

# Western Canada Medical Journal

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SURGERY AND ALLIED SCIENCES

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WINNIPEG, CANADA

VOL. III.

JUNE, 1909

NO. 6



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# Western Canada Medical Journal

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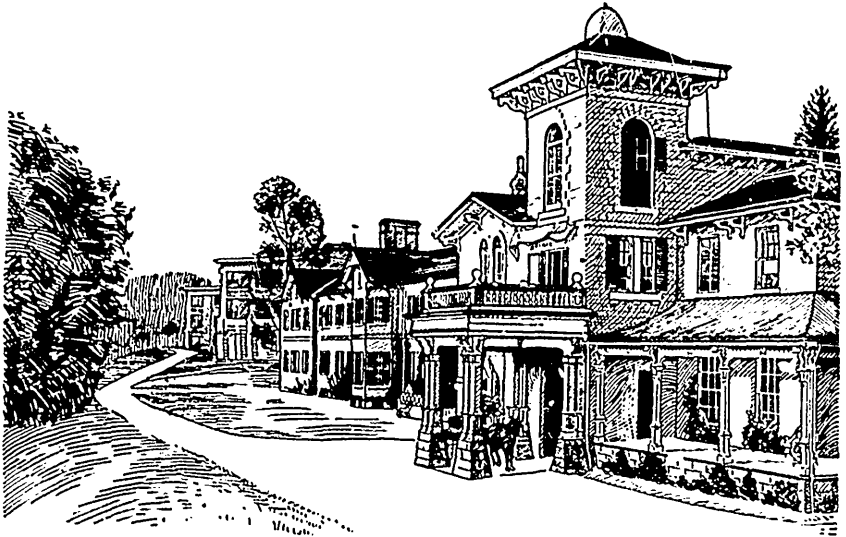
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## ORIGINAL COMMUNICATIONS.

### \*HEMORRHAGE IN THE YOUNG INFANT

BY

GEORGE PIRIE, M.D.

CALGARY, ALTA.

Mr. President and Gentlemen,

In introducing the subject of Hemorrhage in the young infant, it is not with the expectation of introducing any new ideas on the subject, but with the hope of drawing attention to factors in their connection which are too often overlooked, and upon which not sufficient stress has been laid.

It is only within the past decade or so, that the study of the child, as an organism differing in character from the adult, has become a recognized and definite section of the broad field of Medical Science. It is partly on this account that the average practitioner comes to regard it as neither necessary nor within his powers to endeavor to prevent certain conditions the infant may acquire. Nor does he regard an unusual condition in a child such as a subcutaneous hemorrhage or a severe hemetemesis in any other way than as a dispensation of Providence. He shrugs his shoulders and hopes for better luck next time! If it were recognized that there must be a definite cause for most of these conditions, certain elements to be provided against, and in the majority of instances, something to do when these conditions do arise, he would be in a better position to control his luck next time.

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\*Read before the Alberta Medical Association, July 1908

While there is a great variance in the severity and importance of hemorrhages and too little known of a great many making an exact division almost impossible, a general classification might simplify them to our better understanding.

The hemorrhages may be classed according to their *Etiology* into these broad divisions. True haemophilic, the Hemorrhagic Diathesis, Traumatic and Infectious. Late investigations are showing more and more conclusively that the majority of cases of Hemorrhage in the young infant are of an infectious origin, and the percentage of cases classed as true Haemophilias is steadily decreasing, while modern methods and procedure in Obstetrics is steadily diminishing the cases of traumatism in the newborn infant.

Sudden hemorrhage unaccompanied by any other symptoms and occurring in the first week of life where every other cause is excluded may be classed as true Hemophilia. Hemorrhages occurring later in the child's life under similar conditions are purpura and beyond the scope of the present discussion. Young infants are almost entirely exempt from the purpura affections.

Sudden copious hemorrhages are probably not Hemophilic. In the latter condition the hemorrhages are usually small but continuous, and the fatal termination which occurs in about 87 per cent. of cases is due not so much to the actual loss of blood as to the general breaking of the vital forces. Sometimes, however, the oozing from the mucous surfaces is very troublesome, but this is unusual. Bleeding takes place most commonly from the Umbilicus, from the mucous surfaces, and into the Subcutaneous cellular tissues. Hemorrhage into the skin is always a more serious condition as indicating a greatly lowered resistance in the vessel walls.

Heredity probably plays the most important part in the *Etiology* of this condition. And in practically every case that has been diagnosed as true Haemophilic evidences may be found of this same condition having existed in the family of one of the parents. The female members of the family are affected much less frequently than the male members, though a female haemophilic will nearly always give birth to a bleeder, but a healthy woman will bear a healthy child by a haemophilic father.

Every theory has been advanced as to the causation from

diminished coagulability of the blood to a congenital stenosis of the arteries with consequent thinning of the walls. One man Gaertner isolated a bacillus bearing some of the characteristics of the *Bacillus Coli Communis* in several cases of spontaneous bleeding, but has been unable to prove anything conclusive. It is probable that some infectious or toxic condition might have been found in these cases, either in the child itself or its mother. And while there may be discovered changes in the character of the blood and in the structure of the vessels, common to all Haemophilias they are probably inherited from a haemophilic parent.

There is very little that can be done for these cases, the percentage of deaths being very high. Local external hemorrhages may be controlled by local treatment. The administration of astringents in hematemesis and melaenia is useless. The treatment must be directed towards keeping the child absolutely at rest in every particular and even to pumping the mother's breasts and feeding with a dropper. This in my mind is the only way in which the blood pressure can safely be kept at a minimum and offers the best chance of tiding the child over the danger point in the third to sixth day.

