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MARMOREK'S ANTI-TUBERCULAR SERUM IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY

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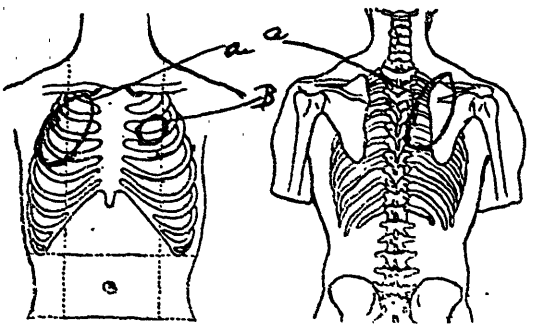
Since the communication made before the Academy of Medicine in Paris by Marmorek relative to the preparation and the uses of his tubercular anti-toxine, a deal has been written, against it at first, but recently of a more favourable nature. We know of the attack made upon this product by no less an authority than Dieulafoy, and the stir it caused at the time of its publication. It is evident that on the one hand the claims of Marmorek had been misunderstood, while on the other hand the results obtained in Dr. Dieulafoy's clinic must have been misinterpreted. If we look up the documents, the few that are available, we find that at the outset two reasons contributed largely to these unfavourable results. In the first place the immunisation of the animals had not been carried to its full extent, giving a serum not sufficiently potent, which necessitated injections of very large quantities of serum, up to 40 gms., adding to the already depressing disease by super-imposing sero-toxic symptoms. In the second place, at the request of Marmorek, only advanced and hopeless cases were treated, so that should there have been any improvements noted, little doubt would have been left as to the therapeutic value of the serum. Now it seems to me, judging from past experience with anti-toxic serums, notably that of diphtheria, that anti-toxines exercise a toxic influence if given too late in the disease. In dealing with tuberculosis, we are dealing with a disease in which the types manifestly differ. We have, for instance, numbers of invalids with localized or discreet lesions who never show any effect of toxine absorption. Again, it is not unusual to find exacerbations during the course of chronic tuberculosis, in which the influence of the serum seems limited to the recent involvements.

We here offer a small number of observations of various types of the disease treated with Marmorek's serum; and while it is but fair to allow us to draw some conclusions, these observations are not sufficiently complete to make the results final.

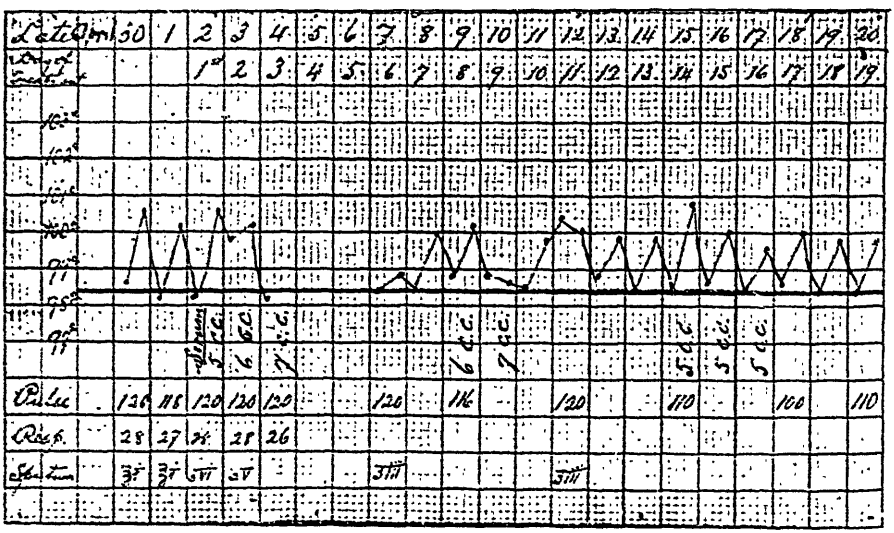
Does Marmorek's anti-tubercular serum possess bactericidal powers? This at the present time is a question very difficult to answer, yet I feel positive, as a result of clinical tests, that it is truly an anti-toxine, and that it does possess the power of inhibiting the growth of the tubercle baccilus, but as with all anti-toxines, this power is ephemeral.

Case No. I.

A single woman aged thirty-seven. Family history negative. Illness began in the summer of 1899. She was then treated in a sanatorium, and returned to her former occupation the following summer, and kept fairly well until the early fall of 1903, when she relapsed, went to the

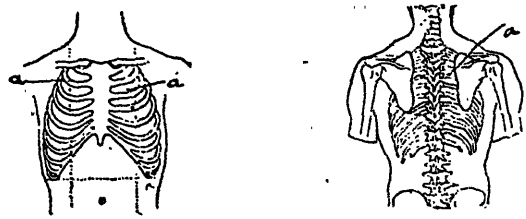


Case I. Fig. 1. *a*. Percussion, cracked-pot, mucous and crackling râles; *b*. Percussion impaired, few crepitations.

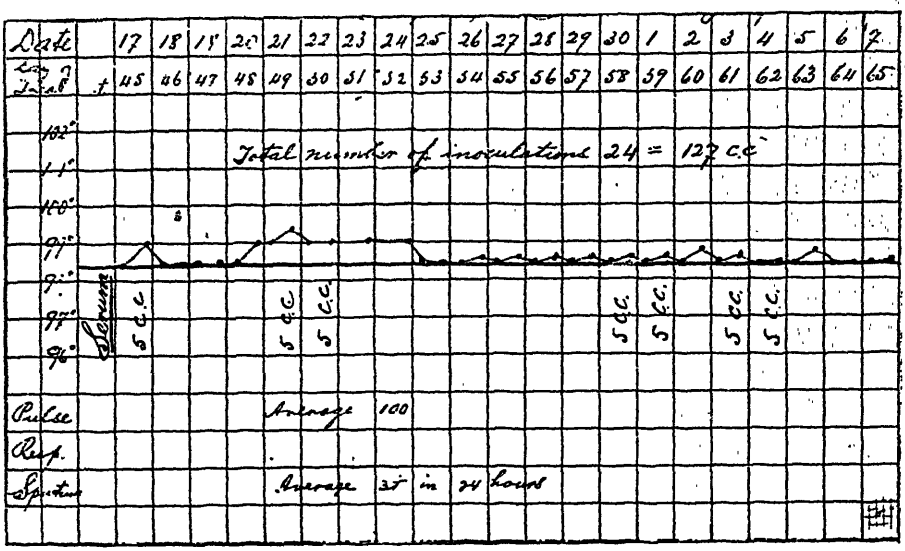


CASE I. CHART No. 1.

country, where she lived with relatives during the whole winter, and was examined on the 2nd May this year, the extent of the disease being noted on the accompanying Fig. No. 1. The condition at this time was distinctly *caseous*, and the amount of expectoration sometimes



CASE I. FIG. 2.—*a*. Impaired resonance: no rales. July 16th, 1904.



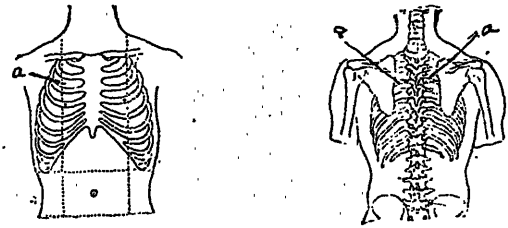
CASE I. CHART No. 2.

exceeded one ounce in the twenty-four hours. Temperature and pulse may be noted on the chart. This patient, who had during the previous six months been steadily losing in weight, in spite of the fact that she was living in the best surroundings, has in addition to the improvement in her symptoms since serum treatment, added nearly three pounds to her weight. Chart and Fig. No. 2 illustrating this case, give her condition at the time of writing (July 20th).

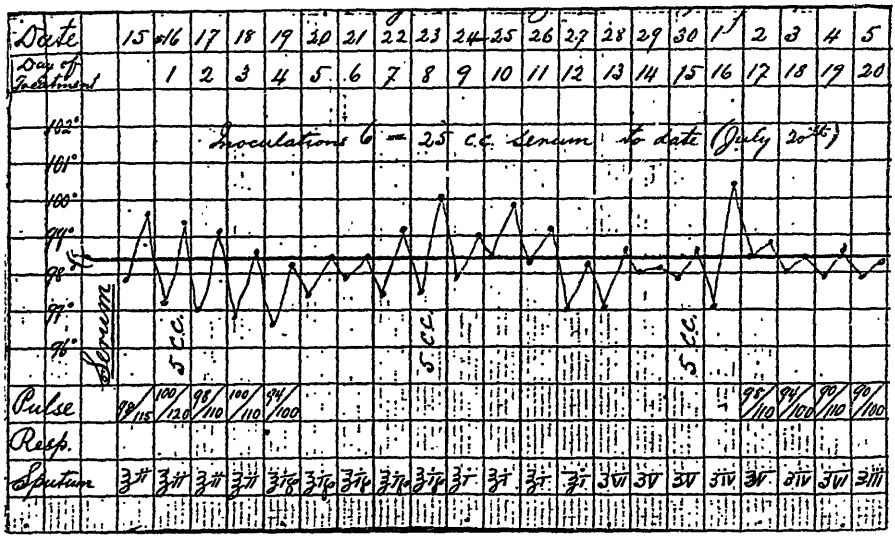
CASE No. II.

A single woman twenty-one years of age. Family history negative. This patient's illness dates back five years, when it started as a

fibrosis. It is now fibro-caseous and progressive. The patient was first examined June 14th, 1904, and the result noted in the present chart (No. 3). The most notable improvements in this case have been the almost total disappearance of the night-sweats, improved appetite, increase in weight, and the decrease in the quantity of the sputum from two ounces to four drms. This patient



CASE II. FIG. 3.—*a*. Fibro-caseous; pulse, 118; temperature, 100°, Time 3.30 p.m. June 14th, 1904.



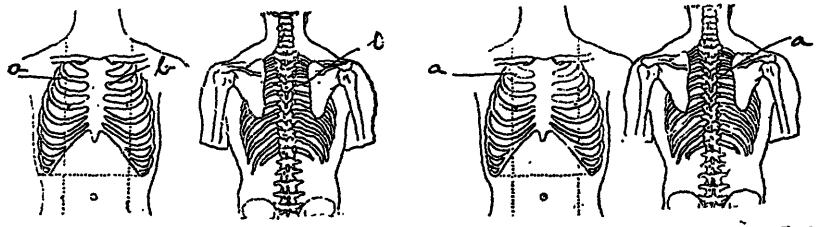
CASE II. CHART 3.

is still being treated, and while the case does not promise an eventual good result, the fact that a really hopeless condition has been somewhat improved is gratifying.

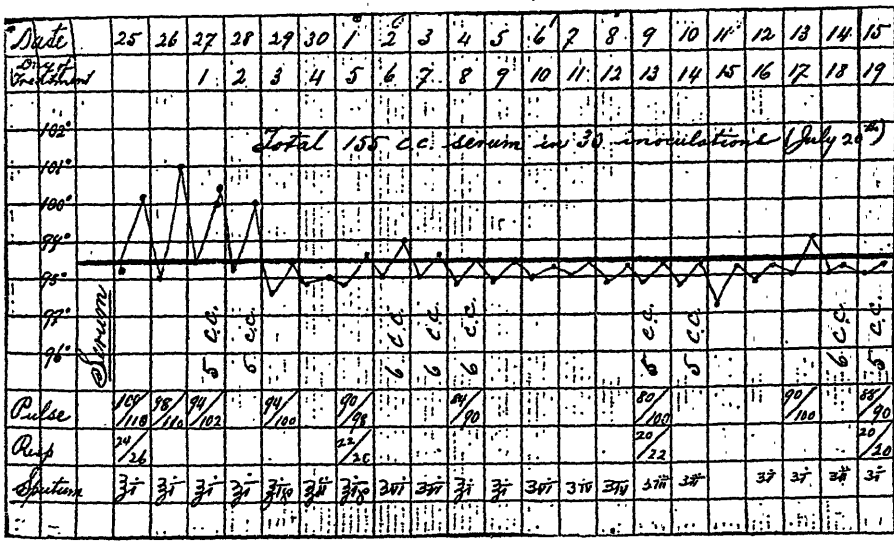
CASE NO. III.

This observation is rather interesting because of the fact that this patient was to all appearances developing an acute disseminated tuberculosis, extending from a pre-existing lesion dating back nearly two years. This patient is a man aged twenty-five. He has had the early

diseases of childhood, whooping-cough, measles, chicken-pox. Family history negative. Three years ago this patient had an ischio-rectal abscess, which was then opened, but left a fistula which still discharges. He has had two small abcesses in the same region since, which broke of themselves. This patient had a pretty profuse hæmorrhage about fifteen months since, which kept him in bed for about three weeks. He was gradually allowed to work, and evidently did not always feel able for his task, for he consulted a physician in his own country (Ireland) in March, and this physician advised that he should come to Canada



CASE III. FIG. 4.—*a*. Fibroid condition; *b*., disseminated condition. Left figures, April 27th, 1904. Right figures, July 11th, 1904.



CASE III. CHART 4.

in order to regain his health. The condition shown on his chart shows well the extent of the old fibrous lesion and also the more recent infiltration of a disseminated nature; but in addition to that the effects of beginning infiltration in the left lung are also shown. At the present time he still has a few bacilli in his expectoration, which, by the way, as will be noted, has diminished from one ounce to about half a dram in the twenty-four hours, while the

pulse has materially improved and the temperature remains normal. The chest examination reveals the presence of the fibrous focus, while all the signs of recent infiltration have disappeared.

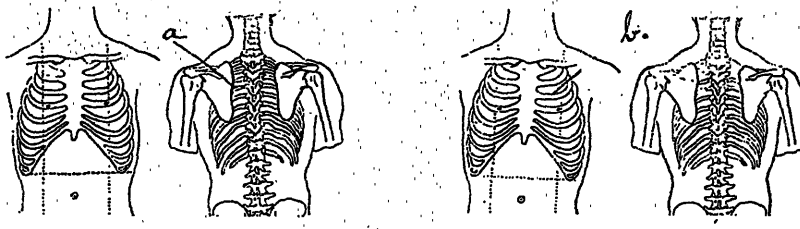
Case No. IV.

This is a lad fourteen years of age, whose personal antecedents show that he had pneumonia at three, whooping-cough at four, and measles at six years of age. As a very young infant, about eighteen months of age, he had suppurating ear disease, which was followed by some breakdown of the cervical glands. His father is living, in very good health; his mother has coughed for the last ten years, and has during that period of time had recurring hæmoptyses. A number of brothers and sisters died in early infancy, does not remember how many, but all of them died of marasmus. He has two brothers and two sisters living, and in very fair health. His present illness commenced in February of this year, when he had a persistent cough which in March resulted in a very profuse hæmoptysis. He was three days in the hospital and was discharged in a fair condition. He came under our observation in June, 1904, when he complained of persistent cough, emaciation and night-sweats. This patient has had but one inoculation, as a result of which all his symptoms rapidly improved, and instead of presenting himself for a second inoculation a week following the first, he was not seen again until a few days ago, and when asked as to why he had not returned for more inoculations, he simply answered that he felt so well that he thought he was cured, and he had only come to know whether he could take up some light work. He was examined, and the physical signs certainly showed a deal of improvement, while his afternoon temperature, which had always been 99 and over, was then normal, and his pulse 76 instead of 90 as it had usually been at this time of day. This patient will naturally receive a number of inoculations, and will be reported upon later.

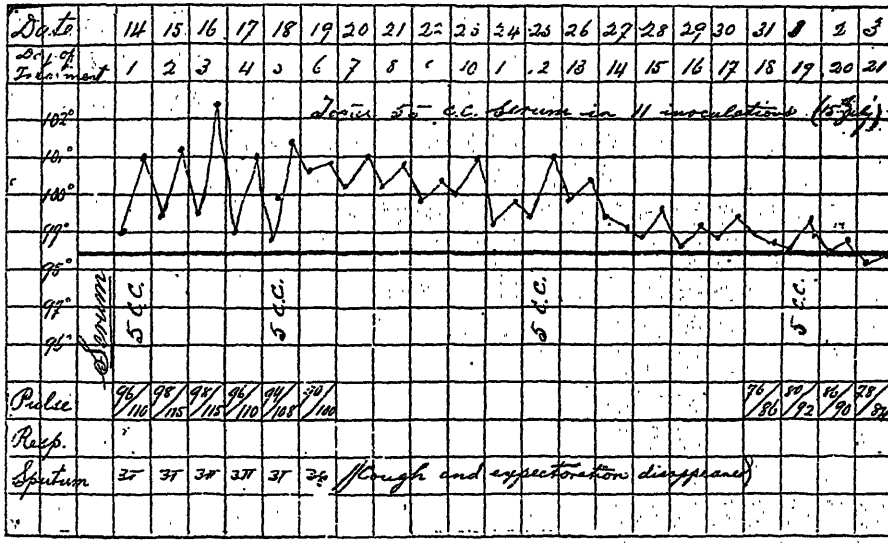
Case No. V.

A married woman aged forty-four years. No children. No history of early tuberculosis. Family history negative. Husband in splendid health. This woman enjoyed really very excellent health until about three years ago, when she noticed the glands of the right side of her neck swelling. These were treated at different times, but were never really much modified by treatment. She was told about a year ago that they were tubercular, and some mention made about their being removed. However, this was not done by her attending physician, and last fall she developed a cough, which was soon accompanied by emacia-

tion and almost an absolute distaste for solid foods. She managed to keep together during the winter, although feeling very miserable, and she came under our observation about the beginning of May, in a very pitiable condition. Pulse 120, temperature 101, chest examination revealed the presence of a focus posteriorly in the upper lobe, shown in the accompanying Fig., cervical glands on the right side standing out like a bunch of grapes, and the left cervical glands, while not



CASE V. FIG. 5.—*a*. Impaired resonance and sub-crepitant râles ; *b*. cleared. Left figures, May 9th, 1904. Right figures, July 15th, 1904.



