freezing point and the sugar elimination after phloridzin is especially valuable. The urine is collected not necessarily from both ureters in most cases, but from catheterization of one ureter, and the removal of the urine lying in the bladder by ordinary catheterization. Numerous cases are cited to prove the importance of their methods. The confirmation of their results by others should do much to enhance the appreciation of careful laboratory methods for clinical purposes. We can only add that however great the benefits of these methods may be to the laboratory worker their use to the ordinary practical surgeon has scarcely yet been easy of application, and one would crave for still more satisfactory methods for estimating easily as well as accurately an existing renal insufficiency.

"DISEASES OF THE NOSE, PHARYNX AND EAR." BY HENRY GRADLE, M.D. Illustrated. Published by W. B. Saunders & Co., Philadelphia and London, 1903.

The author, whose experience in this department of medicine has extended over a period of twenty-five years, presents the subjects as they have appeared to him, and in a very acceptable manner, and devoid of "padding" so frequently met with. It is not intended as an encyclopedic treatise and hence lacks the literary and historical completeness proper to a text-book. The work is divided into two books, the first, being devoted to diseases of the nasal passages and pharynx and the second one to diseases of the ear.

Whilst the work in general is fairly complete, one observes with regret the absence of consideration of diseases of the soft palate and uvula and that the subject of malignant diseases of the nasopharynx receives such scant consideration. The second book, dealing with diseases of the ear is well written and thorough, especially the operative work upon the mastoid. The diagrams are well executed and clear; the coloured plates, representing conditions of the nose, naso-pharynx and ear are equally well done. The book will be found a useful guide to those interested in these subjects.

AUTOINTOXICATIONS. By PROF. DR. CARL VON NOORDEN and DR. MOHR. E. B. Treat & Co., New York, 1903; 80 pages; 50 cents.

This monograph is the fourth in the series of Prof. von Noorden's clinical treatises on the pathology of disorders of metabolism and nutrition, which are appearing in English under the editorship of Boardman Reed. The translation is by Dr. A. C. Croftan and it is well done; the previous volumes were well done too. Nothing need be said about the advantages of making accessible to the English reader the results of the profound experiments always being conducted in German laboratories, or of the pleasure of finding some few facts in the large talk about these abstruse matters. A summary of Dr. von Noorden's views is: that there are various manifestations of self poisoning, that the acid poisonings are the gravest form, and that an understanding of those perversions of metabolism, which result in the production of oxybutyric acid, diacetic acid and acetone is of the greatest possible importance. If Dr. von Noorden does not entirely remove the obscurity surrounding these mysterious processes he has done something to make their meaning plain, and not content with that, he has deduced some conclusions as to treatment. The studies as contained in these books are of profound significance.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. STEVENS, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania. Sixth Edition, revised, enlarged, and reset. Post octavo, 556 pages, illustrated. Philadelphia, New York, London; W. B. Saunders & Company, 1903. Flexible leather, \$2.25 net. Canadian agents, J. A. Carveth & Co., Toronto.

This is a sound book in small compass and quite up to the needs of the average student. The work has already passed through six editions and the present one is brought up to October, 1903. Many articles, notably those on diseases of the digestive system, diseases of the myocardium, malaria, diseases of the blood, gout, diseases of the spinal cord and larynx, have been entirely rewritten.

PROGRESSIVE MEDICINE, a Quarterly Digest. Edited by HOBART AMORY HARE, M.D., Vol. IV., December, 1903. Lea Brothers & Co.

The contents of this volume, of 431 pages, are: Diseases of the digestive tract and allied organs, the liver, pancreas and peritoneum, by John C. Hemmeter; Anaesthetics, fractures, dislocations, amputations, surgery of the extremities and orthopaedics, by Joseph C. Bloodgood; Genito-urinary diseases, by William T. Belfield; Diseases of the

kidneys, by John Rose Bradford; Physiology, by Albert P. Brubaker; Hygiene, by Charles Harrington, and Therapeutics, by H. R. M. Landis. This volume maintains the high standard established by its predecessors and only requires that attention should be drawn to its publication. A book of this kind is indispensable.

Medical News.

SECOND CONGRESS OF THE FRENCH-SPEAKING PHYSICIANS OF NORTH AMERICA.

On the 8th December a meeting of the physicians of the district of Montreal and the Committee of organization of this Congress was held in Laval University. Dr. A. A. Foucher, President of the Congress, opened the meeting by saying that this Congress would coincide with the 25th anniversary of the foundation of Laval University in Montreal, and that it was meant to have both the celebration and the congress come off about the same time, the chief aim of the meeting being the nomination of officers. Dr. Lesage, general secretary, gave the names of the officers suggested in the several sections and submitted this list to the meeting. Three general committees were formed: Finance; Sections Studies, with sub-committees; Organization.

General Officers of the Congress: Dr. A. A. Foucher, President, 96 St. Denis Street, Montreal; Dr. Séraphin Boucher, Treasurer, 1183 Ontario Street, Montreal; Dr. Albert Lesage, Secretary, 268 St. Denis Street, Montreal.

Finance Committee: Dr. E. R. Lachapelle, President; Dr. S. Boucher, Secretary; Drs. E. G. Asselin, G. E. Baril, Théo. Cypihot, E. G. Dagenais and L. E. Fortier.

Section of Medicine: Dr. J. P. Rottot, Montreal, Honorary President; President (will be named by Quebec); Vice-Presidents, H. Hervieux, Montreal; E. F. Panneton, Three Rivers; Secretary, Alph. Mercier, 164 Berri Street, Montreal.

Section of Surgery: Honorary President, Sir William Hingston, Montreal; President, Oscar Mercier, Montreal; Vice-President (named by Quebec); J. O. Camirand, Sherbrooke; Secretary, Eug. Saint-Jacques, 573 Sherbrooke Street, Montreal.

Gynecology: Honorary President, Coyteux-Prévost, Ottawa; President, M. T. Brennan, Montreal; Vice-Presidents (named by United States); 2nd Vice-President, J. E. Turcotte, St. Hyacinthe; Secretary, William Jas. Derome, 372 Sherbrooke Street, Montreal.

Obstetrics and Pediatrics: Honorary President, J. B. A. Lamarche,

Montreal; President (named by Quebec); Vice-Presidents, E. A. R. de Cotret, Montreal; I. Cormier, Montreal; Secretary, E. G. Asselin, 481 St. Antoine Street, Montreal.

Legal Medicine, Mental Diseases and Morbid Anatomy: Honorary President, E. J. Bourque, Longue Pointe; President, Geo. Villeneuve, Montreal; Vice-Presidents (named by Quebec); E. M. Provost, Sorel; Secretary, E. P. Chagnon, 119a Laval Ave., Montreal.

Ophthalmology, Otology, Rhinology: Honorary President, L. Edouard Desjardins, Montreal; President, Rod. Boulet, Montreal; Vice-Presidents (named by Quebec and by United States); Secretary, Henri Masson-Duhamel, 266 St. Denis Street, Montreal.

Hygiene and Professional Interests: Honorary President, E. P. Lachapelle, Montreal; President, C. N. Valin, Montreal; Vice-Presidents, Elz. Pelletier, Montreal; L. J. Sirois, Saint-Ferdinand d'Halifax; Secretary, Jean P. Décarie, 676 Sherbrooke Street, Montreal.

The President suggested, in order to give more time to discussion, 1st, That each section furnish a lengthy work on a subject of actual interest; 2nd, That members intending to read a paper should prepare it as soon as possible; 3rd, That all such papers be printed previously to the meeting; 4th, That at the Congress, the speaker give but a concise summary and the conclusions of his communication. It was in the interest of the Congress and the members that all those having papers to present, notify the secretaries as soon as possible, giving the title of their paper.