Let the accoucheur be particular in getting a complete parental history in every confinement before the child is born. If there appears any tendency whatever towards this condition let him right from the birth of the child institute every possible precaution outside of medication for keeping the blood pressure low at least the first week.

Traumatic hemorrhages usually occur very early and may vary greatly in severity. They follow less frequently than one would imagine from instrumental delivery than from injuries to the fetus, owing to malformations of the pelvis and departures from the normal mechanism of labor. While this is true, a number of cases undoubtedly follow instrumental delivery, and ignorant and rough handling of the presenting part.

There may be but a slight hemorrhage from the skin due to abrasions, bleeding may also occur from lacerations of the large bowel in difficult breech presentations. Sometimes a caput succedaneum is ruptured in mistake for the membranes. Sometimes a very serious form of cerebral hemorrhage occurs in instrumental deliveries or in the normal deliveries through a small pelvis. This

is due to laceration of the vessels in the overlapping parietal bones. The diagnosis and treatment in this condition would of course be that of compression. In this class might also be mentioned those hemorrhages following Asphyxia. In this condition there is a great engorgement of the umbilical veins, as well as extreme pulmonary engorgement. Hemorrhages may occur in the skin or from any of the internal organs. Another hemorrhage which if it occurs once has occurred too often is that from an insecure ligation of the cord. The conduct of these traumatic hemorrhages will be the same as in ordinary surgical procedure. In these cases it is nearly always possible either to guard against their occurrence or to deal adequately with them should they occur.

The condition and care of the child should be just as important as that of the mother during delivery. There should be no undue haste in applying forceps in a canal that should be large enough for the passage of the child. On the other hand there should be no delay in applying forceps in a canal that is somewhat contracted. Injury more often follows either mechanical violence to the cerebral sinuses and asphyxia with its attendant hemorrhages when labor is prolonged in a contracted pelvis. Be sure the lung is fully expanded immediately after birth. Too much emphasis cannot be given the fact that it is important for the accoucheur to keep in mind these fortunately rare, though none the less imminent dangers of hemorrhage in the conduct of the obstetrical cases he is responsible for.

The rest of the hemorrhages to my mind may be classed as infectious. As yet there has not been much progress made in the isolation of the specific organisms causing the infections, but I believe time will show this. There are a few conditions which are rather obscure; one is Buhl's disease. Here there is hematemesis, Melæna, Hematuria, and bleeding from the navel. In these cases there is fatty degeneration of the liver, kidneys, and heart. This is a very malignant condition and death occurs in two or three days. The clinical course of this condition closely resembles poisoning by phosphorus and arsenic. These conditions must be remembered as they may be important from a medical legal point of view.

Another condition is that known as Winckel's disease. In

this condition the skin is cyanotic and icteric in hue. There is hemo globinuria but no blood cells have been found. This condition invariably follows wound infection. The cases first observed followed circumcision. It has also been observed following an infection about the umbilicus.

There is another condition called *Melaena Neonatorum* or Black's disease, in which there is a profuse bloody discharge from the rectum. This condition follows thrombosis of the umbilical veins, which is most likely of an infectious character. This condition must be diagnosed from bleeding from small lacerations, and excoriations of the mucous membrane about the anus. This can readily be done by a physical examination of the rectum and inspection of the stools.

Another condition giving rise to hemorrhages in the first few days of life is syphilis. Hemetemeses and *Melaena* may both be present from ulcers in the gastric and intestinal muscles and mucosa. Syphilitic processes may also take place about the arteries, causing cerebral hemorrhages and bleeding into the skin. Paroxysmal hemoglobinuria has also been observed where the kidneys have been the seat of syphilitic infection. These hemorrhages may of course be diagnosed as syphilitic by their concurrence with those other symptoms which make up the classic picture of congenital syphilis.

Perhaps the most common form of hemorrhage in the young infant, both within the first few days and the first few weeks, is a persistent, though slight hemetemeses and *melaena*. These hemorrhages are the result of a gastroenteric infection or an ileocolitis. There may or may not be constitutional disturbances depending on the severity and character of the infection. The most common mode of entrance of infections in a child is through its mouth. Not always does one see the baby's mouth cleaned at birth by the nurse with proper regard to the ordinary rules of asepsis. Infection may also enter with the mother's milk from an improperly looked after nipple or accidentally by an artificial form.

Gastro-enteritis, enteritis, ileo-colitis and all the various infections of the bowel and stomach of a child are most likely varying degrees of the same process. The pictures presented under the various divisions that have been enumerated by dif-

ferent observers depend on the character and virulence of the agent producing the infection or upon the course of the disease once the infection has been established. The blood in the movements one rarely sees in the early stages of these infections, or when the inflammatory process is superficial. If the infection is especially virulent, ulceration may take place earlier. The pernicious use of astringents and opiates both within and without the profession in these mild gastro-enteric infections is often responsible for a superficial process becoming a deeper one with all its attending symptoms of Melaena and grave constitutional symptoms.

In discussing Etiology of these conditions the statement is always made that they exist more commonly in bottle fed infants and in the summer months. This is because there is more probability of infection in artificial foods and because the summer temperature is more favorable to the growth and activity of the infectious agents. Any condition which creates a more favorable field for the growth of what bacteria are introduced, or which tends to a greater activity in the bacteria themselves might be given as a cause or the inflammatory conditions.

In this connection I think it might be in place to emphasize the importance of a well-regulated milk supply in all our Towns.

I understand that the Public Health Act, which has been passed in our Legislature has empowered the Provincial Board of Health to embody almost what Ordinances it pleases in the best interests of the Public Health ? It is to be hoped that the most rigid restrictions will be placed upon the dairies obtaining licenses and upon the sale of the milk. It will then be the part of each Municipality to see that every assistance is given in the carrying out of these regulations.