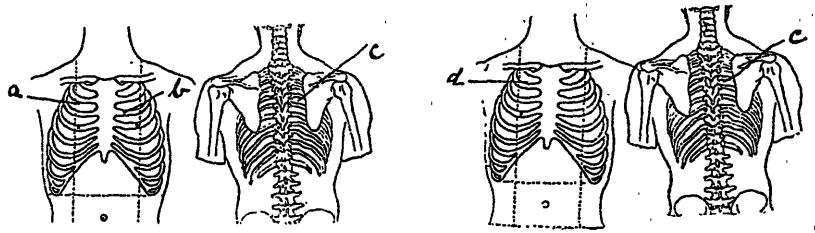
CASE V. CHART 5.

distinctly visible, were all quite the size of beans and easily felt. The bronchial glands on both sides were infiltrated. The study of her chart will give a better idea of what was done and what progressively resulted (Fig. and Chart 5). She was examined again on the 13th July, exactly two months after the serum treatment was commenced, and her lungs were then perfectly clear, while the glands had markedly diminished in size, were not at all painful, and

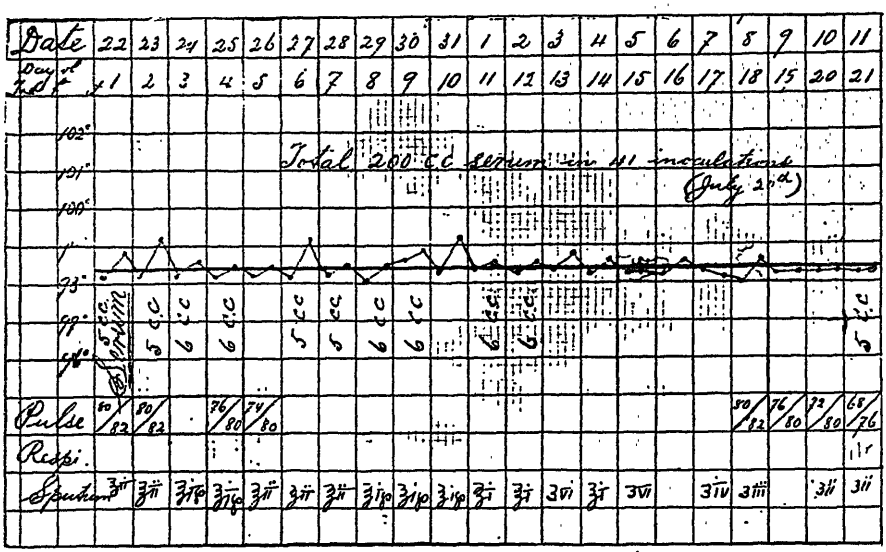
the pulse and temperature both normal. During these two months this woman has increased in weight a little over ten pounds, in fact the most notable effect of the serum was the voracious appetite it immediately developed in this patient.

CASE NO. VI.

This is a lady fifty-four years of age, suffering from broncho-pneumonic tuberculosis, whose husband died some ten years ago with laryngeal tuberculosis. She lost one sister about fifteen years ago with lung



CASE VI. FIG. 6.—*a*. Percussion; "cracked pot;" *b*. percussion slightly impaired and expiratory crepitant rales; *c*. fibroid change. Date March 22nd, 1904. *d*. Percussion unchanged; no râles; *c*. Unchanged. Date July 16th, 1904.



CASE VI. CHART 6.

disease. Never had any children. Enjoyed very good health until about five years ago; she then started to lose flesh, but picked up a little under tonic medication. However, about four years ago an examination of the chest revealed involvement of the right lung. She was treated for some time in a sanatorium, from which she was discharged about

nine months later with arrested disease. She kept very fairly well until the fall of 1902, when a relapse resulted during the winter, about February, in hæmoptysis, which was the second she had had. It was then discovered that the left side was also involved. She, however, recovered very fairly well, even while living in the city, but in March it was noticed that her cough and expectoration very materially increased, while there was then some rise in temperature. The condition up to this time had been practically apyretic. The accompanying chart shows the extent of the lesions about the end of March, and also the temperature curve (Chart 6). By comparing the two charts in this case one will readily see that there has been very material improvement. The patient still coughs a little in the morning, raises rarely more than a spoonful, has no fever, eats well, and has every appearance of excellent health, in spite of the fact that she has been given over forty inoculations of Marmorek's serum.

Case No. VII.

A woman aged twenty, confined on the 24th April, did fairly well until about the sixth day after parturition, when her temperature started to rise while nothing could be found in the lochia or about the genitals to account for the rise of temperature. She developed a very slight cough about the twenty-sixth day after confinement, her sputum was examined on three different occasions, and found to contain tubercle bacilli upon the third examination only, the thirty-first day after confinement. She had all this time been running very high temperatures, and had a very rapid pulse. She was examined upon the thirty-second day after confinement, and her right lung was uniformly involved throughout with miliary disease, while the left base was also quite extensively infiltrated. It was then evident that the disease was at the declining stage, and the woman's condition quite hopeless. The opinion was expressed, however, that she would likely live for a couple of weeks and perhaps more, and her permission was asked as to the use of the anti-toxic serum, as her condition offered but little hope. She consented, and was given an inoculation of five c.c. Marmorek's serum on the thirty-fourth day after confinement, and another the next day, neither of which seemed to exercise any effect upon the symptoms. This woman died thirty-six hours after the second inoculation with what seemed to be super-intoxication. There was no exaggeration of the cough, no very material increase of respirations; and in fact no symptoms whatever to show that anything had complicated the disease outside of that which could be attributed to the influence of the serum. In this case there seems but little doubt that this patient's death was accelerated by

the use of the serum. However, this would be but another argument in favour of the powerful anti-toxic properties of the serum, for as we know, when we use the very potent anti-diphtheritic serum too late in the disease, undoubted symptoms of super-intoxication assert themselves.

ARE THE EFFECTS OF THE SERUM LASTING?

Our observations do not extend over a sufficiently long period of time to be able to answer this question definitely, but we may refer to a case reported early in May,[1] in which the physical signs had entirely disappeared after 30 inoculations, while what little expectoration still persisted was free from bacilli, yet this patient two months after we reported upon her condition as being tantamount to an absolute cure, reveals to us the presence of bacilli in the sputum and some slight indication of the return of the disease at the original spot. This observation almost has the value of a controlled experiment, and we intend to further watch the symptoms, treat this patient again with the serum, note and publish the results. A valuable inference may be drawn also from this, and it is that now that we have fair evidence that we possess an anti-toxic serum capable of conferring passive immunity, we have every reason to believe that it can be further made use of to protect human beings while under treatment with bacillary extracts of the tuberculin group in attempting to make the human organism under treatment produce its own anti-toxine, as well as its bactericidal humours. We are now attempting that form of treatment, and may be able to publish some interesting observations in the near future.

CLINICAL OBSERVATIONS ON GUINEA-PIGS INOCULATED WITH TUBERCULOSIS AND TREATED WITH CURRENTS OF HIGH FREQUENCY.

BY

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AND

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When in London, England, in 1901, in the month of July, I had the pleasure of meeting Dr. Chisholm Williams, and seeing his method of treating consumption by the high frequency, high potential, delivered from a Dean and Ondin resonator. I procured one and having brought it out I have been using it in the treatment of disease. It is claimed for this method of treatment that it increases metabolic change in the

[1] Lemieux and Richer, L'Union Medicale, May, 1904.

body, increases the exhalation of carbon dioxide from the lungs, increases the amount of urea secreted, and decreases that of uric acid, that it also increases perspiration. It is also claimed that in consumptions, the first action is to increase the fever every afternoon for a week and during that time the number of bacilli increases enormously, and after that time the bacilli clump together and become fewer in number, staining badly, and that then they rapidly decrease in number and the temperature of the patient falls and an increase of weight from one to two pounds a week takes place. [1]

I thought that having the apparatus I should like to try the truth of these claims as applied to guinea-pigs inoculated with tuberculosis. I asked my friend Dr. C. H. Higgins if he would assist me to carry out these experiments which he acquiesced in doing at once, and the result to the dozen guinea-pigs which he inoculated with tuberculosis are recorded in the admirable account he gives herewith of the records taken. The method of obtaining and applying the electricity was as follows:—A shallow box with a tin bottom attached to one wire from resonator so that the six guinea-pigs must be in direct contact with one terminal. A lead plate, any other metal would do as well, but it happened to be handy, was connected with the other terminal wire. The current used was derived from an 18 inch spark induction coil made by Millar, of Hatton Garden, London, excited by a direct current of 110 volts and interrupted by a Dean mercury break. During the working of the coil five amperes and from 90 to 100 volts were recorded by ammeter and volt meter. The wires from the terminals of the secondary of the coils were attached to the insides of two leaden jars, one to either terminal, and a discharging rod attached to each inside plate and adjusted so as to give 1½ inch spark. The discharge from the outsides was passed through a coil of copper wire of one foot diameter and of ten turns, only seven of these turns being used; a shunt wire, taken from each of the wires attached to the outside of the jars, was taken to each of the metallic plates, forming, the one the bottom of the cage, and the other placed on the top of cap with a space of three inches of air over the guinea-pigs as the dielectric. The treatment was commenced on the afternoon of March 14th, and a dose of 10 minutes given at a time, after that date 10 minutes treatment was given morning and evening until the 14th of April. The treatment was commenced on the eighth day after inoculation and the average temperature of all was 102.6, F. There were 12 animals altogether inoculated and of these, two that were not treated died of septic conditions, and were therefore not counted in

[1] Dr. Chisholm Williams on high frequency currents in certain disease. Relman & Co., 1903, New York and London.

the result. Of the six that were treated one died from an accidental injury to the rectum in taking the temperature, hence the experiments were limited to four not treated and to five that were treated. All the animals were kept under precisely the same treatment as to life, conditions of cages and food, the only difference being, that the five had treatment by High Frequency and the other four had no treatment. The following table shows the result:

	Untreated.			Treated.	
Average weight at inoculation	265 grammes			326 grammes	
	Temp.			Temp.	
8th day.....	102.6	260 "		102.9	323 "
16th "	103.	205 "	1 died 17th	103.5	327 "
24th "	104.4	235 "	1 " 22nd	104.8	263 "
32nd "	103.4	250 "	1 " 27th	104.2	245 "
40th "	104.	237 "		102.5	277 "
48th "	103.	200 "	died	103.9	250 "

Of the treated:—One died 38th day; one died 39th day; one died 41st day; one died 46th day; one killed 48th day.

Of these guinea-pigs, of those not treated only one lived 48 days after inoculation, the first to succumb, died on the 17th day, the second on the 22nd day and the third on the 27th day. Of the five under treatment:

	Treated.		Untreated.
The first to succomb died on the	38th day		17th day
The second " "	39th "		22nd "
The third " "	41st "		27th "
The fourth " "	46th "		48th "
Whilst the 6th was killed on the	48th "	average 42.4 days	average 28.5

So that the treatment prolonged apparently the lives of all those treated, the fifth which survived to the 48th day and was choloformed on that day, might have lived much longer, but under the existing circumstances at the time he could not be longer watched. But with the four not treated they all died within the 48 days, and three of them by the 27th, or 11 days before the first of those that were treated.

The action on the bacilli is recorded by my friend Dr. Higgins, to whom I am indebted for this information, and to whose report I must refer.

I have shown elsewhere that the force derived from this method of obtaining high frequency, oscilating discharges are useful in the treatment of tubercular lupus, that Finsen light also does the same and that X-Rays also do the same. Thus we find, that these three sources of energy produce a like effect on this disease, what is it that these three agencies possess in common which enables them to produce a similar result?

In conducting these experiments, the necessity of having data strictly comparable was ever in view, and in their pursuit, the treated and un-

treated animals were placed under as nearly identical conditions as it was possible to obtain. The animals used were taken from the breeding pens, all being in a perfectly healthy state. They were not as large as one would wish for such experiments, it being conceded that in testing the virulence of varieties of tubercle cultures it is essential to employ guinea-pigs weighing 800 grammes or thereabouts. While these experiments are not, strictly speaking, a testing of virulence, but of creating through their use an attenuation or destruction of the tubercle bacillus within the system of the animal, through the use of the electrical currents in question.

The source of the material with which the animals were inoculated, was a tuberculous steer, killed for beef purposes, the carcass being condemned at a Montreal abbatoir. Nodules from the pleura costalis were used on a series of four guinea-pigs, one of which later furnished the material for the animals that were placed under observation and electrical treatment. The guinea-pig furnishing the material for the inoculation of our observation animals, died of a generalized tuberculosis thirty days after inoculation. The three other guinea-pigs inoculated on the same date with the material in question died in 32, 33 ,and 35 days respectively, and in each case a generalized tuberculosis was revealed at the autopsy. The method of inoculation, in all of the animals above referred to, was subcutaneous, a pocket being formed in the flank region by drawing a fold of skin, cutting it across, and, with a small blunt instrument, tearing away the connective tissue, thus opening a space sufficiently large to admit a piece of tuberculous tissue about one-eighth inch cube.

Microscopical Examination of Blood and Pus.

As is already stated, nodules from the pleura costalis were used on the first four animals, while in the inoculation of the 12 selected for experiments here recorded, portions of the liver were inserted in the subcutaneous pockets formed. These 12 animals were kept together in a large cage up to the time of the commencement of the treatment. Two of these animals died from septicæmia within a week from the date of inoculation, a third pig died seven days after the commencement of the treatment, (the 17th day of the disease), from rupture of the rectum and subsequently peritonitis occasioned by an accident in taking the temperature.

The above is a brief statement of the source of the material together with that of the animals and their mode of preparation for the experiments in hand.

On the 10th day of the disease (March 14th, 1902), they were taken

for their first treatment to the Royal Victoria Hospital, where they were subsequently quartered during the entire time of observation. At the commencement of the treatment the guinea-pigs were divided and kept separately but not isolated in individual cages, there simply being a division of the treated from the untreated. The treatment consisted in exposing the animals for 10 minutes daily to the effects of the electrical currents. Commencing with the 11th day, the daily exposure was increased to 20 minutes, the time being divided into 10 minute intervals at 9.30 A.M. and 5.30 P.M. The manner of making the exposure was very simple. A box was constructed with a tin bottom and a slat top, the height being such that an animal could not get his feet out of contact with the tin bottom by crowding. Over the top of this box was placed a piece of sheet lead of sufficient size to completely cover the animals enclosed, the arrangement being such that this sheet was supported a sufficient distance from the backs of the animals to prevent accidental contact. The two poles of the electrical apparatus were connected, one with the tin bottom of the box and the other with the sheet of lead covering the animals. All the animals were in this manner equally exposed to the effects of the electrical currents.

The weights of all the animals were taken once daily and the temperatures of those under treatment were taken in the morning and in the afternoon previous to their exposure, while the temperature of the untreated were taken but once daily and then in the morning. Both treated and untreated animals received at all times similar food materials and the same attention was observed in cleansing and disinfecting their respective cages.

Clinical Observations of the Treated Animals.

The variations in the temperature were marked and conform to variations noted by Dr. Chisholm Williams[2] in his experiments upon the human being. The temperature of all the animals were normal in the morning, with a rise in the afternoon varying from one, to two and two-tenths degrees Farenheit. As the treatment progressed there was also an elevated temperature in the morning above the normal, but in a few instances only was it higher than the point reached in the afternoon of the same day. In these temperature elevations, while the variations between the morning and evening were considerable, it is noted that there is a gradual temperature curve which at first ascends then gradually recedes, but in no instance did it approach the normal temperature or that which was constant before the commencement of

[2] The treatment of Phthisis by means of Electrical Currents of High Frequency and High Potential. (Chisholm Williams, F.R.C.S., Ed. Etc.). British Congress of Tuberculosis. 1901.

the exposure of these animals to the electrical currents. The continued manifestation of a febrile condition cannot be attributed to the electrical treatment the animals were receiving, for, it is but natural to have this elevated temperature in acute tuberculosis; but the rise occurring constantly, eight hours more or less after exposure to a certain form of treatment, is unusual and it is to this rise that attention is particularly drawn.

The weights of these animals fluctuated in a somewhat similar manner to their temperature. After inoculation, during the 10 days prior to the commencement of the treatment the weights of these animals decreased. During the first few days of exposure to the currents of high frequency, the weights of the animals continued to fall. This fall was gradual, being followed by a gradual rise, which in every case attained its maximum on the 8th day of treatment or the 18th day of the disease. Reference to the table will give detailed information as to the fluctuations in weights, also variations in temperatures together with the number of days they lived.

Another point worthy of mention in connexion with the treated animals is the abscess formed at the point of inoculation. The abscess formed, broke externally, discharging the characteristic pus of a tubercular abscess, but in these treated animals a process unlike that seen under ordinary circumstances was noted. There was a gradual healing of the wound instead of an extension. During this healing process the pus was less watery than usual, new granulations were observed and in two cases the abscesses healed. After this healing process, pus again formed, the external wall becoming very thin and there was a total enucleation of the abscess. It is unfortunate that the dates of this occurrence in these two animals were not noted, nor the dates of the cessation of the discharge and the closing of the abscess wound. The enucleation of the abscess was noted by the attendant in charge, but the healed lesions together with the fresh granulations were seen by the writer.

Unforeseen circumstances necessitated the destruction of the longest lived animal, designated as No. 19. While lesions of a generalized character were found at the autopsy, it is more than probable that had it been possible to continue the treatment this animal would have lived for quite a number of days.

Clinical Observations of the Untreated Animals.

The guinea-pigs used for checking the results in the treatment of tuberculosis by currents of high frequency, presented nothing out of the ordinary during the course of the disease. There was a gradual

rise in temperature, as will be seen by reference to the tabulated data concerning these animals. The elevation in temperature persisted, with more or less regularity, up to the time of their deaths. The weights of these animals fluctuated, gradually becoming less and less towards the fatal issue. The animals died in 17, 22, 27 and 48 days respectively. Why No. 25 lived so much longer than the others is unexplained, the course of the disease being typical, though not as acute as in the other instances.