Quebec has named the following officers:

Medicine: Honorary President, Dr. Brochu; President, Dr. Rousseau; Joint Secretary, Dr. Jobin.

Surgery: Honorary President, Dr. Ahearn; Vice-President, Dr. Art. Simard; Joint Secretary, Dr. Daignault.

Gynaecology: Honorary President, Dr. Grondin; President, Dr. Fortier; Joint Secretary, Dr. Faucher.

Legal Medicine, Mental Diseases: Honorary President, Dr. Marois; Vice-President, Dr. Belanger; Joint Secretary, Dr. Mayrand.

Ophthalmology, etc.: Honorary President, Dr. Simard, Sr.; Vice-President, Dr. Dussault; Joint Secretary, Dr. Fiset.

Hygiene and Professional Interests: Honorary President, Dr. Catellier; Joint Secretary, Dr. F. X. Dorion.

McGILL UNIVERSITY.

Christmas examinations in the different Faculties commenced on the 14th December. Some of these examinations were final, as Geometry of the first and second years, and Psychology of the second year in the

Faculty of Arts, and also Machine Design, Mathematics and all others in the Faculty of Applied Science, as well as several in the Faculty of Medicine.

In the Faculty of Arts 25% was allowed for each paper, and the marks gained go to the credit of the student in the April examination. The maximum value of the papers set for this examination was 75%. In the Faculty of Applied Science students who fail in the Christmas examinations are obliged to pass a supplemental before they can get credit for the work in the several subjects of this examination. With the exception of two or three papers which were taken by but a few students, the examinations closed on Friday, the 18th December, when the Christmas holidays began.

The triennial list of graduates of the University has been issued. A summary of the degrees granted by the University shows that since its foundation, seventy-five years ago, the number of students in all faculties, who have graduated, is 4,366. In the faculty of medicine were 2,679, of whom 1,714 are living. There were 1,024 Bachelors of Arts, of whom 938 are living, and 559 graduates in law. The death rate in the legal profession seems heavier than amongst graduates in arts, 101 out of the 559 law graduates have died. Next to law, in point of numbers, comes Applied Science, with 521. Of these, 332 graduated prior to 1899, when the degree given was B.A.Sc. Since that time this degree has become obsolete, and in its place is the degree of B.Sc. After science comes veterinary science with 188 graduates. Among other obsolete degrees which have been offered in past years, is that of graduate in civil engineering. This degree was offered before the present faculty of applied science was established. Of these there were fifteen, eleven of whom are still living.

Later degrees which have been abandoned are those of master of engineering, master of applied science, and doctor of divinity. Since 1844 the D.D. has not been conferred, and there were only two who received it, both of whom are dead. Divinity degrees are now obtained from the affiliated theological colleges.

In the last two years some new degrees have replaced these old ones, for example, the bachelor of science and master of science in arts. The distinction between these degrees in the faculties of applied science and arts is that in arts they are conferred for work in pure science.

McGILL MEDICAL FACULTY.

The autumn session of McGill Medical Faculty ended on the 18th December. The Christmas examinations began on the 15th, but the results are not yet announced. One examination paper is appended

to illustrate the profound knowledge that is required of a first year's student

1. Explain and illustrate (1) Potential and Kinetic energy. (2) Specific heat. (3) Declination of a compass needle.

2. The volume of gas reads 76.6 c.c. at 230 degrees F., and the barometer reads 750 m.m. What would be the volume of this gas at normal temperature and pressure?

3. Give briefly the laws governing the diffusion of gases and osmosis of liquids

4. Describe an experiment illustrating the force of the surface tension of water. What is the relation of surface tension to capillary attraction?

5. How much heat would be required to convert 10 lbs. of ice at 8 degrees C. into water at 8 degrees C.? What is the mechanical equivalent of this amount of heat?

6. Give the laws of refraction of light. Describe and compare the action of a prism and a biconvex lens on a pencil of light. How are lenses made acromatic?

7. Compare and illustrate the phenomena of interference of sound and light.

8. Describe briefly what occurs when a note is sounded by (a) a wire; (b) an open organ pipe; (c) a closed organ pipe; (d) a bell; (e) the vocal cords.

9. Describe and illustrate the phenomena of magnetic and electric induction.

10. Explain the construction and principle of the D'Arsonval galvanometer.

VETERINARY STUDENTS LAVAL UNIVERSITY.

The veterinary students of Laval University gave a very successful and enjoyable banquet at the Place Viger Hotel on the 2nd December, presided over by Hon. Sidney Fisher, as honorary president, and largely attended by the veterinary surgeons of the city and the province. The guests numbered eighty. Amongst those present were remarked Dr. V. T. D'Aubigny, director of the Veterinary Faculty; Dr. E. P. Lachapelle, president of the Veterinary Faculty; l'Abbé Gustave Bourassa, secretary of Laval University; J. X. Perrault, H. Piché, Dr. Wm. J. Derome, J. P. H. Lorain, Dr. E. P. Benoit, J. Boyer, Provincial Lecturer on Agriculture; D. Génèreux, Dr. P. T. D'Aubigny.

The students deserve great credit for the manner in which the programme was carried out. Hon. Sidney Fisher remarked that it was the first time he had been invited by Laval, and, as Minister of Agricul-

ture, he was proud to say it was by the Faculty of Veterinary Medicine. Speeches were made by Dr. V. T. D'Aubigny, l'Abbé Bourassa, Dr. E. P. Lachapelle, Dr. W. J. Derome, Dr. E. P. Benoit and Dr. Boyer.

ROYAL VICTORIA HOSPITAL.

Report for month ending November 30th: Patients admitted, 241; patients discharged, 207; patients died, 12; Protestants, 141; Roman Catholics, 90; Jews, 10; medical, 73; surgical, 102; ophthalmological, 19; gynæcological, 33; laryngological, 14. Out-Door department: medical, 89; surgical, 374; eye and ear, 329; diseases of women, 155; nose and throat, 281; total 1,949. Ambulance calls, 70.

A report issued by the directors of the Winnipeg General Hospital shows that over 3,000 patients were treated at that institution during eleven months of 1903. During the same period of 1902 the number of patients was 2,718.

The annual Christmas dinner of the Notre Dame Hospital was held on the 26th December. It was presided over by His Grace Archbishop Bruchesi and representatives were present from the governors, administrators, doctors, patronesses, benefactors and other friends of the institution.

Dr. Jules Prevost, of St. Jerome, died at the Montreal General Hospital on the 7th December, of nephritis and pneumonia, after a few days' illness. The deceased was the father of Dr. Prevost, Ottawa; Dr. Prevost, of the Provincial Board of Health, and Dr. Henry Prevost, of St. Jerome.

Dr. M. F. Haney, an old resident of Humberstone, died on the 2nd December, aged 79 years.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

ARTHUR TRACY CABOT, A.M., M.D. "Observations on the Effect of Catheter Drainage on the Function of the Kidneys in Interstitial Nephritis and Pyelo-Nephritis." *Boston Medical and Surgical Journal*, November 19, 1903.