It will be impossible to define the Etiology exactly in these cases of Enteric infections, until the Bacteria causing them have been isolated, and each condition identified with a specific organism. Shiga has made extensive observations endeavoring to do this, but as yet without any material results.

Another factor which must be considered is a toxic or septic condition in the mother, either before delivery or in the puerperium. A mother with Bright's disease for example, may transmit a weakness to her offspring, which may manifest itself

by a haematemesis or Melaena. Even a slight septic condition in a mother during the puerperium will cause trouble in a child by the excretion of toxins through the milk, leading to an inflammatory process with some times the appearance of blood in the vomitus or faeces. In two cases I have observed I believe this to have been a causative factor, though in only one was there any bleeding. In three instances of hemorrhage in a young infant there has been reported by the attending Physician Bright's disease in the mother. The probability is that the toxic and septic conditions in the mother have manifested themselves in their children. There has been some change take place in the blood vessels of a child which has permitted Capillary oozing into the stomach and bowels. The case which lead me to a general consideration of the subject of hemorrhage in the young infant was an especially interesting one. Both parents of the child were inclined to be bleeders. They were full cousins and their common grandfather was a bleeder and had had very serious hemorrhages from the mucous membranes. The labor was normal, the child was apparently well nourished and weight seven pounds. On the third day, just as it began to get milk from its mother it vomited every time it was put to the breast. There was blood in the vomitus and blood began to appear in the movement. There was an extravasation of the blood under the skin of the scalp in the left parietal region, at the outer border of the left eye, and over the sternum near the stern clavicular articulation. The hematemesis and melaena persisted the next day and the character of the movements changed showing an inflammatory condition in the bowel. There was considerable elevation of temperature and the child looked very sick. The loss of weight was very rapid, about four to six ounces per day.

The diagnosis was made at first of hemophilia when an inflammatory condition became evident some source of infection was looked for. The mother from the third to the sixth day ran a slight temperature of from one-half to one degree and there was a slight odor to the lochia. Her symptoms cleared up with vaginal douching. There was no local sign of infection in the child's mouth so that probably the first toilet of the baby was correct. This, I believe, was a true case of hemophilia complicated by toxic condition derived probably through the mother's milk.

The treatment was immediate cleansing of the child's intestine with castor oil, and absolute starvation with the exception of water which was given with a dropper. A little stimulation was also given in the way of brandy. Under this treatment the baby gained an ounce a day for three days and the signs of inflammation in the bowels disappeared. By that time the mother's temperature was normal and milk was pumped from her breasts and feed to the baby through a dropper. The hematemesis immediately re-commenced and there was a further extravasation of blood under the skin of the face. There was again a very rapid loss of weight for several days. Mother's milk was discarded altogether and a dram or two of a very weak solution of Horlick's malted milk given every two hours. Under this treatment the bleeding ceased and the stools gradually became normal in character. Since then there has been no further bleeding. As soon as the child's movements became absolutely normal and the loss of weight ceased, a very low formula of top milk was given. From this point the child's weight increased steadily. It is now nearly four months old, is gaining about an ounce a day and is taking about three ounces of a 3-6-1 milk and water mixture every three hours. The treatment of bleeding where there is any suspicion of infection will of course be that of any gastro-enteric infection. The stomach and bowels must be completely emptied and put at rest by absolute starvation, water however should be given freely.

Astringents and opiates are absolutely contra-indicated in the early stage. When the infection has subsided they may be cautiously employed if it is found that the character of the stools is gradually improving and the temperature approaching normal. Serum therapy has not proved of any value. Shiga, Sewel and Harris each involved a serum based on the characteristics of the bacillus they isolated from dysenteric stools. A few years ago I had the opportunity of seeing these serums tried. In 20 babies these serums were given alternately. The only appreciable effect seemed to be a slight diminution in the amount of blood in the stools of those treated with the serum. The course of the disease, or the constitutional symptoms were not effected.

In conclusion, gentlemen, the purpose of this paper is to emphasize the fact that there are a great many other causes of



bleeding in the newborn besides the hemorrhagic diathesis. Infection and traumatism must always be excluded first. The treatment, of course, will be mainly prophylactic in the careful conduct of labor and asepsis in the handling of the young infant, while the condition once established must be treated primarily with absolute rest of the child, keeping the blood pressure at a minimum, and in the case of infection and traumatism removing the cause, rest, and a careful attention to the general principles of diet and hygiene.

## \*TRAUMATIC LACERATION OF URETHRA

BY

W. V. LAMB, M.D.,

CAMROSE, ALTA.

Mr. Chairman and Gentlemen,

The case to which I wish to direct your attention for a few moments is one in which the urethra was completely divided, no bridge of tissue remaining between the divided segments.

The patient, a man of 35, was ploughing with a sulky plough to the mould board of which a steel plate had been added to increase its bearing surface. This plate was  $\frac{1}{8}$  in. thick and terminated at a right angle at its upper posterior margin. On striking a root he was thrown from his seat and fell astride the mould board, sustaining a severe injury from which he fainted.

On seeing the patient some two hours after the accident, about 7 p.m., I found him suffering considerable pain but otherwise in fair condition.

Examination of the injury showed a ragged wound just in front of the external sphincter and directly in the median line. Large clots filled the wound and on their being removed the laceration was seen to extend deeply. On passing a soft rubber catheter very gently and with one finger in the wound the catheter was felt uncovered and visible on inspection.