Examinations were made daily of blood smears, and as soon as the abscesses commenced discharging, smears of the pus were made and examined. These examinations were not made in the case of each individual animal, but two animals from each series, the treated and untreated, were selected. In no instance were tubercle bacilli detected in the smears of blood, from either series of animals, although a careful search was made daily, of two smears from each animal from which material was taken.

In the pus, bacilli were present in both series. Nothing characteristic was noted in connexion with the bacilli seen in the pus from the untreated animals, either in method of taking and retaining the stain nor in the grouping or shape of the bacilli.

With the treated animals, the changes in the grouping of the bacilli in the pus, together with the manner in which the stain was taken and held were peculiar. There was also a far greater number of bacilli present in the smear than is usually seen, increasing as the treatment progressed. The first change noted occurred on the eighth day of treatment or the eighteenth day of the disease. At this time the clumps of bacilli were noted together with the giving up of the stain[3] by certain bacilli while others seemed not to have taken the stain at all. While the clumping was first noted at this time, this characteristic was not as marked as it was a few days later, from which time it continued to remain constant throughout the course of the disease. On and after the 12th day of treatment (22nd day of disease), the decolorizing was more easily accomplished, and provided the Gabbet's blue was used the usual length of time, the bacilli were relieved of the greater part, if not all, of their red dye. By experiment it was found that in order to have the bacilli retain their characteristic stain, it was necessary to reduce the time of exposure to the effects of this decolorizing agent to three-fourths the usual period. Twenty per cent. solution of nitric and hydrochloric acids were used with similar results in decolorizing.

[3] The stains used in all of the examinations were, Zeihl-Neilson's carbol-fuchsin and Gabbet's blue. A sufficient amount of staining material was freshly prepared for this work that variations in the staining properties of the bacilli might be carefully studied.

In some of the specimens of pus the bacilli were decidedly shorter and thicker than normal. These forms have been noted only in films, from the animals treated by the electrical currents and not in connexion with any investigations on other tuberculoses. While these stumpy forms were not numerous, they were fairly constant in the preparations of pus from the animals in question. Another peculiarity noted with the films, was the consistency of the pus and the nature of the film produced. Films made from the pus of untreated animals were very even, while those made from the pus of animals receiving treatment were uneven and streaked, it being more difficult to obtain a preparation suitable for microscopic examination.

It may be well to mention that the examination of the slides both blood and pus smears, were carried out without the knowledge, at the time of the examination, as to whether a given slide came from a treated animal or one that was untreated. The slides were taken and numbered by the attendant, comparisons not being made till the completion of the microscopic examinations, thus avoiding any personal prejudice for or against the experiments.

Pathological Findings.

The untreated guinea-pigs presented the usual changes, noted in cases of acute miliary tuberculosis, from the incipient tubercular infection to the caseating nodules. These changes were noted particularly in the lungs, liver, spleen, and lymphatic glands throughout the system The superficial lymphatic glands particularly were affected, indicating that the infection was mainly carried through the lymph channels. The lesions in the treated animals presented a similarity in the involvement of the same organs and lymphatic system, but the lesions were more clearly defined from the healthy tissue, especially was this true in the liver and spleen. Caseation was not a marked feature of the lesions. Microscopically, this definition between the diseased and healthy tissue is also marked in the various organs, indicating that agencies, other than the normal resisting power of the individual, have been at work in the effort to aid nature in the struggle between the bacilli and the body cells.

The arrangement of the bacilli in the necrotic foci is peculiar. As usual, they are almost entirely absent in the centre of these areas, while near the edge they are seen in great numbers. Wherever they are seen clumps of various shapes are noted, containing from 10 to 30 individual bacilli. While the clumping is a feature of the bacilli in the tissue as well as in the discharging abscess, degeneration forms are not as prominent nor as numerous in the tissue lesions. The staining qualities of

these bacilli, whether free or in clumps, is as a rule good, though occasionaly some are seen which take the stain badly. In the staining it must be borne in mind, that it is much more difficult to determine staining peculiarities recorded on a time limit, in the tissue than on smears, hence it is almost impossible to obtain comparable results between the pus and tissue bacilli.

Summary.

These experiments aside from being very interesting, teach, that these high frequency electrical currents exert some beneficial influence in the effort of the system to overcome the effects usually produced in animals infected with the bacillus tuberculosis. We have an average life in the treated animals of 42.4 days; while with those in which the disease was allowed to run its course we have as the average life 28.5 days. This gives us a period of 13.8 days in favour of the treatment In these estimations the two animals dying of septicæmia are not reckoned, nor is the one which met with an accident during manipulation.

To say the least, the results here recorded are very encouraging, the more so when it is considered that the germ used in infecting the experimental animals was of a very virulent type, in fact, much more so than would be the case in the ordinary human infection. Again, the disease was pretty well advanced at the commencement of the treatment, as is evidenced not only by the length of life in the untreated animals but also by the animals inoculated preliminary to the experiments and from which the infective agent was obtained and also by the temperature records.

These experiments are worthy of repetition with a germ of a less virulent type, conforming to that usually found in cases of human tuberculosis. The period of exposure could with advantage be extended to 30 minutes daily and given at one sitting, allowing the animals under observation, the remainder of the 24 hours to recuperate from its effects. As we look back and study the records, it seems that the best results cannot be obtained by a treatment in the afternoon when the temperature is at its height and the functions of the animal are already in a chaotic state.

We hope to pursue these investigations in the near future, and will benefit by the experience already gained in conducting these experiments here recorded.

TABLE OF WEIGHTS AND TEMPERATURES OF TREATED GUINEA-PIGS.

	DESIGNATION OF ANIMALS.									
	15		16		18		19		20	
	Temp.	Wt.	Temp.	Wt	Temp.	Wt	Temp.	Wt.	Temp.	Wt.
At inoculation.....	a.m.	357	.....	378	.....	320	.....	308	.....	270
1st day.....a.m.	.....	360	.....	400	.....	310	.....	307	.....	262
2nd " ..... "	.....	355	.....	405	.....	305	.....	310	.....	256
3rd " ..... "	.....	355	.....	382	.....	310	.....	310	.....	260
4th " ..... "	.....	355	.....	377	.....	297	.....	320	.....	260
5th " ..... "	.....	355	.....	380	.....	300	.....	315	.....	260
6th " ..... "	.....	355	.....	377	.....	305	.....	310	.....	260
7th " ..... "	.....	355	.....	375	.....	310	.....	310	.....	265
8th " ..... "	103.2	360	103.3	375	102.2	315	102.8	325	103.	265
9th " ..... "	103.	350	103.2	375	102.	305	103.	325	103.	260
Treatment commenced										
10th " ..... "	103.	345	103.	372	102.	300	103.2	327	102.	220
11th " ..... "	103.	305	102.4	335	101.6	270	102.6	270	103.	...
.....p.m.	103.6	....	103.6	....	103.4	....	104.	....	103.4	....
12th " .....a.m.	103.4	300	103.	310	102.8	255	102.4	260	102.2	210
.....p.m.	103.	....	104.	....	104.4	....	103.2	....	103.	....
13th " .....a.m.	103.2	295	102.2	320	103.	250	102.1	245	102.	220
.....p.m.	104.2	....	103.4	....	103.4	....	104.2	....	103.	....
14th " .....a.m.	103.	295	103.6	310	102.8	255	102.2	250	102.6	205
.....p.m.	105.	....	104.	....	103.4	....	103.8	....	103.4	....
15th " .....a.m.	103.	290	103.4	320	102.6	250	102.	245	102.4	200
.....p.m.	104.6	....	104.	....	103.4	....	104.4	....	103.	....
16th " .....a.m.	103.	285	103.	305	102.6	255	102.	240	102.2	200
.....p.m.	104.6	....	104.6	....	102 4	....	103.	....	103.4	....
17th " .....a.m.	104.4	290	104.6	320	103.8	265	104.4	255	103.1	205
.....p.m.	104.4	....	104.4	....	104.8	....	104.2	....	104.	....
18th " .....a.m.	105.2	320	104.4	350	105.	280	104.3	275	104.4	235
.....p.m.	105.8	....	105.	....	104.6	....	104.2	....	104.6	....
19th " .....a.m.	105.8	305	105.	340	104.6	275	104.4	270	104.	230
.....p.m.	105.6	....	105.2	....	105.6	....	104.8	....	104.6	....
20th " .....a.m.	104.2	290	105.	330	104.6	275	104.4	265	104.2	225
.....p.m.	104.6	....	105.	....	104.6	....	104.2	....	105.	....
21st " .....a.m.	103.6	295	105.	320	104.6	270	104.6	265	104.	225
.....p.m.	103.8	....	105.	....	105.	....	104.	....	104.	....
22nd day.....a.m.	102.	270	102.6	295	101.4	250	102.	245	101.6	210
.....p.m.	104.	....	105.	....	104.	....	104.	....	104.8	....
23rd " .....a.m.	104.	290	104.	305	103.	255	103.4	255	103.8	210
.....p.m.	103.6	....	104.8	....	104.2	....	104.6	....	104.6	....
24th " .....a.m.	103.	290	104.4	310	104.	255	104.	250	103.6	210
.....p.m.	104.6	....	104.6	....	105.	....	105.	....	105.	....
25th " .....a.m.	103.6	285	105.	310	104.	255	104.6	250	104.2	210
.....p.m.	104.	....	105.	....	103.	....	103.2	....	103.	....
26th " .....a.m.	103.6	295	103.8	300	103.	250	104.2	250	103.3	200
.....p.m.	104.	....	104.6	....	104.	....	104.6	....	104.3	....
27th " .....a.m.	103.	290	103.4	305	102.6	245	103.4	250	103.2	205
.....p.m.	104.	....	105.	....	104.	....	105.	....	103.6	...
28th " .....a.m.	103.6	300	105.	315	103.4	255	103.6	260	102.8	210
.....p.m.	104.	....	104.6	....	103.8	....	104.4	....	104.	..
29th " .....a.m.	104.6	280	104.	290	103.	245	103.6	245	103.6	200
.....p.m.	104.	....	104.6	....	104.	....	104.	....	104.6	....

TABLE OF WEIGHTS AND TEMPERATURES OF TREATED GUINEAPIGS.
(Continued.)

	DESIGNATION OF ANIMALS.									
	15		16		18		19		20	
	Temp.	Wt.	Temp.	Wt.	Temp.	Wt.	Temp.	Wt.	Temp.	Wt.
30th " .....a.m.	103.3	275	103.	305	102.8	250	103.6	250	103.	205
.....p.m.	104.	....	104.	....	104.	....	104.	....	103.6	....
31st day.....a.m.	104.3	290	105.	310	103.6	255	104.	270	104.	220
.....p.m.	103.2	....	104.	....	103.6	....	103.4	....	104.6	....
32nd " .....a.m.	104.2	280	104.6	295	103.6	240	103.	255	104.6	205
.....p.m.	104.	....	104.	....	104.8	....	104.	....	104.2	....
33rd " .....a.m.	103.8	280	103.4	300	103.6	240	103.6	260	104.	205
.....p.m.	104.	....	104.2	....	104.4	....	104.6	....	104.2	....
34th " .....a.m.	104.4	285	104.6	305	104.	245	103.6	265	104.	210
.....p.m.	103.6	....	104.	....	103.6	....	104.4	....	103.6	....
35th " .....a.m.	104.	295	104.4	285	104.	285	104.	250	104.2	200
.....p.m.	103.6	....	103.6	....	103.	....	103.6	....	103.	....
36th " .....a.m.	104.2	275	104.2	310	100.6	225	104.	260	104.4	195
.....p.m.	104.6	....	104.2	....	104.	....	104.6	....	104.2	....
37th " .....a.m.	104.4	255	104.6	300	103.4	255	103.4	255	104.2	190
.....p.m.	104.	....	104.2	....	.....	....	104.3	....	104.	....
38th " .....a.m.	104.	290	104.2	320	dead	195	104.	275	104.6	200
.....p.m.	104.	....	104.3	....	.....	....	104.4	....	104.	....
39th " .....a.m.	103.	265	104.	290	.....	....	104.	255	dead	175
.....p.m.	103.	....	104.6	....	.....	....	103.6	....	.....	....
40th " .....a.m.	104.	280	103.6	295	.....	....	104.1	180	.....	....
.....p.m.	103.	....	101.4	....	.....	....	103.4	....	.....	....
41st " .....a.m.	102.	215	dead	265	.....	....	102.6	215	.....	....
.....p.m.	100.6	....	.....	....	.....	....	102.2	....	.....	....
42nd " .....a.m.	104.4	265	.....	....	.....	....	102.4	265	.....	....
.....p.m.	104.4	....	.....	....	.....	....	104.4	....	.....	....
43rd " .....a.m.	103.6	250	.....	....	.....	....	104.	260	.....	....
.....p.m.	.....	....	.....	....	.....	....	103.6	....	.....	....
44th " .....a.m.	.....	....	.....	....	.....	....	.....	....	.....	....
.....p.m.	103.4	245	.....	....	.....	....	104.2	260	.....	....
45th " .....p.m.	103.	230	.....	....	.....	....	.....	235	.....	....
46th " .....a.m.	103.	240	.....	....	.....	....	104.	250	.....	....
.....p.m.	dead	215	.....	....	.....	....	103.	....	.....	....
47th "	.....	....	.....	....	.....	....	.....	....	.....	....
48th "	.....	....	.....	....	.....	....	chloroform		ed	

No. 17 died as the result of an accident in taking the temperature through rupture of the rectum and subsequent peritonitis.

TABLE OF WEIGHTS AND TEMPERATURES OF UNTREATED GUINEA-PIGS

		DESIGNATION OF ANIMALS.							
		20		22		24		25	
		Temp.	Wt.	Temp.	Wt.	Temp.	Wt.	Temp.	Wt.
At inoculation			237		370		202		252
1st day	a.m.		235		365		210		250
2nd "	"		235		370		215		245
3rd "	"		225		358		210		245
4th "	"		237		355		202		245
5th "	"		235		355		200		245
6th "	"		235		335		205		245
7th "	"		240		320		210		245
6th "	"	102.6	250	103.	345	103.	205	102.2	240
9th "	"	102.6	240	103.	325	103.	212	102.2	240
10th "	"	103.	235	102.8	315	103.4	215	102.2	235
11th "	"	102.6	225	103.6	315	102.8	190	103.	225
12th "	"	102.8	200	104.	285	102.4	165	103.4	200
13th "	"	102.4	210	104.2	270	102.6	165	103.	200
14th "	"	102.6	210	104.6	260	103.	165	103.	200
15th "	"	102.6	205	104.	260	102.4	165	102.3	200
16th "	"	102.4	200	104.2	255	101.	160	102.6	205
17th "	"	105.2	220	dead	235	103.	160	104.2	220
18th "	"	105.2	230			104.6	175	104.6	245
19th "	"	105.	240			104.6	160	104.	245
20th "	"	104.8	225			104.2	165	104.2	245
21st "	"	104.	225			103.8	165	103.6	250
22nd "	"	104.6	205			98.4	150	102.6	235
23rd "	"	105.2	215			died on		104.4	250
24th "	"	104.6	215			22nd		104.	255
25th "	"	104.6	210			day		104.6	255
26th "	"	98.	195					103.6	245
27th "	"	dead	180					104.	250
28th "	"							104.2	250
29th "	"							104.	250
30th "	"							104.6	250
31st "	"							104.6	265
32nd "	"							103.8	250
33rd "	"							103.4	255
34th "	"							105.	255
35th "	"							104.6	245
36th "	"							104.2	245
37th "	"							105.	250
38th "	"							104.6	255
39th "	"							103.6	230
40th "	"							104.	237
41st "	"							104.6	235
42nd "	"							104.4	240
43rd "	"							102.	.....
44th "	"								.....
45th "	p.m.							102.8	230
46th "	"							102.4	230
47th "	"							103.	230
48th "	"							dead	200

Nos. 23 and 26 died of septicæmia within a week from the time of inoculation.

PAPILLOMA OF THE LARYNX.—HIGH TRACHEOTOMY, THYROTOMY, RECOVERY.

BY

ROBERT H. CRAIG, M.D.

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A. B., female, aged 7, was brough to my office by her mother on January 17th, 1904, to consult me regarding her daughter's throat. The mother first noticed in November 1903, that the child's voice was husky. The huskiness became rapidly pronounced, and six weeks after it had developed the patient could only speak in a whisper. The breathing on exertion, such as caused by running upstairs, would become quite laboured and stridulous.

Examination revealed a healthy child with the exception of the upper respiratory tract. There was marked atrophic rhinitis with ozæna. The pharnyx presented a fairly normal appearance considering the nasal condition. The larynx showed a cauliflower-like growth in its anterior half. The growth was sessile and appeared to originate from the mucosa at the angle formed at the junction of the wings of the thyroid cartilage, and filled the anterior two-thirds of the glottis. The laryngoscope did not reveal any subglottic involvement. I prescribed a spray of alcohol, commencing with a fifty per cent. solution and gradually increasing to full strength.

I saw the patient three or four time a week for five weeks and endeavoured to gain her confidence, in order that the introduction of instruments into the larynx might be allowed. I succeeded a great many times in cocainizing the larynx, but unfortunately, the child would not permit the introduction of a snare, and as the growth was rapidly filling up the glottis and the breathing was becoming much embarrassed I advised a thyrotomy.

On the seventh of March, with Dr. Springle's and Irving's assistance, I did a thyrotomy following a high tracheotomy. On opening the larynx, I found that the growth was of a sessile nature, it presented a papillomatous appearance and occupied the whole anterior angle of the larynx. The anterior third of the right vocal cord had completely disappeared, and there was a punched-out area about the size of a ten cent piece involving the mucosa, immediately above the level of the destroyed vocal cord. I removed the growth freely with the curette, snare and scissors and cauterized the base and ulcerated area thoroughly with the galvano-cautery. The thyroid cartilage was approrimated carefully with chromicized catgut and the skin incision with silk. Five days after the operation, as the skin and cartilaginous incision showed

evidence of sloughing, I removed the sutures and allowed the wound to heal by granulation. The suppuration was, in all probability, caused by the extensive sloughing following the cauterization. The after treatment was similar to that adopted after tracheotomy, only complicated by the laryngeal condition; consequently, the tracheotomy tube required very careful attention.