This very interesting and suggestive article is termed a study in pathological physiology, a definition which at first sight may appear

a contradiction, but which, on reading, impresses one as very aptly taken. The article deals with the marked beneficial results obtained by constant drainage in relieving the internal pressure on the kidney caused by prostatic hypertrophy. The writer holds that the interstitial changes in the kidney are secondary to the enlargement of the prostate due directly to the obstruction to the flow of urine, rather than that the enlargement of the prostate and changes in the kidney are manifestations of a general condition. Accordingly the treatment is directed towards relieving the kidneys from internal pressure, due to the back-flow of a distended bladder, and in the cases reported consisted in constant drainage by catheter. The writer does not advocate this form of treatment over operative measures, but employs it in very old or broken patients who are not fit subjects for serious operation, to those who refuse operation, and in preparing cases for the more serious operative procedures. The results obtained are decidedly good. His conclusions are:

First: "The relief of tension in kidneys that owing to long obstruction are exhibiting the clinical phenomena of interstitial nephritis, usually brings about a return of normal function. From this, it would appear the renal condition is directly due to the obstruction and increased tension."

Second: "It seems probable that in cases of dilated ureters, permitting regurgitation of urine from the bladder back into the pelves of the kidneys, a long drainage of the bladder will permit such a shrinkage of the ureters and ureteral orifices as to restore the normal valvular action of the ureters and the retro-flow of the urine will thus be stopped."

B. B. FOSTER, M.D. "Report of a Needle in the Prostatic Urethra."
Medical Record, Nov. 14, 1903.

With an entire absence of any history bearing upon the cause of symptoms, and evidence of a foreign substance in the deep urethra or bladder, a perineal lithotomy was performed but nothing abnormal found. The symptoms disappeared, probably as a result of rest in bed, but soon recurred on getting up. Later on a combined suprapubic and perineal lithotomy was done, and the foreign substance found to be situated at the anterior portion of the prostatic urethra, and consisted of a needle two inches long carrying a double thread about the same length. The patient subsequently stated he had swallowed it over a year ago. One of the consultants held the view that the patient must have inserted it into the urethra himself, and the writer leaves the solution of the problem to his readers. Although the bladder was cut into

three times the wounds all healed completely and no interference with the normal functions of the bladder resulted.

C. F. BARBER, M.D., "A Case of Multiple Lipoma." *Brooklyn Medical Journal*, November, 1903.

The tumours numbered 82, and were distributed over both arms and forearms to the wrists and from the waist to the knees. In size they varied from a cherry to a swelling six inches in diameter. They were all removed at one sitting, the patient making an uneventful recovery.

B. F. LUND, M.D., "The Treatment of Diffuse Peritonitis." *Boston Medical and Surgical Journal*, Nov. 26, 1903.

By a diffuse peritonitis is meant a rapidly spreading inflammation of the peritoneum resulting from a perforation of the appendix or other viscus in which the pus or fibrin is not walled off by adhesions. A general peritonitis differs from a diffuse only in extent, not in character. The writer is strongly opposed to the rest treatment in such cases and advocates immediate operation. He removes the infecting focus and then, by copious irrigation with a deci-normal salt solution at 110 F. washes out as much of the infectious products as possible.

He is opposed to removal of the intestines and sponging them over as it produces considerable shock and leaves bleeding surfaces with open lymphatics to absorb infection. Drainage is secured by gauze in preference to glass or rubber tube for the reason that the tube is generally found to be filled with coagulated fibrin at the end of twenty-four hours, that the gauze wicks remove by capillarity a large amount of fluid and that the irritation caused by the gauze favours limiting adhesions. (Our experience has been that drainage by tube is by far the more efficient, that gauze frequently acts as a plug rather than a drain.) The head of the bed is raised about one foot to bring gravity into assistance in drainage. In those cases when distension is marked, an incision is made into the small bowel, contents evacuated as far as possible, and two ounces of saturated solution of Epsom salts injected, the wound being immediately sutured. Early attempts are made to move the bowels by salines and various enemata. If distension persists or increase a second enterostomy is done, the edges of the incision in the bowel being sutured to the transversalis fascia and a glass tube inserted and fixed in place to secure free vent and allow the paralyzed intestine to recover. This procedure proved effective in certain desperate cases. The mortality in cases, due to a perforative appendicitis was 57 per cent., a favourable showing when one considers the desperate condition of such cases.

W. GREENWOOD SUTCLIFFE, F.R.C.S., Eng. "The Operative Treatment of Tuberculous Glands of the Neck." *Lancet*, Nov. 14, 1903.

As a result of a somewhat extended experience in such cases the writer believes the operation should consist of as thorough a removal of glands and cellular tissue as possible, that interference with the more important vessels and nerves, especially the internal jugular vein and spinal accessory nerve, should be avoided, and the incisions so planned as to leave as little conspicuous scarring as possible. For ordinary cases glands in the anterior triangle and under the sterno-mastoid, advantage is taken of one or other of the two natural creases found in most necks running from the thyro-hyoid region to below the lobe of the ear, and incision made along this crease. For the more extensive dissections a longitudinal incision is made from the posterior limit of the first (transverse) incision downwards to meet the posterior border of the sterno-mastoid about the level of the clavicle, and the triangular flap turned forwards. In ordinary cases the glands are removed *en masse*, in more extensive cases it is better to remove them in two or more groups. The subclavian glands are often adherent to the pleura and adjacent vessels, and in this region it is better not to remove the capsule but to incise it and shell out the glands.

KAYSER. "Immediate Osteoplasty of the Skull in a Case of Head Injury." *Deut. Zeit. f. Chir.* Oct., 1903.

Kayser reports an interesting case of head injury, resulting from the kick of a horse. There was present a depressed fracture of the left parietal bone, $7\frac{1}{2} \times 5$ cm., with $1\frac{1}{2}$ cm. depression; both external and internal tables were splintered in stellate fashion, and were broken loose from each other; and, although there was no hole in the skull, about a tablespoonful of crushed brain matter was found in the scalp wound, evidencing the elastic back-spring of skull fragments when fractured by direct violence. The author's object in reporting the case is to record what he considers as a new method of osteoplasty in closing the defect resulting from removal of the whole of the depressed bone. This removal he had considered necessary on account of the crushing of brain substance and tearing of the dura found beneath it.

Reduced to simple proportions the method merely consists in replacing portions of the removed internal table, at about right angles to their former direction, so that the ends of these fragments are firmly fixed into the diploe on either side. Concerning the method, the author's summary is as follows: "The fragments of the internal table, in cases of fracture, are especially suitable for closure of a defect in

The skull, because they are large; because they can easily be fitted to the defect by simple rotation; and because by reason of their smooth under surface, they are not apt to form adhesions with the brain or meninges. An especial advantage of the method is that it allows immediate closure, even when extensive destruction of the membranes or of the brain substance itself is present." Sufficient space is allowed beside the fragments for drainage. The author's case demonstrated clearly the value of the method, inasmuch as there occurred immediate healing in of the fragments, and an ultimate perfect result.

Numerous side-issues—as in the German fashion—are exhaustively discussed. The one of most interest refers to the mildness of the symptoms compared with the extent of brain destruction. The symptoms were confined practically to a five-days' paresis of the right arm, coming on a day after the accident. The area of brain injured was the post-central convolution and the anterior half of the sup. and inf. parietal lobule. Sherrington has lately shown (*Proc. Royal Society, London LXIX., 1901*) by experiments on ten of the higher apes that the "motor" cortex is confined to the ant-central convol. and the central sulcus; and that the post-central convol., contrary to what has heretofore been understood, is entirely free from motor centres. Analogous proof from the histological side has lately been furnished by Brodmann (*Neurol. Centralbl., 1903*), who found the minute architecture of the two areas quite different from each other. Clinical evidence has lately been accumulating tending to support these laboratory views, and Kayser considers his case as a decided addition to this evidence. The paresis of the arm, transitory as it was and coming on only after 12 to 24 hours, may be set down as due to reactionary oedema.