As patient had made his water just previous to his accident I decided to operate on the following morning. 10 a.m. ether was given and an incision made from the base of the scrotum to the angle of the wound. After introducing a sound, incision was extended to urethra level. Sound was then removed and a gum elastic catheter substituted to the same level, and efforts made to locate the distal end of the divided bladder portion of the tube, but without success.

My anesthetist at this point, quite unintentionally, kindly permitted the patient to vomit, and during the paroxysms I was grateful to note urine spouting from the site of the hidden tube. Having its location indicated no difficulty was experienced in

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\*Read before the Alberta Medical Association, July 1908

picking up the tube and passing the catheter on into the bladder and withdrawing the urine.

The space intervening between the divided ends of the tube amounted to about half an inch, and I did not deem it advisable to stitch the same over the catheter as I could not get close enough approximation. The parts divided by my incision was reunited by deep and superficial sutures but a small opening at the site of original laceration was left open for drainage and wound packed and dressed.

Salol and Acid Boric grs.  $\dot{v}$ . were given every six hours throughout the case. Urine drawn off twice a day.

*Catheter allowed to remain in situ for 10 days, and on removal sounds passed daily for three weeks.*

Recovery was all that could be desired. No difficulty in micturition and no evidence of stricture six mos. later.

# SOME THEORETICAL AND PROBLEMATIC CAUSES OF TYPHOID FEVER

BY

F. P. HUGHES, M.D.

NEW WESTMINSTER, B.C.

Bacteriologist to the Public Hospital for the Insane.

The propagation of typhoid fever is, probably, one of the most important and complex questions of the day, but, as yet, no definite conclusion has been arrived at. Flint and Carpenter in 1852 established the fact that typhoid fever could be propagated by drinking water. It is not now questioned by any one, and few points in the etiology of typhoid fever are so certainly proved as the conveyance of the morbid poison by drinking water, and by food contaminated with polluted water. Davies says: "the orthodox or current belief is that typhoid fever is spread only by specific infection from a pre-existing case, and that stools and urine of typhoid patients contain a specific bacillus—*Bacillus typhi abdominalis* of Eberth—which is the actual cause of the disease. The mode of entrance into the body is by swallowing contaminated water or food (principally milk, though not impossibly meat), or by inhalation of air containing the microbe. The poison is discharged from the body in the stools and urine. Propagation is effected, not by direct contagion (unless very rarely), but by indirect contagion, through the medium of water or food (milk, shellfish, etc.), or by fomites (as bedding), or air (excretal effluvia, dust, flies, etc.), or soil, or sewage farm produce.

At, and after, the close of the South African war, vegetables (lettuce, radishes, celery, etc.), grown on sewage farms, were consumed by the troops, and many cases of typhoid fever were, almost certainly, propagated by these edibles. Experiments to isolate the *B. typhi* from the leaves and roots of the vegetables were not successful, although proof could not be obtained that the above was not the case.

That flies can convey the contagion has been proved beyond a doubt. Davies at Quetta in 1898 collected numbers of flies from over ground trenched with excreta, some of which had probably come from typhoid cases ; the only growth obtained from the flies was *Proteus vulgaris* in great abundance ; as this was almost certainly derived from imperfectly buried faeces, it seems likely that typhoid germs also would have been taken up and conveyed by flies, even though they were not detected. Alessi fed flies on cultures of *B. typhi* and found virulent typhoid bacilli in their excreta. That flies can carry germs on their bodies and retain them for a considerable time, was shown by Burgess in 1895. Vaughan states that flies carried infection in the National Camp at Chickamagua in 1898, and that this fact was proved beyond a doubt, while Veeder considers that the typhoid fever of the Cuban campaign was mostly conveyed by flies.

In regard to climate, typhoid fever is ubiquitous, but not so common in the tropics as elsewhere. As to season, there is most typhoid in late summer and autumn, in temperate climates. As regards soil, fluctuations in the subsoil water have been supposed to have great influence, but this explanation will not hold good for facts as observed in India and Britain.

In South Africa, the Kaffir, after contracting typhoid fever, will not go to the hospital if he can possibly help it, and is, in a large majority of cases never seen by a physician at all during the course of the disease, but lies in his kraal until he either recovers or dies, only crawling out at the call of nature. The kraals are mostly situated near some stream flowing into a larger river, consequently, the Kaffir is a menace, in this regard, not only to those immediately associated with him, but to the population of South Africa.

Generally speaking, outbreaks of typhoid fever can be traced to specific pollution of air, water or food ; or such specific infection cannot be traced ; but neither can it be disproved, nor considered unlikely.

I well remember that, in Pretoria in 1904, in the new military cantonments, stringent hygienic and sanitary measures were adopted to reduce the number of typhoid cases. Fly screens were provided for windows and doors ; Hindoo hawkers of fruit and

vegetables were required to have permits, and their wares examined; canteens, coffee-bars and roadside booths were not permitted to sell aerated waters unless they had been bottled for a period not less than 14 days, (it having been proved experimentally that the contents of the bottle became absolutely sterile in 14 days from bottling); the sewage farm was only allowed to grow such vegetables as required cooking before consumption; all milk used was Pasteurised; and when a man reported sick with suspected typhoid, his bed and immediate surroundings were sprayed with a solution of formalin, glycerin and water, while his kit and bedding was steam disinfected. At the hospital, all typhoid excreta was incinerated, bed pans and urinals kept in a 1:1000 corrosive sublimate solution, and all linen, bed clothes, etc., steam disinfected. Soiled linen was soaked for 24 hours in a 1:1000 corrosive sublimate solution before washing. The banks of the Apapies River, for some miles above the intake for the water supply were carefully protected and a system of large reservoirs installed the water being drawn from them through a number of Berkefeld filter candles. These measures, in conjunction with many others, certainly appeared to reduce the admissions for typhoid, as from the time the new cantonments were occupied, the admissions for typhoid fever were reduced some 50 per cent, as against the statistics of the old camp at Sunnyside, where the troops had been living under canvas and none, or hardly any, of the above prophylactic measures had been in vogue.