I commenced on the eighth day to encourage the patient to breathe through the larynx by covering the tracheotomy wound with gauze, and on the twelfth day the tube was removed and left out for twenty-four hours. On the fourteenth day I left the tube out permanently. After the tube was dispensed with the larynx was sprayed with an antiseptic oil spray four times a day. One month after the operation the larynx presented a fairly normal appearance; a fibrous band had replaced the anterior third of the right vocal cord, but unfortunately, this band is adherent to the true cord of the opposite side, consequently, the voice has not returned, but the breathing is nearly normal. Six weeks after the operation there was very little change in the larynx with the exception that there was a slight recurrence of the papillomatous growth on the anterior half of the right ventricular band and on the left posterior third of the left ary-epiglottic fold. I at once prescribed a spray of formalin 1 in 2000, gradually increasing the strength to 1 in 800, to be used as a laryngeal spray twice daily. On the 15th of June, the mucosa of the larynx presented an almost normal appearance. The voice is improving slowly, the breathing is perfect, the patient can whisper and cry, and I hope that the removal of the synechia at a later date will bring about a fairly complete restoration of the voice.

In the treatment of papillomata of the larynx there are many points of vital interest to be considered. In this connexion, H. Lambert Lack has referred, in the *International Medical Annual* for 1904, to an instructive case reported by Dundas Grant. The patient was a young woman, 22 years of age, with congenital papilloma of the larynx. She had had a tracheotomy performed at the age of four months and had worn a tube continuously ever since. The case, Lack states, shows the uselessness of tracheotomy as a curative measure for papillomata of the larynx as recommended by Hunter Mackenzie. Grant removed the growth and subsequently the tube. Nevertheless, I consider one is only justified in opening the larynx after all other modes of treatment have been exhausted, on account of the possible dangers of the operation and the complications which frequently ensue, such as loss of power of vocalization. However, I think the consensus of modern opinion is in favour of a thyrotomy, when the growth cannot be removed by the

intralaryngeal route, and it seems to me, that such a proceeding is more scientific and philosophical than resorting to a temporary alleviation of the trouble by tracheotomy.

In my case the inability, on account of the age of the child, to remove the growth by the intralaryngeal route, and its rapid progress causing marked difficulty in breathing compelled me to adopt radical measures. Microscopic examination showed the growth to be papillomatous.

THOMAS SYDENHAM.

BY

W. F. HAMILTON, M.D.,

Montreal.

To-night, Gentlemen, it is my pleasure and duty to thank you for the honour you did me a year ago in electing me as your honorary president.

It is most gratifying to me to see this Society in such a flourishing condition, the attendance so good and the class of work done of such a high order. In noting the progress made in the past fourteen years, as it becomes me to do at this time, I have a keen sense of satisfaction and delight. It seems to me that you must, without a show of self-praise, regard the increased average attendance, the high quality and the quantity of work done in following out the programme of the various meetings, and the highly successful quarter-century celebration, as distinctive marks won by your Society this year. Those of you on whom, in the order of succession, the work must soon fall will need to give diligence to your efforts that 1904-05 may see no falling behind.

A review of the programme for the session now closing shows the variety of subjects brought before you—Clinical, both medical and surgical; Experimental; Pathological and Physiological. Your attention, too, has been directed to the Past, and some of your members have striven to correct "man's worst deed,

> "To let the things that have been run to waste,
> "And the unmeaning Present sink the Past."

Let me here urge upon you the cultivation of a taste for the study of the old Masters, taking at least two each year, becoming acquainted with their works and gaining an estimate of their influence upon medical thought, and perhaps better still, gaining some knowledge of their personality. There is now an abundance of matter accessible to all of us.

Address before McGill Undergraduates' Medical Society, April 15th, 1904.


SIR THOMAS SEYMOUR

The Manor House of Wrysford Esq^r. in the County of Dorset, built by Thomas Sydenham's Father in the year. 1630.
Sydenham was born at Wrysford Esq^r 1624. & here his boyhood was passed.
Presented to the Library, by H^s W. Osler. 1902.

Many of the early medical works, in Latin, may now be found in English translations and the lives of many of the greatest French, German and Italian teachers find a place in most libraries. The desire to prevent in some measure the running to waste of the "things that have been" in the development of English medicine, led to the choice of one of its representative men for our study this evening.

In closing his address at the opening of the session in this Faculty, September 21st, 1899, Dr. Osler said, "and, finally, Gentlemen, remember that you are here, not to be made chemists or physiologists, or anatomists, but to learn how to recognize and treat disease, how to become practical physicians."

It is to the "Prince of practical physicians" that I would formally, and I trust more or less familiarly, introduce you this evening, assured from my study of the life and works of Thomas Sydenham that a careful consideration of this Master cannot fail to inspire all earnest students of medicine.

Two hundred and eighty years ago this very week (Monday the 11th inst.) in a little Dorsetshire village in England, called (in the Domesday Book, Wynfort), Wynford Eagle, Thomas Sydenham was born. Payne describes his father's house as follows:—

"The picturesque, grey, ivy-grown old house is still standing little altered from its original state. It lies in a hollow sheltered by the downs and upland pastures, and is a pleasing specimen of a small seventeenth century manor-house. The front is composed, as usual, of three parts, each surmounted by a gable, the projecting central block contains a recessed porch with stone benches. The wings recede and are pierced with old mullioned windows wrought in very hard stone and perfectly preserved. The whole building is solidly constructed of stone and flint. A thick growth of ivy covers the whole front." . . . . . .

The Sydenham family, described as being both parliamentary and Puritan, lived near Dorchester, a strongly Puritan section of England, and in this atmosphere the "English Hippocrates" was born and bred. Payne, his most recent and most worthy biographer, remarks that "we cannot appreciate his whole character and career without remembering that he was imbued with the intense earnestness of the Puritans, and was quite prepared, in opposition to authority of any kind, to be called if necessary a rebel." With a word we must pass over his family relations. Among those who lived before him there were a judge, Bishop, Knights, Members of Parliament, and later, colonels and statesmen. In the 17th century, a noted Anglican divine; in the 18th century a learned Platonist, a naturalist and a learned and indefatigable editor.

But little is definitely known of the boy Sydenham until his 18th

year when he went to Magdalen Hall, Oxford. Scarcely had he entered upon the student's career when the civil war broke out. For some time men had protested against the absolute power of the King, and now the crisis came, and Charles the First and Parliament were at war, Sydenham took up arms with those against the King and from the records it would appear that his services were rendered in his native county and vicinity. He was a good soldier. He suffered the loss of two brothers; his mother was also killed in the war and he himself was wounded.

The first civil war having ended in 1646, Sydenham returned shortly after to Oxford to resume his studies. On his return journey his mind was directed towards the profession of medicine. In the following quotation, written in 1676, we find these facts set forth: "It is now the thirtieth year since the time when, being on my way to London in order to go from thence to Oxford (from which the misfortunes of the first war had kept me away for some years), I had the good fortune to fall in with the most learned and honorable Dr. Thomas Coxe, who was at that time attending my brother during an illness. And then as he has been practising medicine up to the present time with great distinction, he with his well known kindness and courtesy asked me what profession I was preparing to enter now that I was resuming my interrupted studies and was come to a man's estate. I had at that time no fixed plans and was not even dreaming of the profession of medicine, but moved by the recommendation and influence of so great a man, and in some way I suppose by my own destiny, I applied myself seriously to that pursuit. . . . . After spending a few years in the University I returned to London and entered on the practice of medicine."

The granting of medical degrees in the 17th century was often a matter of patronage. In was undoubtedly so in Sydenham's case. Indeed, when the Puritan party came into possession of the University of Oxford, in 1647, there was a number of vacant fellowships and preferments to be given away, and owing to the unsettled state of the previous few years the students were not qualified to receive them, according to the regulations of the University. To get over the difficulty thus arising, convocation voted a large number of degrees, conferring them by "actual creation," with or without conditions imposed. Sydenham received the degree of Bachelor of Medicine on the 14th of April, 1648, at the age of 24. In all probability the granting of his degree at the beginning of his course served to quality Sydenham for an important preferment the following year. He was a favourite with those who dispensed patronage and although he owed to patronage his degree,

Payne remarks that "if we consider the incalculable gain to the science of medicine involved in making Sydenham a doctor, we must admit that seldom has the blind Goddess of Patronage dispensed her favours with a happier hand."

The opportunity for medical study at Oxford in those days was small indeed,—two lectures a week were read on the text of Hippocrates or Galen and there was some anatomical teaching, yet it must have been small indeed for Sir Thomas Clayton, who was Professor of Anatomy in Sydenham's time, could not bear the sight of blood without fainting. His substitute, Dr. William Petty, was an able man in this department of study. Oxford possessed no hospital facilities for clinical instruction.

In 1650, while yet in pursuit of his university studies and in the enjoyment of much favour—a Fellowship at All Souls and Senior Bursar of the College,—the war cloud again lowered over England and Scotland. Charles II. found support in Scotland and the second civil war was begun. In response to the call of duty, which was never unheeded by this strong Puritan, Sydenham offered himself for service once again along with the parliamentary party and was given a commission in the first regiment of militia, the cavalry. We cannot follow further his military career, which must have been brief. 1656 appears to be the date of his beginning practice, yet it is doubtful how earnestly he undertook this work for evidently he had some intention of following a political career as in 1658 he was an unsuccessful candidate for Cromwell's parliament. He received some political office from the Commonwealth, but the Restoration followed so speedily that (whether it was entered upon or not), it could not have been enjoyed for any length of time. At any rate, Sydenham went to France to study, in 1659, influenced doubtless by a little work published at Oxford in 1631, by a young physician of Scottish parentage, a graduate of Montpellier. This little book maintained that Montpellier occupied first place among all schools of medicine.

In 1661 he was practising in London and became a licentiate in 1663. He took his degree of Doctor in Medicine from Cambridge in 1676.

We have thus followed Thomas Sydenham to a time in his history when he established himself in London and when also he must have become fully conversant with surrounding conditions of practice. We have seen, too, how much the character of the man has been influenced by circumstances,—of both religion and politics. A glance at the times, from the standpoints of science and medicine, may help us still further in understanding how much they had to do in making Sydenham the English Hippocrates,—the "Prince of practical physicians," the glory of the English school, the great ornament of the British School of Medicine, "the doctor of contraries," "the fever curing doctor."

Before looking beyond the man, however, let us consider his personal appearance. Judged by his portraits, Sydenham was of a large and robust frame, his complexion reddish, his eyes grey, his hair first brown, then grey, worn long, in its natural state, without a wig. His features, judged by his portraits, were strong and regular. His manner is supposed to have been manly and simple, lacking doubtless many of the characteristics of the courtly physician. Payne described him as, "essentially a man of action when most physicians were men of books." There is abundant evidence to show that he gained the most complete confidence of his patients.

We have above recalled a few of the terms applied to Sydenham, and they are both descriptive and appreciative. How some of these terms came to be applied may appear from several considerations: In the early part of the 17th century Galileo emancipated, in some degree at least, human thought, introducing a spirit of mathematical enquiry and accurate reasoning. Shortly afterwards Lord Bacon pointed out certain rules to be followed in investigating material phenomena. Equally important were the advances in matters pertaining to medicine. The course of the chyle and the circulation of the blood were discovered and described, and of the structure and functions of the human body knowledge was being rapidly acquired. Cullen says that "hitherto anatomists had laboured, as we may say, only on the detached and separate parts of the economy, without perceiving the connection of the whole, or what was worse, they had the view which Galen had given to it. It was a period of change and unrest of transition."

The man who among many strong contemporaries of that transition period in the medical thought of England has most influenced it was Thomas Sydenham, and though England boasts of more illustrious names than that of Sydenham there is none holding a prouder place: It is said of him that he, in a large measure, disregarded tradition and theoretical speculations and turned to the practical and experimental investigation of natural phenomena of health and diseased conditions, and, largely influenced by Hippocrates, he engaged in his work of medical reform. He took for granted the medical system of Hippocrates which seemed to him, and many others, to have been founded upon clinical observation, while the writings of others were not thus established. He valued, perhaps above all things in medical systems, such observations, and in no system were they so abundant as in that of Hippocrates. It was this aspect of the Hippocratic system which largely influenced Sydenham's method. With him it was essential that a minute study of the disease be made before the treatment could be applied. In speaking of his method, Sydenham says: "In writing, therefore,

such a natural history of diseases every merely philosophical hypothesis should be set aside and the manifest and natural phenomena, however minute, should be noted with the utmost exactness. The usefulness of this procedure cannot be easily over-rated as compared with the subtle inquiries and trifling notions of modern writers, nor can there be a shorter, or indeed any other way, of coming at the morbific causes, or of discovering the curative indications, than by a certain perception of the peculiar symptoms. By these steps and helps it was that the father of physic, the great Hippocrates, came to excel, his theory being no more than an exact description or view of nature. He found that nature alone terminates disease, and works a cure with a few simple remedies, and often enough with no medicine at all."

Choosing as his guide the following Baconian motto, it would appear that he adhered closely to it throughout his long medical career:—"We have not to imagine, or to think out, but to find out what nature does or produces." The famous principle that "Nature cures Disease," derived from Hippocrates was adopted by Sydenham.

Kreil, a writer of the school immediately succeeding that of the contemporaries of Sydenham, stated that the knowledge of the cure of diseases, attained by a close and assiduous observation of all the appearances in the several stages of distemper was first excelled in by Hippocrates and that several of the ancients followed this method, but that none ever came so near him as the deservedly renounced Dr. Sydenham.

In delivering the Harveian ovation in the year 1727, Aburthnot first mentions Sydenham as emulating Hippocrates. It is admitted that the method of the great Greek physician was extended by his English successor or rival. He explicitly laid down the principle, as Payne says, that disease should be studied by the Natural History Method, like natural objects, without trying to explain them. He differed with those of his time in this matter, who would strive to explain by some chemical or mechanical theory the observed phenomena.

Turning now to a consideration of the kind of men immediately about him we have a yet greater contrast. There were those who conformed to the Linacre School—formal and learned scholars—the type which Linacre set in founding the College of Physicians; then the influence of Paracelsus and van Helmont's disciples was being felt. They made great pretensions to cures with infallible remedies. The civil war and Commonwealth brought not only political upheaval, but a general breaking away from tradition and authority, and with the laxity in professional restrictions, the growth of astrologers, quacks, mountebanks, empirics, nurses and midwives, and "wise women," was rapid and disheartening. The surgeon and prescribing apothecary, too,

swelled the "motley rout of competitors with whom the honest physician had to contend." Between these the formal learned scholarly physician and the mountebank stood Sydenham,—plain, rather rustic perhaps, not courtly,—a man of action, a practical student of nature seeking to find out from the natural history of the disease and its variations under different conditions the appropriate treatment to be adopted, writing plainly his observation of symptoms and ending his descriptions often with such expressions as, "so doing I avoid the chances of error and do the best for my patient." "And this in a manner is all I have found out concerning the cure of diseases up to the day on which I write, viz.: 29 Sept., 1680." In the chapter on Gout he says, "if the severe torment, the inability to move, and the other bodily ills that I have suffered for the greater part of my life, shall have the effect of producing for others, ease and freedom from pain, I shall consider that I have reaped some advantage from the afflictions of this life."

Thus one may perceive the applicability of the terms, "English Hippocrates," and the "Prince of practical physicians." The other terms have their origin in his works, more than in his methods, and to a study of those let us now turn.

The Works of Sydenham.

The following is a list of Sydenham's works:—

1666.—Methodus Curandi Febres, First edition.

1668.—Second edition of the same.

1676.—Third edition under title of Observationes Medicæ.

1680.—Epistolæ Responsoriæ.

1685.—Second edition of the same.

1686.—Schedula Monitoria.

Posthumous.

1693.—"Processus Integri.

Manuscript treatise.

Then there was a manuscript treatise entitled Theologia Rationalis.

Of Sydenham's English, Payne says: "there is no specimen which was actually prepared for the press. What has been preserved is most unattractive and somewhat difficult to understand. Yet it may be said that the style is characteristic of his age and party, abounding in rugged force and sudden outbursts of religious feeling. All the handwriting of Sydenham now known is in English. His medical works are believed to have been written in Latin by those in whose style and learning Sydenham had more confidence than in his own,—Dr. Mapleloft and Mr. Havers."

From the available evidence it seems that his first medical work was published in 1666, shortly after his return to London, from which he

absented himself on account of the plague. While most biographers condemn him for this unheroic act, Dr. Payne finds extenuating circumstances, and in his absence an opportunity to write his first medical work, which is published under the title, *Thomas Sydenham, Methodus Curandi Febres propriis observationibus superstructa.* (Thomas Sydenham's method of treating fevers, based upon his own observations.) This work went through three editions; in 1676 it appeared in a new title, "*Observationes Medicæ circa morborum, Acutorum Historiam et Curationem.*" (Medical Observations concerning the history and cure of acute diseases.) The fourth edition came out in 1685 and two editions appeared shortly after in Strasburg and Geneva. Sydenham described the Fevers of London by the years of their occurrence, for instance, the first section of his book is included under five chapters:—

1. On acute diseases in general.
2. On epidemic diseases.
3. The epidemic constitution of the years, 1661-62-63-64.
4. The continued fevers of 1661-62-63-64.
5. The intermittent fevers of 1661-62-63-64.

This is a type of the headings or of his divisions.