Other matters discussed concern the elevation of uncomplicated depressed fractures (against which Kayser declares himself); the experimental fracture of the skull in cadavers, which showed him that the two tables were constantly loosened from each other; the advisability of immediate closure of traumatic skull defects; and the history of osteoplasty of the skull. Upon one point, protest may be made, Kayser advises immediate closure in order to prevent hernia cerebri. Against this should be urged that, if there is to develop a hernia cerebri (a very rare thing) it indicates a degree of intracranial pressure so great as to render closure of the skull decidedly dangerous, as has been so well shown by Kocher and Cushing.

DR. KARL VOGEL. A Case of Restoration of the Radial Diaphysis with Ivory. *Deut. Med. Woch., Nov. 12, 1903.*

The patient, a girl of 8 years of age, entered hospital for necrosis of

the whole radial diaphysis, following an osteomyelitis six months previously. The sequestrum was removed, and healthy granulations sprang up, but there soon developed a marked subluxation of the hand towards the radial side. To prevent this complication, which threatened to leave the patient with a deformed and comparatively useless wrist, a stick of ivory was inserted, the sharpened points of which were forced into the radial epiphysis at either end. The soft parts were united over it. Uninterrupted healing. The case, watched for over a year, showed no sign of sinusformation.

An interesting point in the case concerns the fate of the arm as growth proceeds. What will happen on the radial side while the ulna is growing to adult size? A Röntgen photograph of the case taken a year after operation shows quite considerable new formation of bone, both from the epiphyseal ends and from remains of the periosteum covering the former diaphysis.

The subluxation of the wrist was also greatly improved; while function was perfect, save for slight restriction of pro. and supination.

The healing in of foreign bodies must naturally always remain problematical, even in aseptic wounds; but the present case, with many others to be found in the literature, would seem to bear out Mayo's remark, that in tissues not subject to much movement, such as bone or aponeurosis, such healing in may as a rule be expected, while the reverse is true of tissues which are in constant motion, such as muscle.

E. W. A.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND
W. F. HAMILTON.

HAMILTON GRAHAM LANGWILL, M.D. "Epistaxis at the onset of Acute Rheumatism." *The Scottish Med. and Surgical Journal*, Nov. 1903.

Three cases of epistaxis at the onset of acute rheumatism are described. In one case epistaxis occurred at the onset of three separate attacks. The writer asks whether it is possible that these instances of epistaxis are, as it were, links to the allied hæmorrhagic conditions associated with the rheumatic state described sometimes as purpura rheumatica, the mucous membrane here being the site of the bleeding instead of the cutaneous tissues.

CAMPBELL P. HOWARD, M.D. "Pneumococci Arthritis—Report of Three Cases." *Johns Hopkins Bulletin*, Nov. 1903.

Case No. 1 Male, æt. 42, with acute lobar pneumonia of mid-

lobe, acute pericarditis, arthritis of the right shoulder, acute endocarditis, meningitis and arthritis of the right ankle; died on the eleventh day of the disease. Cultures from the blood and from the fluid aspirated from the right ankle and from the endocardium showed typical pneumococci, lanceolate diplococci.

Case No. 2. Male, æt. 79 years, lobar pneumonia, arthritis of left shoulder on the 7th day; right knee, 8th day; left knee, 9th day. Death on the 9th day. Smears of purulent fluid from the left shoulder and right knee showed capsulated diplococci.

Case No. 3. Female, æt. 69 years. Lobar pneumonia, arthritis of right knee—10th day, death. Smears from mitral valve vegetations and joint fluid showed presence of typical lanceolate diplococci.

ALEXANDER W. MACCOY. "A Clinical Study of the use of Antitoxine Serum (Dunbar's) in Hay Fever." *The New York and Phila. Med. Journal*, Nov. 21, 1903.

Additional evidence of the efficacy of Dunbar's treatment of hay fever is furnished in the report of its use in six of the fifteen patients observed by Dr. MacCoy during the season of 1903. It will be remembered that in the July number of this JOURNAL, under the Retrospect of Medicine, a brief resumé of the discovery of the serum with subsequent experiments by Sir Felix Simon was published. The present communication confirms the results previously obtained and Dr. MacCoy remarks that in the fifteen cases in which he made his clinical experiments the effect was so promptly manifested, the relief so complete and the result so permanent for this season, that it appeared really marvellous. His experience confirms the contention of Professor Dunbar that cases of hay fever are dependent upon the toxine resident in various pollens of grasses. The application of the remedy is very simple. "To the conjunctival mucous membrane one or two drops were instilled from two to four times daily. For the nasal passage from two to four drops were dropped into each nostril from two to six times a day."

DR. DIEFENDORF. "Blood Changes in Dementia Paralytica." *The Amer. Journ. of Med. Science*, Dec., 1903.

A careful study of the blood of patients suffering from dementia paralytica, with a review of the more important work done upon the subject for the last fifty years, is found in this article. The conclusions are as follows:—

Dementia paralytica is accompanied by a moderate and progressive anæmia involving, especially, the hæmaglobin and becoming more marked as the disease progresses.

The terminal state of the disease is accompanied by a rise in the hæmaglobin, erythrocytes and a leucocytosis. Paralytic attacks are accompanied by a leucocytosis.

Throughout the disease process there is a pathological increase of polymorphonuclear leucocytes which reaches its height during the terminal state.

States of paretic excitement, stupor or quiescence, not terminal, are not accompanied by any characteristic blood changes.

The presence of a leucocytosis accompanying the terminal state and paralytic attack is significant evidence in favour of the toxic origin of the disease.

TREVELYAN, E. F., M.D. "On Tuberculosis of the Nervous System."
The British Medical Journal, Nov. 7, '03.

In The Bradshaw Lecture Dr. Trevelyan considers this subject under four heads, drawing from the records of 114 fatal cases. (1) The forms which tuberculous infection may assume in the nervous system. (2) The mode of infection of brain and meninges. (3) Some points of diagnosis connected with spinal puncture, and (4) the possibility of recovery. "The various forms of tuberculosis of the nervous system consist of tuberculosis of the dura mater, tuberculous meningitis in its more general and limited forms, tuberculous masses in the brain and spinal cord, and a possible miliary tuberculosis of the brain itself."

The question concerning the possibility of tuberculous meningitis with the presence of tubercles is briefly discussed. The poisons of the tubercle bacillus may cause the serous form of meningitis in those cases where tuberculosis is found elsewhere, but upon this point more information is wanted.

As to the mode of infection it is pointed out that an old focus is found elsewhere in the great majority of cases and where this was wanting the notes were incomplete. He refers to a case of tuberculous cerebellar tumour found in an infant 23 days old. The nose and ear and lungs may be the channels of infection. The joints and bones, the genito-urinary organs and the lymphatic glands are shown in these cases to bear important relations to tuberculosis of the nervous system.

What brings about the mobilization of the tubercle bacillus from the infecting focus? Among the suggested causes are tuberculin injections; sexual excitement; operative interference (anæsthesia); any in-

jury and intercurrent diseases as measles or whooping cough. As to the channel of infection the evidence is in favour of the blood stream.

The Spinal Fluid.—Of highest importance is the presence of tubercle bacilli and lymphocytes in the deposit, and the results of inoculation tests. Lumbar puncture is of much importance while the cyto-diagnosis is not always correct.