In 1858 Murchison formulated the doctrine of the *de novo* origin of typhoid fever, and for years after this theory prevailed. In 1867 Hudson said "upon no subject in practical medicine is there a larger or more constantly increasing mass of evidence, than as to the power of faecal miasm to generate typhoid fever, and to the fact that it does do so". Of late years Budd's doctrine, that specific contamination is necessary has gained ground at the expense of the pythogenic theory, and at the present time most authors teach the necessity of specific contagion. The difficulty of proving the absence of specifically contagious stools, is admitted by Murchison, but he maintains that there is good ground for belief in the independent origin, by fermentation of faecal, and perhaps other forms of organic matter. There have always

been a number of observers who are not satisfied that the *de novo* origin is impossible, but of late years general opinion has been adverse to Murchison's views. Many outbreaks have occurred in the course of campaigns apparently inexplicable upon any other theory ; instances occurred, time after time, in Zululand 1879, Afghanistan 1879, Egypt 1882, Nile 1884, and Tunis 1881, where importation and infection from pre-existing cases seemed impossible. Outbreaks of the disease occurred in isolated spots which had never been previously occupied. During these campaigns the prevalence of diarrhoea, both previously to, and at the same time as the outbreaks of typhoid fever, was noticed. This was also the case at the U.S. National Encampment in 1898. Davies believes that the explanation lies in the proper appreciation of these two facts, taken in conjunction with the present position of the bacteriological question ; and that evolution of specific pathogenic properties takes place in the specific bacillus of typhoid fever.

Granting the specific casual connection existing between a specific bacterium and a specific disease, is it essential that the specific bacterium always remain unchanged in its morphological, functional, pathogenic and cultural characters ; or is it possible that its specificity may be variable, depending on alteration in its environment ?

The so-called "species" of bacteria are not differentiated by their morphological characters, for, as a rule, there is very little difference between them ; variations in size and shape can be produced at will in the laboratory ; one need only mention slight variation between acidity and alkalinity of media, encouraging or interfering with the growth, or altering its character on the one hand, and the occurrence of involution forms on the other ; also well known species show great variation, as regards motility, in different media ; not always easy of determination, but important, is the presence or absence of flagella and spore formation. Ward in 1896 said that many so-called "species" of bacteria are not species at all, in the botanical sense, but only varieties or growth forms, of which the characters are not constant, also, that the characters derived from the behaviour of colonies are not sufficient for the determination of species. In order to differentiate between varieties that may, morphologically, appear identical, the effects produced on nutrient media, or modification in the

growth of the germs, due to differences in their constitution, have been generally used ; the appearance and color of the colonies ; their power of liquefying gelatine ; acid and gas production ; indol formation ; odor and agglutination with proved cultures, etc.

Granting that absolute constancy of conditions would produce a corresponding constancy of bacterial characters, it appears to be only reasonable that the converse may cause a corresponding variation of character. In all cases in which bacteria live inside or outside the body, the environment is subject to great modifications. Variation in the pathogenic properties of pathogenic bacteria unquestionably does take place, as has been demonstrated by the processes of attenuation in one direction, and intensification in the other, produced at will in the laboratory. The question now is, can such an alteration take place in the human organism, so that a non-pathogenic bacterium may acquire pathogenic properties ? Is it possible for the *Bacillus typhi abdominalis* to be a form modified by evolution from some other bacillus ?

Some time ago the *B. typhi* was regarded as possessing fixed characters easily demonstrated. However, recently general opinion has changed. Rodet and Roux believe that *B. coli* communis, the normal inhabitant of the healthy intestine, is but another form of the *B. typhi* ; they found *B. coli* in the faeces and *B. typhi* in the splenic blood of the same typhoid patient. Although the morphological and cultural characters of these two forms differ, these observers do not consider them sufficient to differentiate two distinct species. They look upon Eberth's bacillus as *B. coli* in a state of attenuation or degradation, and considering, on the one hand, the tolerance which the human organism has for the *B. coli*, as it commonly presents itself in the intestine, and, on the other hand, the injurious nature of water polluted by it, they believe that it acquires outside the body its 'typhigenic' character, in the great majority of cases. This coincides with a belief in the evolution of the specific character, under favorable conditions, from an organism which, under ordinary circumstances, has no such morbid properties.

That atypical typhoid bacilli exist in the blood of typhoid patients, closely resembling *B. typhi*, yet varying therefrom in



Morphological and Cultural characteristics of *B. coli*, *B. typhi abdominalis* and *B. paratyphosus tubulated*