In later editions of his book he takes up:—

The Pestilental Fevers and Plague of 1665, 1666.
Regular Smallpox during certain years.
Cholera Morbus in 1669.
Dysentery of certain years.
Measles of the year 1670.
Bilious Colic of the years 1670-71-72.
Epidemic coughs of 1676, with,
Pleurisy,
Peri-pneumonia,
Intercurrent fevers,
Scarlet Fever,
Pleurisy,
Bastard Peri-pneumonia,
Rheumatism,
Erysipelatous fever,
Quinsy,

While this work will doubtless remain one of the greatest medical classics, yet it is most difficult to identify the fevers described.

It is interesting to note his views on the pathology of pleurisy: "Now, although pleurisy naturally originates in a proper and specific inflammation of the blood, an inflammation which engenders it as a primary disease; it may, nevertheless, supervene as an accident to other fevers,

whatever be their kind; the febrile matter being precipitated upon the pleura or the intercostal muscles . . . . After attentively considering the various phenomena of this disease I think that it is a fever originating in a proper and peculiar inflammation of the blood, as inflammation by means of which Nature deposits the peccant matter on the pleuræ. Sometimes she lays it on the lung itself, and then there comes a peripneumony."

His Views Concerning its Origin.

"By this method (bleeding and purging), can we overcome that bastard peripneumony which originates in the over-abundant collection of phlegm, accumulated during the winter and breaking out upon the lungs.—The true peripneumony is of the same nature as a pleurisy, except that it affects the lungs more universally." Sydenham's description of rheumatism is both quaint and interesting:

Acute rheumatic fever, gout and rheumatic lumbago are distinct, conditions very well described indeed. Now both sorts of rheumatism arise from inflammation. No one doubts the inflammatory nature of pleurisy, and the blood of rheumatism is like the blood of pleurisy, as one egg is like another. Hence the cure is to be sought in blood letting."

Several shorter works came from the pen of Sydenham in the three epistles: — 1. Epidemic Diseases, written at Dr. Brady's request; 2. Venereal Disease, Dr. Henry Raman, University of Cambridge, and 3. The Treatment of Confluent Small-pox and Hysterical diseases.

It appears that Hysterical diseases was rather a comprehensive term with Sydenham. He writes: "I admit at once, that of all diseases, these present the obscurest diagnosis, and the most uncertain treatment . . . . . Of all chronic diseases hysteria—unless I err—is the commonest. . . . . True, indeed, it is that women are more subject than males. This, however, is not on account of the uterus, but for reasons which will be seen in the sequel. . . . . To simply enumerate all the symptoms of hysteria would be the work of a long day. Yet not less numerous than varied proteiform and chameleon-like. . . . . The affection which I have characterized in females as hysteria and in males as hypochondriasis arises (in my mind) from a disorder (ataxy) of the animal spirits. . . . . It is clear then to me, that it is not any corruption of either the semen or the menstrual blood to which according to the statements of many writers, this disease is to be referred. It is rather the faulty disposition of the animal spirits."

A most interesting passage well worth quoting along with others descriptive of his treatment has doubtless won for Sydenham the distinction as "the founder of the expectant treatment."

"A married lady, of equal birth and manners, called me in immediately after delivery—hysteria had caused a total suppression of the lochia. . . . . The hysteria defied every thing. Seeing then that I could only provide for her safety by leaving her to the prince and pattern of physicians—Time—I did nothing, a method which answered until the fourteenth day; inasmuch as although I saw her every day, I never saw her growing worse. Now, however, her female attendants, whom I had hardly restrained from effecting an injury under the guise of attention, persuaded her husband to lose no time in getting her bled from the right foot. This was no sooner done than the hysteria returned and was followed a few hours after by spasms, which were followed in their turn by relief—the relief of death."

"To speak the truth, I have long been one of those who think, that not only in the aforesaid puerperal complaints, but in all acute diseases whenever I find that from the medicine which I have thought fit to use. I am unable to give the patient reason to expect any definite benefit, I do no more than do my duty as an honest concientious physician, when I just do nothing at all, simply visiting the patient from day to day to see that he be no worse to-day than he was yesterday, nor yet likely to become worse by to-morrow. If, however, on the contrary, I try remedies whose efficacy is equivocal, there will be as much danger in the experiment as ever there was in the disease, the perils being just double to what they would have been otherwise and the chances of escaping them just half. . . . . Hence, every day does one of two things, it either adds to the safety of the patient or else gives the physician an opportunity of discovering what means he has more certain of destroying the disease than his previous ones."

His treatise on Gout and Dropsy appeared in 1683; that upon Gout is considered as Sydenham's masterpiece. Being a sufferer for many years he knew well the characteristics of the attacks and the conditions precipitating them, so that he has written a description of the disease not to be improved upon in these later days, save by a little finer definition as to the composition of the chalk stones and a more erudite discussion of metabolism.

It is in the discussion of dropsy that one of the weaknesses of the strong man is revealed. No reference is made to the altered circulation in seeking to explain dropsy, and while he recognises the fact that the blood must pass from the arteries to the veins, he asks, what microscope, however exquisitely elaborate shall make visible these minute pores by which, for example, the chyle passes from the intestines to the chyliferous vessels, or what microscope shall exhibit those ducts through which the blood, conducted by the arteries, is passed onwards to the

orifices of the veins." The capillaries were described already by Malpighi twenty-five years ago.

The "*Schedula Monitoria*" his last work, was published in 1686, and contains teachings upon a new fever, possibly typhoid fever, Saint Vitus's Dance, Bloody Urine, and several minor subjects. Let us look at his remarks on Chorea.

"St. Vitus's Dance is a sort of convulsion which attacks boys and girls from the tenth year until they have done growing. At first it shows itself by a halting, or rather an unsteady movement of one of the legs which the patient drags. Then it is seen in the hand of the same side. The patient cannot keep it a moment in its place, whether he lay it upon his breast or any other part of his body. Do what he may, it will be jerked elsewhere convulsively. If any vessel filled with drink be put into his hand, before it reaches his mouth, he will exhibit a thousand gesticulations like a mountebank. He holds his cup out straight, as if to move it to his mouth, but has his hand carried elsewhere by sudden jerks. Then, perhaps, he contrives to bring it to his mouth; if so he will drink the liquid off at a gulp, just as if he were trying to amuse the spectators by his antics."

We have yet to mention the *Processus Integri* and to briefly account for its existence. It contains nothing new, but is an epitome or summary of all the good things set down by the great London physician for his son's use. A friend, Dr. Monfort, had it for safe keeping and distributed twenty-five copies among private friends. A copy came into the hands of a German publisher in Nuremberg, and was published in an inconvenient form. A regular edition was then published, with the consent of the College of Physicians, and it met with remarkable success and may be regarded as the most popular and most widely read and influential of his works.

From Sydenham's own words it appears that he believed that in all acute, and most chronic diseases there is something (inscrutable?) divine, some specific property which is not discoverable by a search into the structure of the human body, and therefore accurate observation of the symptoms is of more value than mere anatomy. He defines disease as a vigorous effort of nature to throw of morbific matter. As long as the patient gets no worse from day to day no interference is indicated. A fever, being "a commotion of the blood," should be kept within bounds. Quoting Payne on this subject it is found that of drugs, purges very often, bleeding, and other strong measures, including blisters, he was not sparing, but sometimes would give no medicine at all, a proof of unusual courage in those days. His only rule was, what is useful is good, and this quality of the thing he strove

most diligently to determine. Blackmore has said seriously what Gideon Harvey has said scoffingly, that Sydenham made it his principle to go contrary to the practice of other physicians.

The usual method of putting a child or young person to bed with an invalid was also in his practice.

Describing a case Sydenham says: "One, Mr. Little, had a fever about seven weeks and at the time was so far spent that his doctor judged him a dead man. He was ancient, and having been treated with violent medicaments, was as weak as ever any I saw that recovered. The treatment having failed, I told his wife that nothing could preserve his life but the putting of a boy to bed with him. So she procured a link boy to be very close to him all night. The next morning I found his fever almost off and his eye and countenance more lively, upon which I pronounced all danger to be over. Yet afterwards, upon the recess of the boy he began to relapse, but the boy being got again, without any more treatment, he perfectly recovered."

Opium was one of the drugs much in requisition by Sydenham and it is said he introduced a liquid laudanum called by his name. It was widely used and is still found in French and Austrian Pharmacopœias. Strange as it may appear, it is thought that this preparation has made his name more widely known than his books.

He was among those who first used Peruvian Bark in the treatment of intermittent fevers.

His views touching the efficacy of mercury in lues, are thus expressed: "There is no specific by which lues has been cured unless evacuation have preceded. Mercury is no specific, nor yet are the so-called drying woods. Before they can be considered such, cases must be brought of a lues being cured by either, without salivation on one side or diaphoresis on the other. Besides this, as I have learned from experience, that the common surodifics will cure lues as well as the decoction of wood, so I believe that when an equally powerful excitant of salivation has been discovered in either the animal or vegetable world, it will cure as well as mercury."

The estimate to be placed upon the work of Sydenham is found in the words of John Locke, the philosopher, his friend and fellow-practitioner.

"I hope the age has many who will follow his example, and by the way of accurate practical observations which he has so happily begun, enlarge the history of disease and improve the art of physic, and not, by speculative hypotheses, fill the world with useless though pleasing visions."

As we look back through the years to the end of the 16th and the beginning of the 17th century, two figures stand prominently out upon the pages of medical history. The one we must regard as the representative of the scientific side of medicine, while the other as surely represents the art of medicine, or the practical side, To Harvey (1578-1657) his senior, Sydenham (1624-1689), gave no honour for his epoch-making discovery. Indeed those who have carefully studied his writings state that Sydenham never once mentioned the name of Harvey. Possibly, the circulation of the blood could mean but little to Sydenham. He lived too near the announcement of the event to see its bearings upon physiology and medicine, both of which this discovery has so completely revolutionized. While it may be regretted that these fathers in medicine did not combine the practical and the scientific side of their profession as fully as they might have done, yet it is not hard to believe that standing as they do in their respective relations to medicine they have been more influential in emphasizing the value of these two most important qualifications for a successful practitioner.

The histories of medicine in other countries are rarely written without mention of Sydenham's name, and we find that there is a Sydenham for each,—in Scotland, Abercrombie; in France, Bordeu; in America, Benjamin Rush, but, perhaps the greatest monument to the memory of Sydenham is the foundation and carrying on of the scientific society which bears his name.

Our English Hippocrates died of gout and renal calculus on the 29th of December, 1689, in his house in Pall Mall. In 1810 the College of Physicians, in restoring the inscription which marked his grave in St. James Church, Westminister, appropriately described him as, *Medicus in omne ævum nobilis*,—"a physician famous for all time."

IMPORTANT EVENTS OF SYDENHAM'S LIFE.

1624. Born, April 11th, Wynford Eagle, Dorsetshire.
1642. Went to Oxford, Magdalen Hall. Civil war engagements.
1646. Returned to Oxford.
1648. Fellowship All Soul's College, Degree of M.B., Oxford.
1650. Again in battlefield.
1656. Beginning practice in London, Westminister.
1659. Went to Montpellier.
1661. Practised in London again.
1663. First medical work published,—Modûs Curandi Febris Propriis Observationibus Suprestructa.
1676. Degree of M.D., Cambridge.
1686. Sept. 29th, Article on Chorea.
1689. Dec., 29th, Death.

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BRITISH MEDICAL ASSOCIATION.

The seventy-second annual meeting of the British Medical Association was held in Oxford on the 26th, 27th, 28th and 29th of July. The next meeting will be held in Leicester. A deputation composed of Dr. I. H. Cameron, Dr. J. J. Mackenzie and Dr. Burnham, of Toronto, with Dr. Courtney, of Ottawa, waited upon the Council and extended an invitation to the Association to meet in Toronto in 1906. The Council at a subsequent meeting informed the deputation that it would recommend the Association to accept the invitation to Toronto for that year.

The Oxford meeting was inaugurated with the academic pomp and dignity which is so becoming to the ancient University. A special service was held in Christ Church Cathedral, at which many dignitaries were present. The president, Dr. William Collier, entertained a company of some hundred and fifty persons at dinner in Balliol College; and mention was made in fitting terms of the hospitality which was shown by the Colleges to the members of the Association.

The President delivered the annual address, and took for his subject the growth and development of the Oxford Medical School. He traced the stages by which that school has attained to a position worthy of the high traditions of Oxford. The address in Medicine was given by Sir William Selby Church. It dealt in the main with the health of the nation, the necessity for more advanced legislation and more authoritative administration of the law. Sir William MacEwan in the Address in Surgery, dwelt upon cerebral infection, upon the singular phenomenon of respiratory and cardiac reflex induced by peripheral impression on the pudic nerve, and upon the choice of suitable material for sutures and ligatures. His conclusion upon the last subject was that catgut, suitably prepared, with a varying resistance to absorption, was an adequate material.

Those who had to do with the arrangements for the Montreal meeting in 1897 will remember the labour which it entailed ; they will also remember with gratitude the generous co-operation of the whole profession in Canada, and the full appreciation which their efforts received from their visitors. The men in Toronto have already taken the thing in hand and have commenced organization. Their field is large enough, and the new Medical School will be a source of interest to visitors from home and abroad.

This will be the second occasion on which the Association has held a meeting outside the British Islands, and in our judgment, these adventures of travel will be productive of good to visitors as well as to hosts. The people of Toronto will learn that there is a considerable body of talent outside of their own community; the visitors will learn that the Association is a world-wide institution rather than a possession of the British Islands or of London, and that the Journal of the Association is an organ of the whole body, rather than an arrangement for recording the observations which are made from the London point of view. It is difficult for so large a Journal to preserve a correct perspective, and some residents abroad have thought that they noticed a tendency of things near the Strand to loom very large. It is but natural that the Balachulish quarries, Automibiles for medical men, the Registration of Midwives, and the impecuniosity of the Metropolitan hospitals should appear to be the most important things in the world ; but residents abroad will not so readily forgive a lack of urbanity in dealing with matters of medicine at large. One example will serve. The mishandling, as it appears to us, of Professor Clarence Webster's book on Midwifery was, in our judgment, an instance of lack of urbanity. The treatment of that book had the savour of the Whitechapel road; and if we mistake not the review in question was written between that thoroughfare and the Commercial Road.

Speaking of things commercial leads to the remark that the advertisements in the JOURNAL appear to bear an undue proportion to matters of more general interest. This involves the use of thin paper, and the JOURNAL is folded so tightly that when it is opened nine days overseas it has a tendency to fly up in the face—in a literal sense. From the Epitome of current literature, too, one gains the impression that there is very little of progress recorded in the English language. In the last number of the JOURNAL at hand, the issue for August 20th, there are fourteen references, and all are from foreign literature.

Because the Association is a body to which we are all devotedly attached; because we purpose giving it such a welcome in 1906 as we gave in 1897; because the JOURNAL is in a sense our own mouthpiece, we feel free to speak the truth in love, as it appears to most persons in this country.

THE HEALTH COMMITTEE.

The Health Committee, under the direction of Dr. Dagenais, is manifesting signs of life, and their new regulations are being carried out with tact and sense. The by-law which compels the registration of all births occurring in the municipality is being fairly well obeyed, as is proven by the fact that last week the notifications of births exceeded the number of deaths which occurred. The Committee has shown a good spirit and their effort should meet with the co-operation of the profession, apart from the purely legal aspect of the case.

The problem of food inspection is also being faced, and adulterated or harmful products are being ruthlessly condemned. Jams and jellies have come in for special attention and the Dominion and City analysts are working together on the subject. Out of 74 samples only four were found to be genuine, the adulterants being turnips, glucose, mineral dyes and chemical preservatives. An examination and seizure of the product of one factory revealed a state of affairs which was nothing short of scandalous and the proprietor was very properly punished.

Upon the authority of the City analyst we are informed that the milk supplied during the year was of good quality, and, as a rule, considerably above the standard laid down in the civic by-laws. According to the by-law, milk sold in this city must contain not less than 3 per cent. of butter fat; not less than 12 per cent. of total solid matter, and an imperial gallon of milk must weigh not less than 10.29 lbs., nor more than 10.33 lbs, at 60 deg. F. This by-law ensures a milk of good quality, from a chemical standpoint; and the by-law can easily be lived up to by the milkmen, at all seasons of the year. Of 90 samples of suspected milk submitted for analysis, which involved about 500 separate

chemical determinations, a larger part were adulterated; 27 samples being adulterated by the addition of water, and 28 by skimming. It is gratifying to note that during the year not one sample of milk was found to be adulterated by the addition of such preservatives as formaldehyde or borax.

The Civic inspectors are now after the vendors of fruit and of ice-cream. Fruit is obviously liable to contamination by the clouds of dust, which are the one drawback from pleasant living in Montreal during the summer. It is the Road Committee rather than the fruit vendors which deserves attention. The confection which children find so delectable under the name of ice-cream requires strict oversight, and it would yield a rich find to biologists. Apart from the insignificant matter of bacteria one sample yielded a fine specimen of *Pediculus capitis*. The usual place for the storage of any surplus of these stocks is in the sleeping rooms of the proprietors.

In a very thorough investigation of the subject of the propagation of intestinal diseases by insanitary lanes and court-yards, Dr. Starkey was able to show the incidence of disease upon those localities which were the worst kept. The Health Committee has the remedy in its own hands. The civic by-law lays upon the landlord the specific duty of keeping his lanes clean, and he has the usual recourse against the tenant. The lanes are private property and they come under the laws which govern nuisances generally.

THE SURGEON AND THE LAW.

It is within the experience of every surgeon that accidents unforseen and unpreventable will happen. One of these accidents is the burning of a patient by heating appliances placed in the bed. We say that they are unpreventable, because they occur in the practice of the most eminent surgeons and in hospitals which are conducted with the most elaborate scientific carefulness. Indeed, there was a recent case in which an eminent surgeon in his own bed was the victim. A misadventure of this nature occurred in the practice of Dr. Fernand Monod and Dr. Henry T. Keating after an operation was performed in the Glengarry hospital, in Montreal. In consequence, the patient has taken an action at law against the surgeons to recover damages for the pain and inconvenience which he endured, and for the disability which he alleges he still suffers from.