The fourth division of the lecture is of much interest, for a diagnosis of tuberculous meningitis is tantamount to a fatal prognosis in the minds of the great majority of clinicians. Nevertheless there are remarkable recoveries recorded. In tuberculous tumours, according to Gowers, arrest is not uncommon. What pathological evidence is forthcoming in favour of this view? In Dr. Trevelyan's case in the Leeds Infirmary no cases afford pathological evidence for this view. The *literature* contains records of not an inconsiderable number of cases of recovery which Dr. Trevelyan has analyzed. Either anatomical or bacteriological evidence in these cases is more or less satisfactory, but doubtless in some cases incontrovertible evidence is adduced.

THOS. B. FUTCHER, M.B. "The occurrence of Gout in the United States." *The Practitioner*, July, 1903.

In the special Gout Number of *The Practitioner* several interesting contributions are published, among which, that of Dr. Futcher is of particular interest to American physicians. The results of this study of gout in the United States are as follows in Dr. Futcher's summary:

1. The apparent infrequency of gout in the United States is due in large part to failure to recognize the disease.

2. Out of 15,697 medical cases admitted to Dr. Osler's wards at the Johns Hopkins Hospital during a period of fourteen years, there were 41 cases of gout, or 0.26 per cent. of the total number of medical patients. For the same number of years at St. Bartholomew's Hospital there were 124 cases out of a total of 33,356 medical admissions, or 0.37 per cent. of the medical cases.

3. The ratio of admissions of gout to the two hospitals is respectively a little greater than as 2 is to 3; or, in other words, the admissions of gout to a general hospital are a little less than one-third more frequent in London than in Baltimore.

4. All of the 42 cases were males. There was only one coloured patient in the series. The negro race appears to possess a relative immunity against the disease. The largest number of cases, 13, occurred in the fifth decade. Of especial interest is the fact that 32 of the patients were native-born Americans.

5. The majority of cases appear to have earned rather than inherited

their gout. Alcohol and lead seemed to be the most potent ætiological factors.

6. Thirty-nine of the 42 cases had reached the chronic stage before they came under observation. In 19 of the cases tophi were present.

7. Among the most interesting complications may be mentioned four cases of gouty bursitis, one of parotitis, one of pericarditis, one of retrocedent gout with symptoms simulating intestinal obstruction.

8. There was evidence of disease of the kidneys in the majority of cases. Albuminuria occurred in 32, and hyaline or granular casts in 26 instances.

9. Arterio-sclerosis of varying degrees was present in 29 cases, and a mitral systolic murmur in 8 cases.

10. The difficulty in differentiating the disease from rheumatism was illustrated by the fact that four of the cases were repeatedly diagnosed as the latter in their early admissions to the hospital, the appearance of tophi later revealing the true nature of the disease.

11. The series illustrates the great importance of examining the ears and the vicinity of the joints for the presence of tophi in all cases of multiple arthritides of doubtful origin.

W. F. H.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE CHARGE OF H. S. BIRKETT.

SIR FELIX SEMON, C.V.O., M.D. "The operative treatment of malignant diseases of the Larynx." *Jour. of Laryngology, Rhinology and Otolaryngology*, September, 1903.

This thoroughly classical article was read by the author at the recent meeting of the British Medical Association as part of a discussion on this interesting subject. The first part of the paper deals with the history of radical operations for malignant diseases of the larynx, beginning with total extirpation, then the less formidable procedure of thyrotomy giving the results obtained by each of these measures. Upon the statistical side of the question the author expresses himself in no uncertain way when he says that it has done more harm than good in this particular question. Whilst a convinced adherent of this statistical method, he is at the same time fully conscious that it is a double-edged weapon, and that by putting the question at issue wrongly, or by employing statistical material without close scrutiny, most fallacious results might be obtained. It is not difficult to prove this with special reference to our subject. Statistics might be employed to show broadly the general results so far obtained by a particular

operation by simply grouping all the cases together that have ever been operated upon by that method. There is not a word to be said against this, so long as there is only the question of satisfying the reader's curiosity as to the cures and results obtained; but when it is desired to decide *the value* of a particular form of operation nothing would be more misleading than to simply keep together all such operations, ever performed at any time, and by anybody, and to draw conclusions from the bare result of such an indiscriminate array of cases as to the real efficacy of that operation..

Another drawback to statistics is that no general principles are agreed upon, according to which they ought to be prepared. Thus the views of another who has given us statistics on the question differ as to the period when the patient may be looked upon as "cured" after the operation, some demanding a period of three years, others of two, whilst the author, from a large experience, is convinced that unless recurrence takes place within one year from the operation, the word cure can safely be employed.

The author also considers the five different operative methods of dealing with malignant diseases of the larynx:

1. Intralaryngeal method. The author expresses his grave doubts as to the rationale of this form of operation and believes that, with some extremely rare exception, it is absolutely unsuitable for radical extirpation and that its employment is diametrically opposed to, and irreconcilable with, the principle which is universally acknowledged as the guiding one in dealing with malignant growths in other parts of the body.

2. Thyrotomy. To the author and Butlin is due the credit of having re-established this operation and of making it "perfectly ideal." The author's remarks are therefore from his vast experience *ex cathedrâ*. This operation is indicated in all cases of intrinsic malignant the larynx in which the diagnosis is made at a time when the disease is not too extensive nor apparently too deeply infiltrating.

In order to obtain satisfactory results the following conditions are absolutely essential:

1. The operation must be restricted to early stages of intrinsic malignant disease.

2. For this purpose an early diagnosis is indispensable.

3. The operation when performed must be thorough—*i.e.*, no sentimental considerations concerning the amount of vocal power to be retained by the patient must interfere with the imperative necessity of removing a sufficient area of healthy tissue round the growth in all directions. A violation of this rule in a single part of the periphery of the new growth may frustrate the entire purpose of the operation.

4. Should it be found, after opening the larynx, that the disease is more advanced than it appeared from laryngoscopic examination, it is the duty of the operator not to limit his interference to the operation originally contemplated, but to perform partial laryngotomy, or, indeed, any other operation, the necessity of which may become apparent when the extent and depth of the infiltration of the new growth has been definitely ascertained.

The technique of the operation is fully described in the *Lancet* in 1894, to which we refer our readers.

3. *Partial extirpation of the larynx*: By partial extirpation the author means an operation in which no less than one entire wing of the thyroid cartilage, and possibly additionally an arytenoid and parts of the cricoid cartilage are removed. The author is, however, convinced that partial extirpation of the larynx will come to be more rarely performed in proportion to the diagnosis of malignant diseases being arrived at more and more early.

4. *Total extirpation of the larynx*: On this subject the author has been grossly misrepresented as being an avowed opponent of total laryngectomy, and states that whilst he is not over enthusiastic he has never denied and does not deny that in cases in which the disease begins in a situation which, *a priori*, renders it impossible to eradicate it by less heroic means such as on the posterior wall or on the œsophageal aspect of the larynx or when it has not been sufficiently early recognized and allowed to grow beyond the limits of thyrectomy or partial extirpation, its performance may become unavoidable to save the patient's life.

5. *Subhyoid pharyngotomy*: This operation is suitable for cases in which the disease starts from the epiglottis or from the aryteno-epiglottidean fold and its technique is an easy one, whilst it affords good view of the field of operation.

6. *Palliative tracheotomy*: This operation ought only to come into question when either the disease has started in a locality in which nothing short of total extirpation could come into play, and when the patient declines to submit to that operation, or when the disease, although starting in a more favourable locality from the milder forms of operation has unfortunately not been recognized early enough to allow of the milder forms of radical operation.