	<i>B. coli communis</i>	<i>B. typhi abdominalis</i>	<i>B. paratyphosus</i>
1. Size	Length 0.5 to 3u, breadth 0.5u, variable	Length 1 to 3.5 u, sometimes in long filaments, breadth 0.5 u	Length 1 to 3.5 u, sometimes in long filaments, breadth 0.5 u
2. Shape	Short, fat rods, with rounded ends, also coccoid	Cylindrical rods with rounded ends	Cylindrical rods with rounded ends
3. Motility	Slightly motile	Actively motile	Actively motile
4. Spore Formation	None	None	None
5. Flagella	4 to 8 on sides and ends	8 to 16 on sides and ends	8 to 14 on sides and ends
6. Aerobic or Anaerobic	Aerobic but can be grown anaerobically	Aerobic but can be grown anaerobically	Aerobic but can be grown anaerobically
7. Gram Staining	Negative	Negative	Negative
8. Agglutination with <i>B. typhi paratyphosus</i>	Negative	Positive	Negative or pseudo
9. Agglutination with <i>B. paratyphosus</i>	Negative	Negative or pseudo	Positive, negative or pseudo
10. Bouillon	Profuse growth, sedimentation and generally pellicle	Cloudy, later precipitate, no pellicle	Cloudy, later may be pellicle? precipitate
11. Glucose bouillon	Gas	No gas	No gas
12. Agar plate	Flat, grayish colonies with irregular periphery	Grayish, semi-transparent colonies, irregular periphery	Grayish, semi-transparent colonies, irregular periphery
13. Gelatin plate	Grayish colonies, irregular outline, no liquefaction	Grayish semi-transparent colonies, irregular outline	Grayish, semi-transparent colonies, irregular outline
14. Gelatine shake	Produces gas bubbles, no liquefaction	No gas or liquefaction	No gas or liquefaction
15. Potato	Thick yellowish growth	Transparent glaze-like growth, after 2 or 3 days	Transparent glaze-like growth after 2 or 3 days
16. Milk	Congulation	No change	No change
17. Litmus milk	Red and conglutination	No change	May turn red and later blue again?
18. Neutral-red-lactose-agar	Yellow with fluorescence? reaction variable	No fluorescence	No fluorescence, may turn yellow? reaction variable
19. Litmus-lactose-agar	Red colonies with red halo	Colonies white	Colonies white
20. Endes' fuchsin-agar	Colonies red	Colonies blue	Colonies blue
21. Drigalski and Conrad's medium	Colonies red and opaque, with red halo	Dew-drop colonies, blue with a violet tinge	Dew-drop colonies, blue with a violet tinge
22. Proskauer and Capaldi's medium No. 1	Red	No growth	No growth
23. Proskauer and Capaldi's medium No. 2	Blue	Red	Red? Reaction variable
24. Hiss glucose-litmus-water-serum	Pink and conglutination	No change	May become pink? No conglutination
25. Indol	Positive	Negative	Negative

one or more cultural characteristics, in pathogenic properties, has been shown by Von Babes. He considers that not only *B. coli communis* exist along with *B. typhi abdominalis*, but that there are many gradatory forms between the typical *B. typhi* and the common saprogenic bacilli. Gordon, Houston and others have described varieties intermediate between the typical *B. typhi* and *B. coli*. That the *B. coli* plays a part in the causation of typhoid fever, and that polluted waters owe their power to produce typhoid infection in a large measure, to the presence of this bacillus, is the conviction of Widal and Chantemasse. In 1898 an outbreak of typhoid occurred at Belfast. Smith investigating this outbreak, found *B. coli* in the drinking water but failed to isolate *B. typhi*; he also noticed that varieties of *B. coli*, isolated from the water, gave a positive serum reaction.

Last December *B. coli* was isolated from the tap water at this laboratory, but the point where the pollution occurred was not found, and the bacilli disappeared from the water on the 14th day. This water comes direct from the City reservoir and water-main, but no outbreak of typhoid fever occurred, following this pollution, either in the City or in this Institution. Pressure of work at that time did not allow of the matter being investigated so fully as it might have been. The reservoir water, however, was examined biologically, but the *B. coli* was not isolated from it at any time.

From what has been said, it is evident that, though *B. typhi* and *B. coli* are quite distinct from each other in their typical forms, as we know them, there are many closely allied organisms sharing the morphological and most of the cultural characters, and all the virulent properties of the pathogenic organism held to be the cause of typhoid fever.

In Johannesburg, 1905—7, we were experimenting, with a view to obtain an earlier method for diagnosis of typhoid fever than is allowed by the serum reaction of Widal; it was also unsatisfactory in that many of the suspected cases had either had a previous attack of typhoid, or had been immunised with typhoid antitoxin, so that in either case a positive Widal's reaction was of no diagnostic value, in the earlier stages of the disease. To this end we took as much blood as we could obtain from the finger (about 1 cc) and inoculated it into 10 per cent peptone-ox-

bile, and, after incubation for 24 hours, endeavoured to isolate the *B. typhi* by plating methods. During the course of these investigations we found three distinct varieties of the organism. Morphologically they were identical but in their cultural characters they showed slight variations; No. 1 caused permanent acidity of litmus milk; No. 2 acidity but subsequent alkalinity; while No. 3 did not affect the medium. We called No. 1, *B. paratyphosus B*; No. 2 *B. paratyphosus A*; and No. 3 *B. typhi abdominalis* of Eberth. It is impossible to believe that these varieties are definitely fixed species; it is reasonable to suppose that they are evolutionary forms, not fixed into definite species; also that they do acquire pathogenic properties, and that even typical *B. coli* may have that power, under certain conditions; so far, these conditions are not known, but they may possibly be developed inside the body, or outside as suggested by the presence of *B. coli* in water suspected of causing typhoid fever. The practical points are, as stated by Widal and Chantemasse, some factor besides the typhoid bacillus is concerned in the production of typhoid fever; and excremental pollution of a drinking water (as evidenced by the presence of the *B. coli*), is certainly associated with, and in all probability the cause of typhoid outbreaks, without specific pollution by typical *B. typhi*. In November last I succeeded in isolating a Paratyphoid bacillus from the blood of a diagnosed case of typhoid fever, and who presented all the true clinical symptoms of that disease.