Having the dread of law before our eyes, we have no intention of entering into the discussion of a case which is under adjudication; but that does not prevent us from making the general observation, quite apart from the merits of the present case, that a patient who undergoes

a surgical operation assumes all the risk which is directly or remotely associated with such procedure. When the surgeon has completed the operation his work is done for the time being. When the patient is placed in bed he comes under the care of the hospital and the nurses. If the nurses follow the most approved procedure in caring for a patient they cannot in our judgment be held liable for a misadventure which may have arisen from the nature of the operation and from the mental condition of the patient for which he himself is alone responsible.

The Glengarry hospital has been utilized by every surgeon in Montreal, and we are under the belief that their testimony will go to show the facilities to be enjoyed there are entirely adequate for the most approved surgical procedure. The blame for these accidents is usually awarded to the nurses, and often unjustly. A nurse has many things to contend against. The operation may be of such a nature as to preclude her from making an examination of the parts involved. She is often obliged to remain in ignorance of the exact nature of the operation or to withhold from the patient that she is in possession of such information. Again, the behaviour of a patient under an anæsthetic, his conduct in the bed, and more especially the vitality of his tissues, which renders them liable to injury, often depend upon the malady for which surgical assistance was sought. All these factors would have to be considered in placing the responsibility, and we imagine they will receive due weight in the present case. Dr. Monod's reputation as a surgeon, Dr. Keating's experience acquired in the Royal Victoria hospital, and the good name of the Glengarry hospital will also undoubtedly be taken into consideration. It is a salutary practice for medical men to resist all actions which may be thrust upon them.

THE ALCOHOL PROBLEM.

The American Medical Society for the study of Alcohol and other Narcotics was organized on June 8th, 1904, by the union of the American Association for the study of Inebriety and the Medical Temperance Association. Both of these societies are composed of physicians, interested in the study and treatment of inebriety and the physiological nature and action of alcohol and narcotics in health and disease. The first society was organized in 1870 and has published five volumes of transactions and 27 yearly volumes of the Quarterly Journal of Inebriety, the organ of its association. The second society began in 1891 and has issued three volumes of transactions and for seven years published a quarterly bulletin containing the papers read at its meetings. The special object of the union of the two societies is to create greater interest among physicians to study one of the greatest evils of modern

times. Its plan of work is to encourage and promote more exact scientific studies of the nature and effects of alcohol in health and disease, particularly of its etiological, physiological and therapeutic relations; to secure more accurate investigations of the disease associated or following from the use of alcohol and narcotics; to correct the present empirical treatment of these diseases by secret drugs and so-called specifics; to secure legislation, prohibiting the sale of nostrums claiming to be absolute cures, containing dangerous poisons; and to encourage special legislation for the care, control and medical treatment of spirit and drug takers. The alcoholic problem, and the diseases which centre and spring from it, are becoming more prominent, and its medical and hygienic importance have assumed such proportions that physicians everywhere are called on for advice and counsel. Public sentiment in turning to medical men for authoritative facts and conclusions to enable them to realize the causes, means of prevention and cure of this evil. This new society comes to meet this want by enlisting medical men as members, and stimulating new studies and researches from a broader and more scientific point of view. As a medical and hygienic topic, the alcoholic problem has an intense personal interest, not only to every physician, but to the public generally, in every town and city in the country. This interest demands concentrated efforts through the medium of society to clear away the present confusion, educate public sentiment, and make medical men the final authority in the consideration of the remedial measures for cure and prevention. For this purpose a most urgent appeal is made to all physicians to assist in making this society the medium and authority for the scientific study of the subject. The secretary is Dr. T. D. Crothers, of Hartford, and he will be pleased to give all information to those who are interested in this work.

MUSIC AND THE UNIVERSITY.

For the first time in the history of McGill University systematic instruction will be given in music during the coming session. The Royal Victoria College, for some years past, has included in its curriculum the subjects of singing, pianoforte playing, and the history and theory of music; but now the teaching of music is to occupy a more important place. A "Conservatorium of Music" has recently been established, largely through the instrumentality of the chancellor, and the University will share with the Associated Board the responsibility of conducting in Canada the examinations of the Royal College and the Royal Academy of Music, England.

So far as we understand the matter, pupils at the conservatorium are

not to be regarded as undergraduates. That is a matter for the future, when the University will be able to provide further opportunities, which are not evident from the printed announcement, for the study of music in a curriculum which will lead to the degrees of Bachelor and Doctor. At present, however, the entire management of the institution is vested in the University, though the university funds are not to be drawn upon for that purpose. The announcement to the public is guarded, and the whole scheme would appear to be tentative.

The course of instruction appears to us to be an ambitious one, including as it does, singing in oratorio, opera and drama; performance upon the pianoforte, organ, violin, clarionet, French horn, tuba, flute, bassoon, trumpet, tympani, harp, oboe, English horn and trombone, besides the teaching of theory, harmony and counterpoint, form, analysis, history and aesthetics. In addition to all this, there will be instruction in German, English, Italian and French. When the staff is itself sufficiently instructed in French, it will not permit of the abbreviation Mons. for Monsieur.

The staff seems to be composed entirely of local talent, to employ the usual phrase of the profession, though we fail to notice the name of at least one very distinguished teacher, and of one performer upon the piano, whose method entitles him to concert rank. The Syllabus appears to us to savour of the impressario and of the concert room, rather than of the austerity and dignity of a university.

THE DENTAL DEPARTMENT.

This year for the first time a dental Department has been established in connexion with the Medical Faculty of McGill University. As the regulation of studies and the registration of medical students and practitioners in the different Provinces of Canada are controlled by the medical boards of the separate provinces, so in the Province of Quebec the Dental Association has a like control over dental students and the registration of practitioners in dentistry.

In the Autumn of 1903 this body approached the University asking that a dental department be instituted, and as a result of negotiations continuing through the session of 1903-4, the University has established such a department, which is not independent, but is a section of the Medical Faculty.

Under the regulations which have been established governing the Dental Department, students may register in dentistry after passing the matriculation required of students of Medicine in McGill University, but those wishing to practice in the Province of Quebec, except those who hold a degree in Medicine or Arts from a recognized British or

Canadian University, must pass the matriculation examination of the Dental Association of the Province of Quebec.

The course demanded of students in the department of dentistry extends over four years. In the first two years the curriculum is that demanded of medical students, and the practical work during the last years will be done mainly at the Dental College. The teaching of dentistry in Montreal is now, one would think, amply provided for, there being courses open in Laval and Bishop's, in addition to the already established department at McGill.

PATENT MEDICINES.

A meeting of the Proprietary Association of Canada is advertised to take place in Toronto on the 7th September. The Honourable George T. Fulford, Senator, of Brockville, is the Honorary President of this body of scientists and philanthropists. The commodities in which the members of this Association deal are not to be confounded with the pharmaceutical preparations manufactured for the profession by those firms whose names are a guarantee of purity and excellence. Their products are best described by the terms Nostrums or Patent Medicines. There are certain subjects which we would commend for the consideration of this Association, and we should like to be informed as to the results of their deliberations. A paper might be read upon the inadvisability of employing alcohol to the amount of fifty per cent. in the preparations. There might be a discussion upon the pharmacological effects of large doses of opium when given to children, upon the use of cocaine in catarrhal conditions, and upon the employment of abortifacients. An exhibition might be made of large volumes containing cuttings from the newspapers to illustrate the methods of advertising which some owners of patent medicines employ. There might also be a Medico-Legal Section in which the relation of the procedure of these advertisers to the criminal law would be a profitable subject for consideration. It is not unlikely that some day this last subject of criminal responsibility will receive attention at the hands of a body which will not deal with it in so liberal a spirit as the members of the Proprietary Association would be disposed to manifest.

Dr. Osler has been transfigured again; or rather, he has attained to another stage in his metamorphosis by his appointment as Regius Professor of Medicine at Oxford, in succession to Sir John Burton Sanderson. This JOURNAL long ago uttered an oracle, that as Dr. Osler approached the sixth decade of his life he would return to his own country. The thing has come true, but scarcely in the way which was so devoutly wished. Oracles, however, are notoriously capable of more

than one interpretation. Dr. Osler has before him a life of ease with dignity, which, for him, means doing with his whole spirit the thing which he loves to do, and does so well.

Dr. J. V. Anglin, who has been for many years First Assistant in the Protestant Hospital for the Insane at Verdun, has resigned that position. Dr. Anglin has been appointed superintendent of the New Brunswick Asylum in St. John and will take up his new duties in October. This appointment is another evidence of the growing conviction on the part of the asylum authorities that the care of the insane shall be placed in the most competent hands irrespective of local and political affiliations. The Government of New Brunswick has displayed sagacity in securing the services of Dr. Anglin.

Dr. William Bayard, the oldest medical practitioner in New Brunswick, celebrated his 91st birthday on the 21st of August. For 67 years Dr. Bayard has laboured with untiring zeal at his profession. The father of Dr. Bayard was Dr. Robert Bayard, who before taking his M.D. course at the University of Edinburgh, had held a lieutenant's commission in the British army. Previous to 1812 he was professor of obstetrics in the University of New York.

The English medical journals announce with full obituary notice the death of Sir William Mitchell Banks, of Liverpool. This celebrated anatomist and surgeon was intimately known to the profession in Montreal and he had several close friends here. Mitchell Banks was a man who could ill be spared in the world of literature and of medicine.

The death of Dr. T. Gilbart-Smith, physician to the London Hospital is announced. Old students upon their return to the hospital will miss the courtly figure, the characteristic garb and kindly face of that fine Irishman.

Reviews and Notices of Books.

DISEASES OF THE NOSE AND THROAT. By D. BRADEN KYLE, M.D., Professor of Laryngology and Rhinology. Jefferson Medical College, etc. Third Edition, Revised and Enlarged, Octavo Volume of 669 pages with 175 Illustrations, 24 of them in Colours. Philadelphia, New York and London, W. B. Saunders & Co., 1904; Toronto, J. A. Carveth & Co.

The first edition of this work appeared in 1899, and now a third has been issued; this fact is sufficient evidence that the author's efforts

have been highly appreciated and the reason of this appreciation is obvious, to those who give this well printed, well illustrated and well indexed volume the careful study it deserves. In the new edition, the most important alterations and additions have been made in the chapters on keratosis, epidemic influenza, Gersuny's paraffin method for correcting nasal deformities and the X-ray treatment of carcinoma. The chapter on hay-fever has been re-written and enlarged, and the author describes his experiments in the chemistry of the saliva and nasal secretions and draws some interesting conclusions therefrom. The operative treatment of deformities of the nasal septum has been more fully and lucidly described than in the previous editions. The whole work is so admirable and so useful that it seems almost superfluous to call attention to some minor defects. Yet one cannot help noticing the absence of any mention of Dunbar's contributions to the study and treatment of hay-fever, and we think there is a lack of sufficient detail in describing the operative treatment of diseases of the accessory sinuses of the nose. Still, unquestionably this book is one of the best text-books on diseases of the nose and throat published in America.

A TEXT-BOOK OF HUMAN PHYSIOLOGY. By ALBERT P. BRUBAKER, A.M., M.D., Professor of Physiology and Hygiene in the Jefferson Medical College; Professor of Physiology in the Pennsylvania College of Dental Surgery; Lecturer on Physiology and Hygiene in the Drexel Institute of Art, Science and Industry. Published by P. Blakiston's Son and Co., Philadelphia; with coloured plates, 354 illustrations and 699 pages. Price $4.00, Chandler and Massey, Toronto.

This book is one of which there are many good things to be said. It gives a very sufficient account of the anatomy and histology of the various organs, and builds upon this foundation an excellent description of their functions, discussing the experimental facts and the theories based upon them in a judicial spirit. It presents the views of rival schools of thought with unusual fairness and freedom from personal bias. So much is this the case that it is often difficult to determine to which party the author belongs. As an example we may mention the vexed problem of lymph formation, of which the mechanical and secretory theories are both presented and very impartially. Similary, in discussing the glycogenic function of the liver the rival theories of Claude Benard and Pavy are both explained, and then the student is advised to wait for further facts before finally deciding whether glycogen is reconverted into sugar in the liver or not. We are glad to find, however,

that in discussing the secretion of urine he casts a very decided vote for ascribing a more active secretory function to the epithelium of the tubules than is allowed it by the Ludwig school. As a rule, the attitude of the book towards recent work is a conservative one, as should be the case in a book designed primarily for students.

The book no doubt lays itself open to criticism in some minor details and the following may be cited as possibly open to improvement: The globulins are excluded from the class of native proteids. Caseinogin and nuclein are classified in the old way as an albuminate and an albuminoid respectively, and not as conjugated proteids. The division of peptone into hemipeptone and antipeptone is retained. The presence in the vagus of inhibitory fibres to the respiratory centre is not recognized. We are anxiously awaiting a text-book of physiology in which the most consistent views of the respiratory centre, set forth by Max. Zuvandowsky in 1896, will receive the notice which is their due. An English eye is offended by the frequent curtailment of words, which converts chemical and physiological into chemic and physiologic. The book is not too big for a good student to master. It contains an adequate account of physiology to prepare the student for either examination or practice. It is so well balanced and so wisely written throughout, that we can give it our heartiest support and good wishes.

THE DOCTOR'S RECREATION SERIES. 12 Volumes: The Saalfield Publishing Company: Akron, New York, and Chicago: Price, $2.50 to $4.00 per volume.

The first volume of this series has reached us. It is entitled The Doctor's Leisure Hour and is arranged by Porter Davies. The general editor is Charles Wells Moulton, and the other volumes bear the titles: The Doctor's Red Lamp; In the Year 1800; A Book about Doctors; The Doctor's Window; Passages from the Diary of a Late Physician; The Time of Rest; Doctors of the Old School; The Shrine of Aesculapius; The Doctor's Domicile; A Cyclopædia of Medical History; The Doctor's Who's Who. For the present we are speaking of the first volume alone, and believe it does not convey a correct impression as to the value of the series. It contains a collection of "funny stories," pertaining to the medical profession, which have been current from the time of Scholastikos to the present day. In other words, it contains the dregs and rinsings of the comic supplements. A perusal of the foremost hundred pages produced upon the present writer a feeling of profound melancholy. The book will serve to pass that leisure hour which patients are sometimes compelled to pass in the waiting room, but a sensible doctor would not be much enlivened by it. It must seem

ungracious to speak harshly of any effort to amuse; but the fact is there, that any obviously funny book produces only a heaviness of spirit.

Since the foregoing paragraph was written, the second volume has come to hand, and it confirms the impression which was recorded, that the value of the series was inadequately represented by the first volume. This one contains twenty-two short stories, and bears the title The Doctor's Red Lamp, borrowed from the title-page of Sir Arthur Conan Doyle's well know book. Many of the stories are familiar, and all are worth reading.

A System of Practical Surgery. By Professor E. von Bergmann, of Berlin; P. von Bruns, of Tübingen, and J. von Mikulicz, of Breslau. Vol. IV., Edited by William T. Ball, M.D., New York. To be completed in five volumes. Philadelphia: Lea Bros. & Co., 1904.

Volume four is devoted to the surgery of the alimentary tract. The opening chapter by Hacker, deals in a most thorough way with the malformation and diseases of the œsophagus. It is one of great interest, and incidentally gives the reader a history of œsophagoscopy, describes the best instruments so far devised and the technique of their use, accompanied by many illustrations.

Then follow chapters on Injuries and Diseases of the Abdominal Wall, by Prof. Steinthal; Injuries and Diseases of the Peritoneum, by Prof. Körte; Laparotomy, by Prof. von Mikulicz and Dr. W. Kausch, who also wrote the chapter on Malformation, Injuries and Diseases of the Stomach and Intestines. These chapters are of extreme interest. Perhaps no surgeon has contributed more towards the perfection of the technique of abdominal surgery than Prof. Mikulicz. He has written a most valuable article and his methods have been well tried and he speaks from a large experience. Prof. Schlange writes the chapter on Intestinal Obstruction, a subject of such vital importance to every practicing physician and surgeon. Volume four is fully up to the standard of the preceding volumes and is highly commended.

A Text-Book of Pathology. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia; Pathologist to the Medico-Chirurgical Hospital, Philadelphia. Handsome octavo volume of 818 pages, with 350 illustrations, a number in colours. Philadelphia, New York, London: W. B. Saunders & Co., 1904. J. A. Carveth & Co., Toronto. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

Dr. McFarland is well known from his text-book upon the pathogenic bacteria, which has gone through four editions in ten years. He now invites judgment upon a text-book of pathology. It is not

apparent, at first sight, why Messrs Saunders found it necessary to publish this new text-book in such close succession to that by Dr. Stengel, which reached us on the 25th September, 1903. They are almost identical in outward appearance, and the scope of the subjects is the same. To institute a full comparison between the two would be a work of literature. It is useless for a reviewer, even though he be a pathologist who has grown up with the subject, to pretend that he has read all of these thousand pages. Comparisons must therefore be avoided and final judgment disclaimed. Impressions only can be recorded. The impression then is that this is a good book. It is certainly interesting and is enriched by much old learning and curious instances. The amount of collateral information, especially that which is given in small type, is very great. It is hard to realize, after an examination of this book, that there will ever again be any necessity for yet another text-book upon pathology, until, at least, some new field shall have been opened up. Dr. McFarland has added greatly to his reputation by this publication.

MANUEL DE MATIÈRE MÉDICALE A L'USAGE DES GARDE-MALADES, par le docteur E. P. BENOIT, de médecin l'hôpital Notre-Dame, professeur suppléant de pathologie interne à l'Université Laval. Vol. in-16, broché, 286 pages. Prix, $1.00. (S'adresser à l'hospitalière en chef de l'hôpital Notre-Dame.) Frais de poste: 10 centins.