The author concludes with a statement that operative treatment of a malignant disease of the larynx, if pursued on the lines which are at present generally followed by British observers, with quite the more satisfactory results, the sooner the diagnosis is made, and the earlier and more thoroughly operation is carried out.

The reviewer had the pleasure of hearing this address delivered in extenso, and would strongly advise those interested in the subject to

read it in detail, as it stands as one of the most lucid and classical addresses on the subject extant.

DEMME (BERLIN). "Anomalies of the blood-vessels in the Pharyngeal region." *Archives of Otology*, Vol. XXXI., No. I.

The author has examined about three hundred pharynges and has collected clinical observations. The occurrence of pharyngeal hæmorrhage after operation depends on superficial position of the vessels. Clinically their position can be observed by visible pulsations. It is possible to distinguish between the pulsations and the abnormally distinctly visible blood-vessels of aneurysmal bulbous, or cavernous vessels and pulsating angiomas. The position in the pharynx where those changes are apt to occur are as follows:

1. Posterior pharynx, which includes the posterior and lateral pharyngeal walls.

2. The tonsillar region. In the posterior pharynx the internal carotid artery alone is of importance. The various forms of loops are described in this region.

They are of no clinical importance, and, as they are visible, can easily be avoided.

The deaths after adenoid operation from fatal hæmorrhage were probably the result of injury to those variations in the carotid.

Aneurysmal changes of the carotid at the posterior pharyngeal wall and angiomas connected with the carotid occur very rarely in this region. As regards the tonsillar region the author considers it incredible that such small arteries as the tonsillar and palatal can produce the terrible and fatal hæmorrhages which have been observed after injuries to the tonsils. Numerous examples have convinced the author that the arch described by the lingual artery over the stylo-glossus causes the pulsation of the tonsil. These pulsations are still larger if the lingual and maxillary arteries have a common origin.

Regarding post operative hæmorrhage, it is especially important that if the lingual artery describes a particularly pronounced arch the tonsillar and palatal arteries are apt to originate from the crest of this arch and they then have a large lumen. Dilatation of the vessels appears in this region only, in connection with angioid tumours. The tumours are of great malignancy and not very rare.

TREITEL (Berlin). "Pharyngitis and laryngitis due to influenza." *Archiv. für Laryngologie und Rhinologie*. Band, xiii., vol. I.

The following is a brief outline of a very interesting paper in which the author describes his own observations and those of others of objective symptoms met with in influenza involving the respiratory tract.

In most of the cases of influenza the catarrhal symptoms appeared in the upper part of the respiratory tract.

Curschmann found that in 81 per cent. of the cases of influenza the nose and bronchii were affected, whilst about 5 per cent. produced tonsillitis and laryngitis. The cases of tonsillitis frequently proceeded to phlegmon and œdema of the glottis, whilst Kronenberg met with cases in which hamorrhages were of frequent occurrence.

The most frequent accompanying symptom or sequela was neuralgia of the nasal and frontal regions, whilst paralysis of the muscles of the soft palate and larynx were met with. Of the intrinsic muscles those most frequently attacked were the thyro-arytenoidei.

Fracnel observed eighteen such cases out of thirty-three due to influenza. A characteristic of this form of inflammation is the length of time which the catarrhal symptoms last.

Fracnel has drawn attention to the most frequent objective laryngeal symptoms, namely, a superficial ulceration involving the middle portion of the true vocal cords. These ulcerations are of a greyish colour, with the surrounding mucous membrane deeply injected and swollen; they begin apparently as infiltrations of the mucous membrane, and after several weeks break down, leaving a superficial ulceration as above described. Fracnel believes these infiltrations to be definitely fibrinous, and observed them in 50 per cent. of cases of influenzal laryngitis. He also noted the persistency of the laryngitis in these cases.

Ruhemann noted that in cases of influenza involving the pharynx the nervous symptoms predominated. Landgraf reported a rather singular objective symptom in one case in which the mucous membrane of the hard palate showed an intense hyperæmia with whitish coloured epithelial infiltrations. The affection was so painful as to make mastication and deglutition almost impossible; similar objective symptoms also made their appearance in the pharynx later on.

Solis Cohen has observed a pseudo-membranous exudation on the tonsils, soft palate, larynx and tongue. The chief characteristic of this condition is its colour, which is opaque. This opaque colour is often equally distributed over the whole of the superficial part of the tongue and sometimes it is observed in the middle and root of the tongue only, whereas the tip is covered with isolated rounded or oval spots.

In a later epidemic Engelmann observed a diphtheritic deposit on the pharynx and tonsils, and was able, in a number of such cases, to demonstrate the presence of Pfeiffer's bacillus of influenza.

The author briefly describes a case of his own in which the superficial ulceration present resembled mucous plaques, but the demonstration of Pfeiffer's bacillus proved the case to be of influenzal origin.

Society Proceedings.

OTTAWA MEDICO-CHIRURGICAL SOCIETY.

Fifth Meeting, December 3rd, 1903.

DR. H. B. SMALL, PRESIDENT, IN THE CHAIR.

DR. WEBSTER presented a case report with specimens of cancer of the uterus. This was a case in which a timely diagnosis had been made, but operation was refused until the condition instead of involving only the cervix had extended throughout the whole organ.

DR. DEWAR showed a specimen of tubal pregnancy and Dr. PREVOST exhibited a large enterolith, together with portions of the ileum, cæcum and the appendix.

DR. ECHLIN showed the post mortem specimens from a case of carcinoma of the stomach with very extensive metastases in the liver, lungs and kidney.

A case report of Hernia of the Appendix and a small portion of the cæcum complicated by obstruction and sloughing of the parts involved was read by Dr. Dewar.

The paper of the evening, entitled "Tumours of the Right Iliac Fossa," was read by Dr. L. C. Prevost.

Sixth Meeting, December 17th, 1903.

A committee was appointed to make further investigation in regard to the proposed alterations in the Municipal Act, at present in Committee of the Legislature of Ontario, by which physicians are assessed. The committee was instructed to draft and secure signatures to a petition in protest against the proposal.

DR. A. S. McELROY exhibited a large Enterolith from a fatal case of general peritonitis, and Dr. M. O. KLOTZ showed a renal calculus from a case in which the symptoms were precipitated by a kick in the groin.

In discussion of Dr. McElroy's case, Dr. Webster gave the reports of two cases of General Peritonitis arising from the appendix. They were admitted to the Protestant General Hospital during the same week. The one ended fatally soon after admission, the other was operated upon; the latter patient was discharged 38 days after admission, with all sinuses closed. Drainage by tubes was used in both loins and on either side of the abdomen with thorough flushing with saline.

A discussion on Tuberculous peritonitis was opened by Dr. W. I. Bradley. He took up the etiology and pathology of the conditions and said, Tuberculosis was essentially a local disease, and often spread but slowly by direct extension; but if the bacilli gained access to the lymphatics or blood vessels, it might be rapidly and widely disseminated—even generalized. In the first case there was a decided tendency

to the setting up of a conservative fibrosis, which might lead to "cure"; but, as a rule, in "cured" tubercles, the bacilli were not dead, but quiescent. The different types which the disease assumed were considered: Acute Miliary with serous or sero-sanguinous exudation; Chronic Caseous or ulcerating, usual with purulent or sero-purulent exudation; Chronic Fibrous. The origin, was, as a rule, secondary to tuberculous conditions elsewhere. A primary tuberculous peritonitis was certainly rare. Localization was most frequent in the pelvis, and this localization might be maintained by adhesions; but localization was possible in any part of the abdominal cavity, depending largely on the primary site of infection.