Much work has been done in Germany on the question of "bacilli carriers". Remlinger, Schneider and others state that they have positively found the *B. typhi* in stools of perfectly healthy individuals, who had never had typhoid or been immunised against it. One woman kept a bakers store. Cases of typhoid occasionally turned up amongst the employees. A common W.C. was used by them all. Stools from the woman were found to contain the *B. typhi*, and thus, although she was a perfectly healthy individual, she may have been the innocent cause of contagion amongst the employees. Recovered typhoid cases were also found to carry the specific germ over a number of years, as proved by examination of stools and urine. Thus it cannot be questioned that an innocent and healthy person may be the primary factor in a typhoid fever outbreak. At the begin-

ning of last month I did a Widal's reaction on a woman here, who had had typhoid fever 18 months previously and had made a good recovery. She gave a positive reaction in 1:40 dilution in 15 minutes to a proven *B. typhi* culture. Unfortunately I was unable to obtain stool or urine from this case, but it is probable that if I had, I should have succeeded in isolating the *B. typhi* from it.

The above seems to agree with the theory that *B. typhi* may become attenuated and lose, partially or entirely, its virulence, and that conversely *B. coli* may become intensified through various gradations, its morphological and cultural characters also changing. Should the idea of necessity for one specific bacillus to produce contagion be abandoned, and the possibility of evolution of pathogenic properties be entertained, the theory of spontaneous origin *de novo* agrees with the bacterial theory of disease production. The prevalence of diarrhoea, which is frequently associated with typhoid outbreaks, is suggested as being dependent upon, and an expression of, this bacterial evolution; also, though as yet no proof is forthcoming, that the typical *B. typhi*, generally looked upon as the cause of typhoid fever, is not an absolutely fixed and determinate species.

Many varieties of organism exist, and are found in cases of the so-called para-typhoid fever, which apparently occupy a position intermediate between the *B. typhi* and the *B. coli*, and it is probable that, when no positive Widal's reaction is given in a clinically typical case of typhoid fever, it may be a case of paratyphoid fever. Several strains of the *B. paratyphosus* are generally kept in a laboratory, and when a positive reaction cannot be obtained when put up against the *B. typhi*, recourse is had to one or more strains of this organism. Unfortunately, however, there appear to be so many varieties of this bacillus, that although the serum of one case, while giving a negative reaction to *B. typhi*, and a positive reaction to one strain of *B. paratyphosus*, may give a negative reaction to a second or third strain. Also it must be borne in mind, that, when conducting a Widal's reaction, by the microscopic method, unless both loss of motility and decided clump formation coexist, the reaction may not be called positive. Many pseudo-reactions are obtained where small clumps are formed and motility somewhat impaired, but actively motile

bacilli will be seen in other parts of the field ; such a reaction cannot be classed as positive.

In the majority of cases a positive Widal's reaction cannot be obtained until the tenth or eleventh day of the disease, meaning the sixth or seventh day of general malaise. Where a negative reaction is first obtained in a suspected typhoid case, this result should not be taken as an established fact that it is not a case of typhoid fever. Instead, the test should be repeated until a positive reaction is obtained.

The reaction is generally said to be an authentic method for the diagnosis of typhoid fever. This, generally speaking is so. On the other hand, a perfectly healthy individual, who has never had typhoid and has never been immunised against it, may give a positive reaction, while a person, who is exhibiting typical clinical symptoms of true typhoid fever may give a negative reaction at any time during the course of the fever, and even after. This may be due to the fact that the patient may not be suffering from a disease caused by the typical *B. typhi*, but to a disease, of which a paratyphoid or paracolon bacillus may be the specific causation.

The best reactions are obtained with an 18 to 24 hour old bouillon culture, incubated at 37°C. By careful observation, however, a bouillon culture killed by exposure to 60°C for 5 minutes may be used. This method was largely adopted in South Africa, where it often took days to send the blood to the nearest laboratory. Killed cultures of the *B. typhi* were sent to physicians residing in remote districts, and whether by the microscopic or macroscopic method, authentic results could be obtained.

DIET SCHEDULE FOR CHILDREN FROM THE FIRST  
TO THE SIXTH YEAR OF AGE

BY

S. W. HEWETSON, M.D

PINCHER CREEK, ALTA.

THE DIET OF A CHILD FROM THE 12TH TO THE 15TH MONTH.

FIVE MEALS DAILY.

7 a.m. 8 to 10 ounces of milk made after the following formula :

Milk.....	30 ounces
Cream.....	5 “
Water .....	15 ‘
Milk Sugar .....	10 teaspoonfuls

This quantity will usually be sufficient for the day's supply. It is best to make the feedings all at once early in the morning and keep the milk in 8 oz. feeding bottles stoppered with non-absorbent cotton on ice.

9 a.m. The strained juice of an orange.

11 a.m. 8 to 10 ounces of milk of above formula.

2.30 p.m. 4 to 6 ounces of chicken, mutton or beef broth and 4 to 6 ounces of milk of above formula.

Or one poached or soft boiled egg, with a piece of zwieback and 4 to 6 ounces of milk of above formula ;

Or 2 to 3 ounces of fresh beef juice and 6 to 8 ounces of milk of above formula ;

Or 4 to 6 ounces of oatmeal or barley gruel added to 4 to 6 ounces of milk of above formula, a piece of zwieback or stale bread.

6 p.m. 6 to 8 ounces of milk of above formula, with 2 ounces of barley or oatmeal gruel added.

10 p.m. 8 to 10 ounces of milk of above formula.

THE DIET FOR A CHILD FROM THE 15TH TO THE 20TH MONTH.

FIVE MEALS DAILY.

7 a.m. A well cooked cereal and milk of the following formula :

Milk .....	40 ounces
Cream.....	2½ "
Water.....	7½ "
Milk Sugar.....	5 teaspoonfuls

The child should have milk (of above formula) on the cereal, and also a glass of same milk to drink. Every other day he may have an ounce of cream added to milk he eats on cereal.