We welcome this book for its inherent value as well as for the evidence which it affords of the new spirit which is growing up amongst our French confrères. The work is designed primarily for nurses, who in many Canadian hospitals belong to religious orders. Those who witnessed Dr. Pozzi's operations during his recent visit came away with the impression that a woman may be a nun and a most competent nurse at the same time. This book of Dr. Benoit's, if rightly employed, will make the nursing staff still more competent.

THE PRACTICAL APPLICATION OF THE RÖNTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS. By WILLIAM ALLEN PUSEY, A.M., M.D., Professor of Dermatology in the University of Illinois; and EUGENE W. CALDWELL, B.S., Director of the Edward N. Gibbs Memorial X-Ray Laboratory of the University and Bellevue Hospital Medical College, New York. Second Edition revised and enlarged. Handsome octavo volume of 690 pages, with 195 illustrations, including four coloured plates. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

This is the second edition of this book. The first edition reached us

July 13th, 1903, and received favourable mention in the August number of this JOURNAL for that year. We desire to emphasize again the good features of the work; the thorough digestion of the current literature; the illustrations to show the results of the application of the X-rays; the description of apparatus and directions for its management, and the large citation of cases.

CONTRIBUTIONS FROM THE WILLIAM PEPPER LABORATORY OF CLINICAL MEDICINE: ALFRED STENGEL, Director, 1903.

This book of over 300 pages contains a review of what was done in the clinical laboratory of the University of Pennsylvania during one year. The record is long and the work valuable. It is set forth without adornment for the benefit of those who are trying to build up a science of medicine upon ascertained facts. There are 29 separate studies upon a wide range of subjects, so important that they must claim attention from all workers wherever they may be.

REPORT OF THE SUPERINTENDENT OF GOVERNMENT LABORATORIES IN THE PHILIPPINE ISLANDS: For the year ended September 1st, 1903.

If anyone would learn of the great task to which the people of the United States have set their hands—the reclamation of those islands from barbarism—he will find the whole matter in this report. It tells in scientific terms of the effort which is being made to equip these strangers with the weapons of science against the diseases which attack them and the pests which have kept them in misery.

A TEXT-BOOK OF MECHANO-THERAPY. (Massage and Medical Gymnastics). For Medical Students, Trained Nurses, and Medical Gymnasts. By ALEX. V. GRAFSTROM, B.Sc., M.D., Attending Physician to the Gustave Adolphus Orphanage, Jamestown, N. Y. Second Edition, revised, enlarged and entirely reset. 12 mo of 200 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Canadian Agents, J. A. Carveth & Co., Toronto. Cloth, $1.25 net.

INDEX.—Catalogue of the Library of the Surgeon-General's Office, United States Army; Second Series, Vol. IX., L. Syuri, 1904.

Medical News.

CANADIAN MEDICAL ASSOCIATION.

The thirty-seventh annual meeting of the Canadian Medical Association was held at Vancouver, on the 23rd, 24th, 25th and 26th of August. In respect of general interest, attendance and completeness

of preparation, this meeting was not excelled by any in the history of the Association. The attendance from the Eastern portions of Canada was large, and Montreal sent a contingent which was excellent in quality and in members. The president, Dr. Simon J. Tunstall, had gone over the ground thoroughly and was in close touch with the members both before and during the meeting.

The full reports of the meeting have not reached Montreal at the time of the present writing, but the following is a summary by telegraph of the daily programme:

Tuesday—10 a.m., business session; 2 p.m., business session; evening, address by president, S. J. Tunstall, M.D.

Wednesday—10 a.m., business session; 2 p.m., business session. At this time the wives of the local medical men took the visiting ladies for drives and excursions, and at 4 p.m. tendered them a reception at English Bay. Evening, business session; an illustrated lantern lecture by Prof. Dudley, of Chicago.

Thursday—10 a.m., business session; 1 p.m., excursion to New Westminster to inspect various buildings, an excursion on the Fraser and visit to Steveston. Evening, annual banquet at Hotel Vancouver.

Friday—9 a.m., meeting of British Columbia Medical Association; 10 a.m., business session; 1 p.m., excursion to Victoria, leaving on the Princess Victoria. Evening, excursion in launches up the Gorge.

Saturday— A.M., drives about Victoria; p.m., excursion to Esquimalt, Williams Head and various points of interest. Evening, reception by the provincial government in the parliament buildings.

On Wednesday evening the President delivered the annual address. He spoke in part as follows:

I feel it to be my first duty to this convention to render thanks to them for the honour they have conferred upon me in choosing me as their president. When I remember those who have previously occupied this chair so well and ably, I cannot help but feel my insufficiency for the task which has been assigned me. I feel this especially when I consider how far to the west you have come in choosing me as your presiding officer, and again do I feel especially honoured as I see this convention assembled so far in the west, in my own home.

My modesty is such that I cannot think that the honour which has been given me was given to me as an individual, but would rather think I have been chosen as a representative of the men by whom I am surrounded, and the western province which I represent. I tender my hearty and sincere thanks for the honour bestowed in my election and in this present convening in British Columbia, and hope that your stay may be pleasant and profitable.

The development of British Columbia has been so rapid as to surprise many of you who come to this city. It has been such a short time since it was settled, for it seems but a day since Vancouver was built. But two decades ago the site of this building was the haunt of the deer, the bear, the savage, and it was but eighteen years ago that the erection of this city was begun. And in that time we have attained to heights which compare favourably with the standard of cities twice or thrice our size.

Among the many advantages we enjoy and improvements which are ours may be noted our pure and abundant water supply from a never failing source, our complete sewerage system with the latest ideas of septic tanks, our paved streets, our sidewalks, where now the concrete is rapidly supplanting the old plank walk; our public buildings and our hospitals, especially the new hospital which, when completed, will be the peer of any. Yes, we are keeping pace with the times. It is but a short time since all British Columbia was in the possession of the aborigines, and it was only in the memory of men now living that that spot was settled now called Victoria, and it was only in 1858 that a government was established over that part of the country now known as British Columbia.

The discovery of gold in the Cariboo district made the country known far and wide, and hither rushed the large number of pioneers, drawn by a desire for the precious metal. And then was conceived in the minds of men that great transcontinental dream—the C. P. R. Many difficulties were in its way, political difficulties, natural difficulties, but it pursued its way and, in spite of all, it was carried through and gave as a result of its completion a united east and west, made of all parts one whole country, even our beloved Canada.

This association represents the most enlightened and trained minds it is possible for us to demand. The first trained men representing the medical art in these parts were Helmcken and Tolmie; and their predecessors were the medicine men of the aborigines. We see here then, brought together in the assembling of this convention the old and the new, the enlightened minds and the superstition of the savage.

In this address it might be fitting in the light of these thoughts to trace the march of science from the early days of superstition and ignorance to the days of Virchow, Pasteur and others, but such is not my intention.

We are all familiar with the use of hypnotism as it is used in the art of medicine to-day. I call to your attention that in the use of this so-called science we, in this enlightened day, are but returning to the methods employed by the medicine man in his ignorance. The old medicine men had implicit belief in their power to effect cures by driving the cause

from the sick person, they personifying the cause as an evil spirit. He, by a method which answers to the "suggestion" of modern hypnotism, sought to impress this belief upon his patient. The droning song, the incantations, the beating of the kettle-drum are means to this end. It is an old saying: "There is nothing new under the sun," and it seems to me that in following that modern school of "fancy" we are returning to the old, and possibly in some parts even present, superstition of the savage.

There are four points which are uppermost in my mind which I deem of greatest importance, and of these I speak in order. They are The Canadian Medical Protective Association, The Federal Health Bill, The Dominion of Canada Medical Act, and The Treatment of Inebriates.

The Canadian Medical Protective Association has strong claims upon all engaged in the practice of medicine and should have the sympathy and support of each and every one. The society fills a place where there was a crying need. It stands by the physician to protect him from wrongful accusation and base slander by persons either ill disposed, on the one hand, or unscrupulous on the other.

The future prospect of the medical practitioner depends to a very large degree upon the reputation he has in a community. Understanding this well, therefore, there are many attempts made to blacken this attribute and as a result destroy his future career and his power as a money earner. This association has taken up matters of this kind and has protected its members from such assaults. When the time came it has backed up the physician and fought the cases to the end. It is therefore no longer an experiment but has proved its use. And yet out of 6,000 who are available, only 300 have joined the association. This is but a paltry number and many, many more should join. I would like to ask for a special committee to canvass the convention and endeavour to secure new members for this organization.

The aims of the society are possibly sometimes misunderstood. It does not aim to defend the reputation of unworthy practitioners, nor to back them up in cases of malpractice, but its idea is to protect the worthy man and to prevent him being assailed by actions brought by reason of spite, for the purpose of blackmail, or in hope of securing a bribe. Only by joining such an organization can we feel confident of meeting and conquering in such cases as these. We wish, therefore, to mention this matter at length in the hope that we may arouse you.

Concerning the Federal Health Bill, I am glad to note that some progress has been made and those in authority who are acquainted with the matter are well disposed.

It was at a meeting of this convention, which was held in Montreal in 1902, that a memorial came asking that a department of health be formed to be under the government of the crown. As yet, though some progress has been made, the full desire is not granted, and I hope the convention will pass strong resolutions concerning the matter.

Concerning the Dominion Medical Act, it has been but recently brought before the authorities, but since its coming to light the efforts of some have been untiringly directed to its advocacy. Concerning the proposed arrangements there seems to be great ignorance and total misunderstanding in some quarters. The claim is made by some that by the enactment of this act the various provincial boards would be deprived of their rights. This is not a true statement of the case. In Quebec, for an illustration, when a man desires to take his examination he may have the privilege of being examined in the language which he desires. By this new act it is left to each province to fix its own standard, and provincial boards now in existence might remain and act as examining boards under the new *régime*.

The bill, however, is a purely permissive one, and it is necessary that all the provincial medical boards shall give their consent in the matter. I hope this will soon come to pass as it would mean a mighty advance movement in the profession. It is intended to establish a central medical power which shall have the right to grant licenses to practise, not within the bounds of one province, but throughout the Dominion and the United Kingdom. It aims to make all stand on an equal footing anywhere in the United Kingdom.

This effort is most laudable and should receive the support of every man. I trust that this convention will act in the matter and, remembering the efforts previously made, press on to a successful issue.

Concerning the last subject I have indicated, The Treatment of Inebriates, there has often been felt the pressing need of something being done for this class, such as the establishment of an institution similar to an hospital and insane asylum combined. The efforts which have been made under old ideas and methods have proved unavailing. The question is a grave one and of vital interest since in so many ways it affects seriously our Commonwealth. In Ontario an effort has been made to meet this condition and a bill has been introduced with laudable aims. But we need not provincial but Dominion action concerning the matter. I hope the convention will appoint a committee to draw up some measure in this connection, either following the Ontario idea or bringing to light a new one. I will gladly assist in the drafting of such a measure. It would, I am sure, do much to diminish pauperism, vice and crime, and restore these unfortunates to the positions they once occupied in the walks of life.

I desire to express my sincere thanks to the visiting physicians and surgeons for their visit to this convention, and trust their stay will be fruitful and of pleasant remembrance.

In closing, Dr. Tunstall renewed his statements as to the pleasure it gave him to officiate, and trusted that the suggestions he had made might meet with the approval of the convention and have their support.

The following officers were elected:

President—Dr. John Stewart, Halifax.

Vice-Presidents—Prince Edward Island: Dr. McLaren, Montague Bridge; Nova Scotia: Dr. J. B. Black, Windsor; New Brunswick: Dr. A. B. Atherton, Fredericton; Quebec: Dr. James E. Dubé, Montreal; Ontario: Dr. H. Meek, London; Dr. W. S. England, Winnipeg; British Columbia: Dr. R. E. Walker, New Westminster.

Local Secretaries—Dr. H. D. Johnson, Charlottetown; Dr. G. C. Jones, Halifax; Dr. T. D. Walker, St. John; Dr. J. D. Cameron, Montreal; Dr. Stuart, Palmerston; Dr. Hewittson, Pincher Creek; Dr. Popham, Winnipeg; Dr. A. S. Monro, Vancouver.

General Secretary—Dr. Geo. Elliott, Toronto.

Treasurer—Dr. H. B. Small, Ottawa.

Executive Council—Drs. G. M. Campbell, J. Ross, C. D. Murray, Halifax.

The meeting of 1905 will be held at Halifax.

Immediately after the adjournment of the Canadian Medical Association a session of the Canadian Medical Protective Association was held. Dr. Powell, of Ottawa, the president, occupied the chair.

Dr. Tunstall moved that a small executive be appointed in each province to have general supervision of affairs and represent the society in the provinces.

The following officers were elected for the coming year: President, Dr. Powell, Ottawa; Secretary and Treasurer, Dr. J. A. Grant, jr., of Ottawa.

McGILL MEDICAL FACULTY.

The work of the seventy-third session in the Faculty of Medicine of McGill University will begin on Wednesday, September 21st., the register for students opening on the 12th. Many enquiries are being made by prospective students and a large number are expected to enroll themselves. For the opeing lecture, which will be given on the 20th September, the Faculty has secured Dr. A. C. Abbott, of Philadelphia. Some changes will be noted in the personnel of the teaching staff for the coming session; two of the most promising of the younger members having resigned to take up work in the schools. Dr. Halseys' work in

pharmacology will be taken up by Dr. Scane, but as yet no steps have been taken to replace Dr. Tait McKenzie, whose resignation from his positions will be keenly felt by Faculty and students alike.

MEDICO-CHIRURGICAL SOCIETY.

The first meeting of the Council of the Medico-Chirurgical Society for the season of 1904-1905, was held in the rooms on the 30th August. The newly elected officers were present and took up their duties. The arrangements for the approaching session were discussed and the committees were filled where vacancies had occurred. The first meeting of the Society will be held on the 7th October, when the members will come together at a smoking concert.

WESTERN GENERAL HOSPITAL.

Report for July: In door; there were 44 patients admitted during the month, 41 discharged and 1 died: Out door: There were 575 consultations during the month; 187 medical; 80 surgical; 103 gynæcological; 50 eye and ear; 71 nose and throat; 13 skin and 71 genito-urinary.

ROYAL VICTORIA HOSPITAL.

Report for the month ending July 31st: Patients admitted during month, 231; discharged, 241; died, 16; ambulance calls, 71; medical, 75; surgical, 102; ophthalmological, 21; gynæcological, 22; laryngological, 11; total 231: Out door, medical, 848; surgical, 413; opthalmological, 251; gynæcologica 1,159; laryngological, 232; total 1903.

MONTREAL GENERAL HOSPITAL.

During the month of July, 279 patients were admitted to the wards. Deaths numbered 19. In the outdoor department, there were 2,952 consultations. The ambulance responded to 107 calls.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

DR. LÉON CAHIER, "Traumatic Myosteomata," *Rev. de Chir*, 1904, Nos. 3-7.

Prof. Cahier, of Paris, resumes this subject very fully in a long article running through five numbers of the *Revue de Chirurgie*. Osteomata developing in a muscle as the direct consequence of trauma appear to be not at all infrequent. Cahier finds in the literature a total of 133

cases, of which 54 involved the arm, 73 the thigh, and 6 various other muscles. They are to be differentiated, he maintains, from the "osteomata resulting from fracture," first described by Virchow, which are due to the growth of fragments of periosteum and bone torn loose by the trauma. Nor are those muscle-osteomata which are adherent to bone to be confounded with the exostoses.

They may, or may not, be attached to the neighbouring bone by a pedicle, which is usually bony. Of the 133 cases, 72 were free in the muscle; 57 were adherent to the bone.

As to localisation, the brachialis anticus in the upper limb is involved in the great majority of cases, while in the lower limb the quadriceps and the adductor longus are about equally affected. An interesting point concerns the nature of the trauma. In the upper limb, it is in two-thirds of the cases a posterior dislocation of the elbow. On the other hand the lesion in the lower limb is due most often to some violent effort of the cavalry recruit to keep his seat. In agreement with this is the fact that nearly all of the cases are found in young men, especially those exposed to the accidents of violent exercise Soldiers, particularly the cavalry, supply the highest quota of cases; and indeed the subject has been but little studied save by army surgeons. Another interesting particular relates to the rapidity of the formation of these bony growths. In 90 cases, the osteoma was observed 34 times within the first month; and 33 times between the first and second months; indeed in 6 cases it was found between the eighth and tenth day. Such cases Cahier finds credible, inasmuch as bony callus from fracture is demonstrable from the tenth day onwards.

The pathogenesis of these tumours is not firmly established. It is hardly necessary even to mention the abandoned theory of the ossification of blood clot, through cartilage; nor the theory of Bard which would call these growths merely aberrant sesamoid bones. The only two hypotheses which deserve consideration are those of periosteal implantation and myositis ossificans. According to the first, muscle osteomata are due to the tearing-off and consecutive proliferation of a periosteal or osteo-periosteal fragment—practically a dislocated callus. This theory rests upon a strong experimental basis. Ollier showed that a portion of periosteum detached from the tibia of a rabbit and carried out into the subcutaneous tissue will produce in a fortnight a new formation of bone of the length of 4 cm. In 1894, Sieur and Berthier, operating upon a rabbit, laid bare the muscular insertion of the adductors of the thigh, detached a small sheet of periosteum with the muscle attached, stimulated the muscle electrically to favour retraction of the periosteum; and found after a variable lapse of time a constant new

growth of bone within the thigh muscles. There are a considerable number of clinical facts to support this theory; but they concern apparently only those osteomata that are firmly attached to the neighbouring bone. The more numerous "free osteomata," Cahier believes, cannot be explained thus; and he adopts the second hypothesis, that of an ossifying myositis, a production of bone through inflammation of the interstitial fibrous tissue of the muscle. The histological evidence which shows in many cases an inflamed or degenerated muscle surrounding the bony new growth, together with the fact that frequently no connexion can be demonstrated between the osteoma and the periosteum are the strong points in support of this theory.