DR. M. O. KLOTZ took up the Symptomatology and Diagnosis. He outlined the usual symptoms of the more rare acute and subacute forms, and of the more frequent chronic form, whether of the dry or adhesive type, or of the type characterized by effusion, general or localized, purulent or serous. As regards *Diagnosis*, he urged that "in view of the excellent results that have been obtained by simple laparotomy in selected cases, it is of the utmost importance that an early diagnosis be made." The value of such diagnostic measures as the injection of *tuberculin*, *Widal's* test and the *leucocytic blood count*, was spoken of. The frequency of evidence of tuberculosis in other regions of the body, to which the peritoneal tuberculosis is secondary was also mentioned. The points of differentiation from Typhoid fever, Ovarian Cyst, and Cirrhosis of the Liver were taken up more in detail, whilst diagnostic features of cancerous growths and other conditions were merely outlined.

DR. WEBSTER spoke on the treatment of Tuberculous Peritonitis, taking it up, mainly, from a surgical aspect. He recalled the first recorded case of improvement attributed to simple laparotomy, that of Sir Spencer Wells, in 1862. The operation was first systematized by König, in 1884. He also published further results in 1889, estimating that out of 131 cases, 74 were quite cured at the end of two years after operation. Adlebert's results, published in 1892, were not so favourable. In 308 cases, 26.17 per cent. were in good health at the end of two years.

The consensus of opinion at present was in favour of laparotomy in all cases except those of the adhesive variety, and there also operation was advisable when obstructive symptoms occurred. In all, especial care was necessary in order to avoid the production of local injury, owing to the great liability of fœcal fistula. Consequently, only the less firm adhesions were separated and the primary focus, when abdominal, was excised only when easy of access. Drainage was to be avoided, except when there was pus. The most favourable were afebrile cases,

without much wasting or anæmia, especially where the fluid was serous. In these the very best results followed simple incision, sponging and washing out of the cavity.

Three cases were cited in illustration by Dr. Webster. In the first a vaginal drainage for a supposed pelvic abscess was followed by the development of a fœcal fistula. After the healing of this and the rallying of the patient, a laparotomy was undertaken in order to evacuate a collection of pus in the upper part of the right iliac fossa. The condition found was one of tuberculous peritonitis with extensive and dense adhesions—so much so that removal of the primary focus, the tubes, was quite impossible.

On the other hand, a case of complete cure was cited; in this there was a large collection in the lower abdomen, closely resembling an ovarian cyst, in a woman of 40 years. This was opened and drained. The patient left the hospital with a drainage tube sinus. One year after, she returned for closure of the sinus. On opening the abdomen one tuberculous mass was visible. This was excised, the wound healed and two years after the first operation the patient was alive and well.

In the third case, a cure was quite unlooked for. This was the case of a young man, 22 years old. Two large collections of pus were opened and in both openings fœcal fistulæ developed. The patient went down hill rapidly and death seemed imminent. He was taken home but soon after rallied, the fistulæ eventually closed and to-day he was quite well.

The further discussion was continued by DR. HIGGINS, of the Bacteriological Laboratory of the Department of Agriculture. He exhibited a specimen of a portion of the intestine of a guinea pig. The specimen showed tuberculous ulceration, due to infection by ingestion of milk from a tuberculous cow. He cited experimental research, which showed the entrance of tubercle bacilli into the lymphatic spaces of the intestine of a guinea pig without there being any lesion of the mucosa or submucosa. He considered the tubercle bacillus as found in bovine and human tuberculosis to be one and the same bacillus. The apparent difference was due to the inequality of temperature in the two hosts. He also cited experiments showing the beneficial influence of high frequency currents upon guinea pigs suffering from tuberculosis.

DR. L. C. PREVOST cited cases of tuberculous peritonitis in which all symptoms were latent, and consultation was sought merely for the unnatural enlargement of the abdomen.

DR. CHABOT spoke on the difficulty in diagnosing some cases of Tuberculosis, Ovarian Cyst and Ascites due to Cirrhosis or other cause. He approved of laparotomy in the adult, but thought that, as a rule, more could be accomplished in children by tonics and hygienic measures.

SOCIÉTÉ MÉDICALE DE MONTREAL.

Meeting, November 25th, 1903.

“Interstitial injections of Paraffine, for correcting certain Deformities,” was the title of a paper read before the meeting, by Dr. A. A. FOUCHER. Having recalled that this operation is of recent date, hardly four years, he summarized the various phases this method underwent, beginning with Gersung in 1899 up to the present date, and the numerous deformities that have been treated by the process.

This method has been resorted to in ocular prosthesis for the support of artificial eyes; for restoring sunken cicatrices, no matter where situated; in atrophic coryza; for the cure of varices; external nasal deformities; for maintaining mobility in articulation after resection, etc.

The substance first used for the injection was vaseline, but its feeble consistence allowed it to diffuse very easily through the tissues and histological examinations demonstrated a commencing absorption of the vaseline. A few cases of pulmonary-embolism occurred, and if the operation has regained favour it is owing to vaseline having been replaced by a similar substance, more solid and not so easily absorbed or diffused—paraffine, according to Eckstein's formula, a solid, homogenous, whitish, semi-transparent substance, melting at about 65° cent. This paraffine is injected, by means of a syringe with metallic piston. If the ordinary antiseptic precautions be observed, and if the injection be made only within the proper limits, the results are excellent and permanent, and the tissue reaction is almost nil; it is completely absent if the quantity injected is not too large.

Dr. Foucher reported two cases recently operated upon by him, both cases being nasal deformities. Photographs taken before and after treatment and enlarged by the magic lantern showed the details of the deformity and the perfect correction obtained through paraffine injections.

DR. FRANCOIS DE MARTIGNY. “Clinical Observation and the Pathological specimen of a case of Ovarian Pregnancy.” On the specimen could be seen the insertion of the placenta on the ovary, and one could also see that the sacculated membrane was in perfect continuity with the albigena. This was the seventh case of ovarian pregnancy recorded up to the present day; the six others being those of Patenko, Mouratoff, Saenger, Makeroat, Larsen and Chrobak.

The history of the patient reads as follows: Married woman, aged 26, had two normal pregnancies, no miscarriages; last October menses were ten days late, followed with the expulsion of clots and considerable flooding of darkish fluid. After this period, pain was experienced in the right iliac fossa, and pain has so increased that an operation was performed on the 17th November.

DR. O. F. MERCIER closed the meeting by reading the clinical observation of a case of Empyema having spontaneously opened exteriorly and in the stomach. A wide opening of the external fistula was practised and resection of a rib was made. Through this opening draining tubes were introduced—and food taken by the mouth was noticed to flow out from the tubes. It was first thought there was a communication with the œsophagus, but a chemical examination of the secretion demonstrated the presence of gastric juice.

DR. LACAVALIER in discussing the case thought it was more likely a case of pneumococci infection rather than a case of empyema. The same opinion was shared by several other members. A few abstained from making any remarks as the history of the case was too obscure.

Meeting December 15th, 1903.

THE PRESIDENT, DR. VALIN, IN THE CHAIR.

DR. WILLIAM JAMES DEROME read a paper on "Perforations viscérales traumatiques et spontanées" containing five observations, three of which concerned perforations of the intestines and the stomach, the latter a traumatic perforation, not operated upon and followed by death, and two pathological perforations of the duodenum and the common biliary duct, both operated upon and recovered.

The last case he thought unique in medical literature—that of a spontaneous rupture into the abdomen of the common biliary duct, caused by gall-stones, and flowing of the abdominal cavity with gall. In all the cases a diagnosis of rupture or perforation was made previous to the operation or the post mortem examination.

DR. DEROME was called in consultation to see this patient and diagnosed gall-stones rupture of the biliary ducts and perhaps appendicitis. This patient not being able to pay for a private ward, Dr. Derome had her enter the public wards of the Notre Dame Hospital where she was seen and operated upon by Dr. O. F. Mercier.

DR. O. F. MERCIER admitted having a difference of opinion with Dr. Derome, and operated for appendicitis; appendix upon inspection seemed sound, but bile flowed freely from the cavity. A second incision was made higher up and a rupture of the common duct was immediately seen buried in a thick fibrinous exudate. The gall-bladder was stitched to the abdominal walls and opened and a glass tube inserted close to the site of the perforation to insure drainage. Since operation 39 gall-stones have been passed and the patient made an uninterrupted recovery.

DR. FR. DE MARTIGNY congratulated Dr. Derome upon his diagnosis and urging the patient to enter the hospital. This, he thought, was indeed a very rare case, perhaps unique. Dr. de Martigny then recalled

what he had stated at a previous meeting concerning systematic attention versus immediate intervention, giving preference to the latter. This clinical observation was a striking illustration of the advantage of an early and positive diagnosis in such lesions and of an immediate operation. No delay should be suffered if patients were to be given any chance of recovery. A great responsibility fell to the lot of clinicians in surgery to instruct students how to diagnose such cases and call upon a surgeon as soon as possible after the lesion was diagnosed. It pertains to the surgeon to apply the principles of medicine and reason them out, for, medicine was the basis of surgery, a physician might ignore surgery, but a surgeon must not ignore medicine.

Dr. J. E. DUBÉ presented an interesting communication on "Asystolic Cardiaque et son traitement." Having reviewed the various symptoms of the disease, the question of treatment was taken up and considered as to hygiene, diet and drugs.

DRS. ALPH. MERCIER, LESAGE and VALIN mentioned the importance of condemning the use of salt in the diet of such patients, in accordance with experiments lately carried out by Vidal.

Dr. A. A. FOUCHER read a letter from a country physician who had consulted him about a case of Rheumatic Iritis. Dr. Foucher who had just been reading Dr. Bouchard's communication to the Congress of Cairo, on the efficiency of injections of drugs *in situ mali*, had advised hypodermic injections of sodium salicylate in the region of the temple. The patient had already been taking the drug for several days, along with the ordinary local treatment, but without results, when local injections were resorted to. After the first injection, pain was greatly relieved and in two or three days all trouble was over. A second attack was stopped at the onset by the same treatment, the first injection having quieted all pain.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Fifth Meeting, December 4th, 1903.

H. S. BIRKETT, PRESIDENT, IN THE CHAIR.

Dr. J. M. ELDER read a case report upon sarcoma of the small intestine. He exhibited the specimen and presented the patient from whom the tumour had been removed.

Dr. LAPHORN SMITH taking up the discussion urged the early removal of all abdominal tumours. He laid it down as a rule that free fluid in the abdomen was suggestive of malignancy and that the glands were rarely involved in cases of sarcoma. He noted that a large number of conditions simulated appendicitis and deprecated the medical treatment of the affection.

DR. C. B. KEENAN urged carefulness in diagnosing previous attacks of appendicitis, when one found the appendix adherent, as adhesions might form without symptoms. He also reminded the meeting that recurrence after removal of sarcoma might be delayed for five years.

DR. FRANK BULLER read a paper upon blindness caused by wood alcohol. The communication appears in the present issue of the JOURNAL.

DR. E. A. MATTHEWSON in opening the discussion recalled cases of blindness occurring from the vapour of the alcohol alone, in painters and others who were obliged to handle the spirit.

DR. KERRY believed the increase of cases arose from the fact that the amount of methyl alcohol present was much larger than formerly, having risen from ten to fifty per cent.

DR. RIDLEY MACKENZIE agreed with Dr. Kerry's explanation, and referred to two cases, which occurred some years ago, in which habitual exhilaration was maintained by the use of wood alcohol without impairment of vision.

DR. G. GORDON CAMPBELL referred to an analysis of an alcohol made by Professor Lawson, of Halifax, which was alleged to have been distilled from woods. It was found to be composed of ethyl alcohol qualified with fish-oil and passed off as methyl alcohol to secure the lower rate of excise duty. This, he thought, explained the absence of ill effects from its use.

Sixth Meeting, December 29th, 1903.

H. S. BIRKETT, PRESIDENT, IN THE CHAIR.

The President presented Dr. Osler, who was to read a paper before the Society, in brief words, and said that he was amongst his friends and required no formal introduction.

Dr. Osler, after expressing the pleasure he felt in being again with the members, presented a paper upon Aneurysm of the Abdominal Aorta, and said he chose that subject as being one upon which he had recently been working and, therefore, freshest in his mind. He began by recalling the fact that Vesalius had diagnosed the condition clinically a hundred years before it was demonstrated by post mortem examination. He reviewed the cases which had occurred in St. Bartholomew's hospital during a long series of years, as recorded by Bryant, and then considered in detail those cases which had fallen under his own observation.

Dealing with the diagnosis, he laid it down as a principle, that one must be actually able to grasp the tumour, as such conditions as hysteria and anæmia might readily simulate aneurysm. Not all conditions which were diagnosed as aneurysm were in reality so. One of the commonest errors, he said, was to mistake a throbbing aorta for aneurysm; but no

pulsation, however forcible, no thrill, however well marked, justified the diagnosis, unless there was a definite tumour, which could be grasped and had an expansile pulsation. He referred, as a source of error, to the "preternatural pulsation in the epigastrium," as described by Allan Burns, which was met in many neurasthenic conditions, especially in women.

The main causes of Abdominal Aneurysm as of other forms were syphilis and strain; it was a condition of early adult life; and the cases were assigned to the proper decades in demonstration of that fact.

The two main symptoms associated with the condition were those of pressure and of pain. The pressure might be upon the vessels leading to the lower extremities with corresponding results, even leading to gangrene, or upon the spinal column, with or without erosion of the bone. The pain was agonizing, and the lecturer described, in vivid terms, the devices to which the patients would resort for its amelioration. Another common and early symptom was vomiting, and cases were cited in support of that fact. Yet another sign was "intermittent claudication," temporary lameness or loss of power in the muscles of the lower extremity.

The usual issue of the condition was rupture, and cases were cited to show that it might occur into the duodenum, the transverse colon, the pleura or into the retroperitoneal tissues. Another result was embolism of the superior mesenteric artery with infarcts of the intestines.

The prospect of benefit from treatment was not good, yet they should have resort to any measures, which might promise success. Dr. Osler had not seen any special results from the usual medicinal remedies, and he advised seeking the assistance of the surgeon. He had some experience with the injection of gelatin, whilst the patient was at rest in bed, but he had seen the best results from the introduction of wire into the cavity. Indeed, several cases to which he referred had been distinctly benefited by that procedure. The operation was harmless and easily performed, it could be done with a local anæsthetic, and he had never seen a case in which the patient's chances of improvement had been impaired.

The discussion which followed the address was shared in by Dr. Adami, who cited cases from the Royal Victoria hospital; by Sir William Hingston, who recalled his experience in the Hotel Dieu, and by Dr. Mills, who drew several illustrations from his experiments upon lower animals. A vote of thanks was tendered to Dr. Osler upon the proposal of Dr. Shepherd, seconded by Sir William Hingston, Dr. F. W. Campbell and Dr. Mills. After the meeting an informal reception was held, and refreshment was taken.