The question of treatment lies wholly in determining the favourable moment for operating. Cahier's rule (borrowing an expression from eye surgery) is to "operate when the myosteoma is ripe," that is to say, when the process of ossification has come to an end. An early operation is apt to be incomplete, and recurrence takes place. A skiagram is the best means of ascertaining this stage of development. When the shadow contours are clear cut it is time to remove the growth; and it must be removed *larga manu*, with a layer of the surrounding healthy muscle.

J. von Mikulicz—Increasing the Resisting Power of the Peritoneum Against Infection—*Arch and Klin Chir*, 1904. Heft. 2.

Von Mikulicz counts as one of the most experienced and most thoughtful abdominal surgeons of the present day, and any utterance of his must command attention. The above title indicates his latest contribution to abdominal surgery, and it opens up a bright perspective. The problem of how best to combat post operative peritonitis is a difficult one. In the direction of a specific immunising serum, he sees, for the present at least, but little hope; the varieties of infection are so numerous, and the polyvalent sera apparently so inefficient.

There is, however, another side from which to attack the problem; we may try to increase the general resisting power of the organism to bacterial invasion. And one means to this end consists in inducing an artificial hyperleucocytosis. Working along this line, Dr. Miyake, in Mikulicz' clinic, carried out a series of experiments on guinea-pigs. Neutralized nucleinic acid in 0.5 per cent. solution, subcutaneously injected, was found to increase 16 to 20 fold the resisting power of the peritoneum; so that, for instance, even a considerable amount of fæces free in the abdominal cavity was overcome without damage, while in control animals a fatal peritonitis was the regular result. (The details of the experiments should be read in the original).

Von Mikulicz felt justified by these promising animal experiments

in using nucleinic acid subcutaneously in his human laparotomies; and he expresses his belief that, in the series of 34 cases of which he gives the details, the effect of the hyperleucocytosis induced was a decidedly good one. Naturally, in the human, without the freedom of animal experimentation, such conclusions must be very relative, at least until very many more cases have been accurately observed. Yet the results justify an extended trial of the method. Fifty cc. of a 2 per cent. sol. of neutralized yeast nucleinic acid (obtainable from the Böringer firm in Mannheim) injected subcutaneously 12 hours before operation would seem to be, according to the author, the best way of administering the drug.

DR. MIGNON, "Surgical Treatment of Meningitis Consecutive to a Basal Fracture," *Rev. de Chir.*, Paris, June, 1904.

Mignon's patient had suffered a fracture of the anterior fossa of the skull with involvement of the ethmoid. On the fourth day after the accident, the temperature, normal till then, rose suddenly, and other signs of meningitis developed. Mignon decided to drain the meningeal space; and to that end trephined on both sides a little in front of and above the ear. After incising the *dura mater*, a small tube was pushed in towards the anterior fossa. Almost immediately the meningeal symptoms lessened, and in the sequel gradually disappeared, ending in complete recovery in twenty days. Lumbar puncture, practised on the day following the operation, yielded a pure growth of the pneumococcus.

Mignon's operation, on the surface, appears rational. *Ubi pus, ibi evacua.* But one may reasonably doubt whether it really was so. The base of the skull, with all its irregularities, must be a mighty difficult region to drain effectually, unless the infection be narrowly localized. Even in this one case, it would scarcely be justifiable to establish a *propter hoc* upon this *post hoc*, considering the comparative lack of virulence of the pneumococcus, not to mention the beneficient effect in many cases of lumbar puncture alone.

M. GAUGOLPHE, "The Conservative Operation in Osteo-Sarcomata of the Humerus." Translations of the Lyons Surgical Society, *Rev. de Chir.*, June, 1904.

Gaugolphe discusses the points in favour of the conservative operation of simple resection of the diseased area in the humerus as opposed to the radical removal of the whole limb with the shoulder. There is a distinct tendency lately towards the conservative operation in cases of central bone sarcoma (not the periosteal form) on account of their relatively slight degree of malignancy. Moreover, the radical operation

with its great mutilation, is frequently declined by the patient till too late, while the simple resection will ordinarily be accepted. The latter, it appears, has given good results in a number of cases, both as regards early restoration of function and late freedom from recurrence.

E. W. A.

MEDICINE.

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

HALL AND WALBRACH. "Adiposis Dolorosa with report of three cases." —*The Amer. Journal of Med. Sciences,* Aug., 1904.

HAMMOND. "An Instance of Adiposis Dolorosa in two Sisters"—*The British Med. Journal,* July 16th, 1904.

Adiposis Dolorosa is fast becoming recognized as a condition requiring a separate description and the above descriptive term seems better than "Dercum's Disease" by which it is sometimes known. Perhaps, if one were to give a yet more descriptive title to what as yet may scarcely be regarded as meriting a classification under *diseases,* one might write Adiposis Dolorosa of Dercum-Vitant; since it appears that the credit of describing the condition is due to Dercum, while the classification of the characteristic symptoms and signs were done by Vitant. According to this last mentioned writer, an accumulation of adipose tissue, pain, asthenia and psychic phenomena, are the four cardinal symptoms of the disease. The fatty accumulation may be of the nodular, localized diffused or general diffused form; it may be found on legs, hips and thighs; unitateral or bilateral. The pain may be spontaneous or induced. Sometimes extreme tenderness exists. The psychic phenomena consists in extreme irritability—"a marked tendency to causeless quarrelling and even vague ideas of persecution." The asthenia is often marked.

Traumatisin, rheumatism, syphilis and alcoholism have been looked upon as possible causes in some of the cases reported.

There have been autopsies in five cases and the findings suggest a relationship to those of acromegaly.

The thyroid was enlarged and the seat of calcareous infiltrate. The pituitary body was enlarged and gliomatous in two, and in a third there was an adeno-carcinoma. There was an interstitial neuritis in the nerves passing through the fatty tissue. Both affections, occurring in the majority of cases in women, seem undoubtedly to represent abnormal processes of growth, in the one fatty tissue, in the other osseous tissue.

SYPHILIS.

DR. PAUL GASTOU.—"History of Syphilis in France, Since Ricord".
DR. LOUIS WICKHAM.—"Mercurial Injections in the Treatment of Syphilis".
DR. KARL TOUTON.—"On the Treatment of Syphilis in Wiesbaden".
DR. ANTON LIEVEN.—"The Treatment of Syphilis at Aix-la-Chapelle".
SIR ALFRED COOPER.—"The Zittmann Treatment of Tertiary Syphilis".
DR. F. W. MOTT.—"Syphilitic Disease of the Brain".
J. ERNEST LANE, F.R.C.S.—"Serum Treatment in Syphilis".
FRANK COLE MADDEN, M.B.—"Syphilis in Egypt".
DR. GEO. F. STILL.—"Syphilis in Children".
WALTER H. JESSOP, M.B.—"The Ocular Manifestations in Syphilis and their Treatment".
DR. ST. CLAIR THOMPSON.—"Syphilis and its Treatment in the Upper Air Passages".
JONATHAN HUTCHINSON.—"A note on the Treatment of Syphilis. *The Practitioner*, July and August, 1904".

Yet another special number of the *Practitioner* appears, quite up to the standard of high merit which has marked the previous issues devoted to a chosen subject. This time we are enabled to review syphilis from the standpoint of several observers, and to see the advance made both in pathology and treatment.

In regard to the former aspect of the subject, many problems are yet unsolved, and this review has but little to offer which is not already well known to the profession. Although the attempts to inoculate lower animals have failed in most instances, Martineau and Hamonic, working 22 years ago, and Roux and Metchnikoff but recently, have succeeded in producing in apes, lesions, pronounced by Fournier, to be "specific".

The treatment of syphilis resolves itself into the administration of mercury and iodides, and the articles upon this subject serve but to show modifications in the administration of these essential drugs,—*modifications* in exhibition of the drugs as well as in their effectiveness, by means of mineral water, baths and diet.

There are twelve papers under review—all save one deal with *treatment*. It may be said, however, that Dr. Mott and Dr. Hill deal mainly with the clinical features and pathologic anatomy of the disease, as it affects the nervous system and as it is found in children.

We may now turn to study the subject matter a little more closely. Dr. Gastou's paper, translated from the French, points out amongst other things the facts:

1. That early in the 19th century any lesion appearing in a syphilitic subject was attributed to syphilis.

2. That for nearly half a century the sole criterion of the syphilitic nature of any lesion was the influence upon it of specific treatment.

3. That it was Rollet, who in 1854-69, first suggested the specific nature of gonorrhœa, and established the doctrine of "duality," while studying the mixed chancre; asserted that contagion was most often conveyed by secondary lesions, and particularly mucous patches, and proved that sexual intercourse is not the sole method of conveyance of syphilis.

Then the study of hereditary syphilis, often confounded with scrofula, was carried on by Chabaux and completely developed by Fournier in 1881.

The mode of transmission of the disease remained a question. Some attributed hereditary syphilis alone to maternal infection. The truth of Colles' law is nevertheless admitted. While contagiousness of the secondary manifestations is established, it is doubtful whether mucous patches can transmit the disease five, six or ten years after the initial lesion. The explanation of the syphilitic symptoms, so numerous and so complex, is sought in the study of the histological character of the lesions and in the disturbance of nutrition produced by the disease. Secondary infections doubtless influence to a greater or less extent the course and manifestation of the disease. It goes without saying that there continues, with respect to the treatment of syphilis, a full confidence in mercury and iodides. While "all roads lead to Rome," discussion prevails as to which enables one "to arrive" earliest and in the safest condition. Dr. Wickham is a strong advocate of the use of mercury by injections. He claims for the method: (1) the great advantage of sparing the stomach, and should it be necessary to give iodide, the stomach is ready for the emergency; (2) the more direct penetration of the mercury into the blood stream; (3) the more complete utilization of the dose administered, and (4) above all, the more exact dosage thus rendered possible. The same writer urges the necessity of adequate dosage, determined by the resistance of the patient. First given in small doses the drug induces slight reactionary fever and malaise which indicate the patient's resistance or the limit of tolerance. One should proceed with the remedy in doses which will not induce the reaction, increasing from time to time. He further urges more attention to the quantity of mercury in the preparation chosen, showing that calomel and biniodide of mercury stand at opposite poles of the compounds available, the former containing 84.9 per cent. the latter 44 per cent. of mercury, while corrosive sublimate contains 73 per cent.

The technique to be practical must be studied more in detail than is possible in a review. Suffice to say that Dr. Wickham usually injects preparation deep into the gluteal muscles at the point of intersection of the lines marking the transverse third with that marking the upper quarter of the buttock. The cyanide of mercury may be used intravenously.

In this article one finds the belief expressed that it is of great importance to *intermit the treatment*, thus preventing the patient from becoming habituated to the drug, a condition often lost sight of even by good surgeons. The *early* treatment with mercury is also advocated.

It is necessary at the very beginning, at the period of chancre to "strike hard." With this object, Dr. Wickham advises to begin the use of *daily* injections of biniodide during the first month. Then a rest of three weeks, followed by six injections of grey oil at five day intervals. Then the periods of rest are fixed at about five weeks. So that in the first year five months are devoted to treatment and seven to rest. In the second year he has four months of treatment and in the third year three months.

Between Wickham and Hutchinson there is a unanimous belief in the need and efficacy of early treatment. They admit that often it is impossible to be sure of the diagnosis, but in such cases where no doubt exists, Hutchinson advocates the prompt administration of the appropriate treatment. Touton, in his article from Wiesbaden, which will have further consideration later, warns his colleagues who may read his paper in the following words: "I cannot sufficiently impress upon them the importance of not beginning the mercurial treatment before the constitutional symptoms are evident, or the syphilitic nature of the inital lesion is established beyond all possibility of error, especially by the characteristic swelling of inguinal glands." At bottom there is no difference in the views of these clinicians.

Hutchinson administers mercury by the mouth; he does not do so because he thinks it more effectual, but because it is far more convenient; with respect to the length of time to continue the mercury he says: "I have formed very strong impressions in favour of continuous and very prolonged courses". He gives grey powder with Dover's powder, one grain each, three times daily, and if no diarrhœa is induced after a few days, the pill is given four, five or six times daily. "All soups, fruit and green vegetables are peremptorily forbidden," and the treatment is kept up for one year at least. At Wiesbaden and at Aix-la-Chapelle mercurial inunctions are freely used, and the effectiveness of the remedy is increased, as is believed by those at Wiesbaden, by baths and water drinking, a saline, sodium chloride,

water, while practically the same conditions obtain at Aachen, where the patients are subjected to alkaline sulphur baths and drink the sulphur waters.

The Germans criticize the English method of treatment, saying that in pill or in mixture the effects are slow in declaring themselves, and while the legitimate results are inadequate, the effects to be avoided are often induced. At the same time a great deal of the mercury is uselessly excreted by the bowel. It appears, on theoretical grounds at least, that the action of mercury is more pronounced in the presence of vigorous metabolism, and hence the ground for water drinking and baths. It is understood, of course, that patients under treatment in such "*Kurorts*" are strictly supervised in regard to every detail of hygiene, mouth, skin and bowels, food and habits, thus affording them most favourable opportunity for *elimination* of poisons, as well as fortifying them against such as may still linger in the tissues. In this, in part at least, is found an explanation of the prompt and satisfactory results of treatment.

The Zittman treatment is applicable to such cases of tertiary syphilis not amenable to the ordinary measures but only aggravated by them. It consists in eliminating the poison by sweating and purging. The course of treatment, carried on in a temperature of 80° F., lasts 14 days, and consists in a mild mercurial purge, two pills, a special plain diet free from sugar, fruits, starches, and the administration of two decoctions, consisting mainly of sarsæ roots, anise seed, fennel seed, leaves of senna and liquorice root, alum, calomel and red sulphide of mercury. The patient gets out of bed every evening for an hour, and on the fifth day has a hot bath. Then the treatment is continued, the pills, diet decoctions, etc.

The serum treatment has not been successful, nor are the present prospects particularly in favour of its becoming so.

Mott's experience has led him to believe "that syphilis is by far the most important cause of organic brain-disease in adults, and that it is one of the most weighty extrinsic factors in the production of insanity." He teaches that from 1 to 2 per cent. of persons with syphilis, suffer from cerebral symptoms, exclusive of parasyphilitic affections. The syphilitic virus may act in one of two ways. In the first place, one may find a specific inflammatory process of membranes and blood-vessels of the central nervous system separate or together, giving rise to degenerations of new growths (gummata), and in the second place, a lowering of the specific vital energy of the component cells of the whole body, or of those of particular organs or tissues. The lesions known as parasyphilitic, including malformation, arrest of development,

cachexia in early years, tabes and general paralysis. While all forms of syphilis may be followed by severe nervous symptoms, it seems to be a fact that the mild forms are particularly liable to be followed by the parasyphilitic affections. Hitzig has a theory that there are several poisons in the veneral infection, and that the soft sore is an infection with a poison especially injurious to the nervous system. As factors contributing to brain-disease in syphilitic subjects, Mott includes injuries to the head, alcoholic excesses of any kind and severe mental strain.

The subject is further considered under the following headings: Basic meningitis; meningitis of the convexity; cerebro-spinal meningitis; arteritis and neo-plastic formations and encephalitis.

In basic meningitis, there are generally profound arterial changes and gummatous masses in the brain substance. The cases closely resemble those of general paresis. Added to the nerve symptoms, e.g. of *optic nerve*, and *oculo motor*, especially the branch to the levator palpabræ and the sensory division of the fifth, are those psychical symptoms rather rare in simple meningitis. Recurrent attacks of drowsiness, stupor and coma, should always make one suspect syphilitic basic meningitis. Dementia, at one time or another is a constant symptom in all cases of severe brain syphilis, and variability of the dementia is especially characteristic. Delirium, moroseness, delusions of persecution, attempts at suicide, epileptiform fits, Jacksonian epilepsy may have their origin in syphilis. Recovery is with mental enfeeblement.

Syphilitic meningitis is always associated with changes in the arteries, but arteritis may occur without meningitis. The inner coat is specially involved. The lumen of the vessel is narrowed and not necessarily thrombosed. Headache is common, sleeplessness, irritability and mental weakness are significant. Transitory aphasia is often one of the earliest symptoms, indeed, transitoriness with recurrence, are very characteristic of the symptoms, till finally a more or less settled condition is found, wherein partial or total mental incapacity, associated with paralysis, is the chief feature. The failure of the therapeutic test to improve patients should not be regarded with surprise by one acquainted with the anatomical conditions at the bottom of such symptoms.

That portion of Dr. Mott's paper dealing with the pathology of cebro-spinal syphilis is of special interest.

The process is essentially inflammatory, affecting the mesoblastic tissues, usually the meninges or the vessel walls. The parts affected are those where the cerebro-spinal fluid exists in abundance, although the ventricles are not affected as the ependyma of the ventricles is of epiblastic origin. The arteries are specially involved and often become obliterated.

The veins are affected as well but rarely closed up. The perivascular lymph spaces are also involved, and circulation of both blood and lymph is greatly interfered with. This leads to altered nutrition of the cells in the surrounding brain tissue, and a process of inflammatory œdema is set up. Thus it may be seen that the venous stasis, and the distension of perivascular lymphatics and ventricles, by altered cerebro-spinal fluid play a very important part in cerebral syphilis. Dr. Mott believes the brain lymph has an excess of carbonic acid, nucleo-albmous, products of degeneration, etc. Nutrition is largely denied the nervous elements, while they are at the same time surrounded by a pathological fluid. The functions of that part affected is in abeyance. If more widespread we have a ready explanation of stupor, dementia, etc., and if the external conditions acting on the nerve cells are withdrawn, before the cell dies, function may be restored. Hence, the disappearance and reappearance of symptoms in syphilitic disease.

Syphilis in Egypt is bad, on account of the popular ignorance and superstition, universal filth and prejudice against treatment. Extra-genital sores are not uncommon, being found on the lips, mucous membrane of the mouth, abdominal wall from shaving pubic hair, within the anus of young boys, the result of "unnatural vice." A religious difficulty confronts those who would treat congenital syphilis. It is considered wrong to allow water to touch the skin of a child during the first year of life.