9 a.m. Juice of one orange. .

11 a.m. 8 to 10 ounces of milk of above formula, with a tablespoonful or two of a cereal jelly.

2.30 p.m. 1 to 3 ounces fresh beef juice and 4 to 6 ounces milk of above formula ;

Or 4 to 6 ounces of beef, chicken or mutton broth and 4 to 6 ounces of milk of above formula and a piece of zwieback ;

Or one poached or soft boiled egg with stale bread crumbs, a piece of toast or zwieback, and glass of milk.

Dessert with any of the above selections for this meal—stewed prunes (no skins), 2 tablespoonfuls, or baked apple, 2 tablespoonfuls, or custard.

6 p.m. 4 to 6 ounces of milk of above formula with 4 to 6 ounces of barley or oatmeal gruel added.

10 p.m. 8 to 10 ounces of milk of above formula with one ounce of cereal jelly added.

THE DIET FOR A CHILD FROM THE 20TH TO 24TH MONTH.

FOUR MEALS DAILY.

7 a.m. A dish of some well cooked cereal with milk, a piece of stale bread or zwieback, and 4 to 6 ounces of milk.

9 a.m. Juice of an orange.

10.30 a.m. 10 to 12 ounces of milk.

2 p.m. One tablespoonful of scraped beef or scraped mutton, stale bread or zwieback, and 4 to 6 ounces of milk ;

Or 1 to 3 ounces of fresh beef juice, stale bread or zwieback, and 4 to 6 ounces of milk ;

Or 4 to 6 ounces of beef, mutton or chicken broth stale, toast or zwieback and 4 to 6 ounces of milk ;

Or a poached or soft boiled egg on a small well baked potato, toast, stale bread or zwieback and 4 to 6 ounces of milk.

Dessert with any of the above selected meals—Stewed prunes (no skins), 2 to 3 tablespoonfuls, or baked apple.

6 p.m. 8 to 10 ounces of milk with 2 ounces of a cereal jelly added.

THE DIET FOR A CHILD FROM 2 TO 3 YEARS OF AGE.

THREE MEALS DAILY.

*Breakfast—*

7.30 a.m. Oatmeal, hominy, farina, wheaten grits, rice or any cereal (well cooked), and rich milk and a small amount of granulated sugar. The cereal should be well salted. A soft boiled or poached egg should be given every other day. Stale bread zwieback, toast or graham crackers. A glass of milk.

The juice of an orange should be given between breakfast and dinner.

*Dinner—*

12.30 p.m. Rare steak, rare mutton chop, rare roast beef, white meat of chicken, baked or mashed potato with cream, spinach, fresh string beans, fresh peas, stewed celery,—cook all vegetables *well*. Mutton, beef or chicken broth (may be thickened with arrow-root or cornstarch). Stale bread zwieback or oatmeal crackers. A glass of milk.

Dessert : baked apple, or stewed prunes, or rice pudding, or custard.

*Supper—*

6 p.m. A well cooked cereal and milk. Stale bread in milk, occasionally a small cup custard. Graham crackers, dried bread or zwieback.

THE DIET FOR A CHILD FROM 3 TO 6 YEARS OF AGE.

THREE MEALS DAILY.

*Breakfast—*

7 to 8 a.m. Oatmeal, hominy, wheaten grits, rice, farina or any well cooked cereal, and rich milk and a small amount of granulated sugar. The cereal should be well salted. A soft boiled or poached egg. Bread and butter. Graham or gluten crackers. A glass of milk.

*Dinner—*

12 to 1 Broths and soups, lamb, rare roast beef, rare steak or mutton, white meat of chicken, fresh fish (broiled or boiled) Baked or mashed potatoes, asparagus tips, spinach, stewed celery, fresh string beans and fresh peas, orange, baked apple, stewed



prunes, rice pudding, tapioca pudding, bread pudding, junket, plain custard. Ice cream occasionally.

*Supper—*

6 to 7 p.m. A well cooked cereal and milk. Stale bread in milk, arrowroot pudding, dried bread, graham crackers, zwieback, milk toast. A glass of milk.

A well child should *never* be allowed to eat *anything between meals*.

Cool boiled water should be given to the child to drink between meals.

## CLINICAL MEMORANDA

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### Biers Hyperaemia

Dr. Lehmann gave a practical demonstration of the various methods of inducing Biers Hyperaemia Prefacing his subject proper by a few general remarks on the theory underlying the hyperaemic treatment. He pointed out that 20 years ago Prof. Bier at that time an assistant of the famous Esmarch interpreted inflammation as nature's method of battling with local infection. The erroneous, but at that time generally accepted opinion, that heart lesions productive of pulmonary congestion rendered the person immune to pulmonary tuberculosis was his starting point. From this observation he was induced to try passive congestion in the treatment of tubercular joints. From this beginning the method has been worked out by him for all infective processes He soon recognized inflammation as a very salutary process and deliberately set about to increase the same rather than attempt to curtail it. He pointed out that nearly all so called anti-phlogestics were in reality round about methods of increasing the blood supply to the part. He instanced the ancient methods of application of rubefacients, of dry cupping which is as old as the earliest records of history ; that even the application of ice produced a very distinct hyperaemia of the part after a short initial anaemia.

Pus formation was at that time and for that matter is now interpreted by him as another very salutary device of nature. He thinks that the tissues killed by the infective agent is liquified so as to dissolve and dilute the toxins and thereby put them in a condition ready to be expelled from the body.

Purely hypothetical at that time these views have since been proven by experiment and investigation to be true and are now all but universally accepted by the more advanced workers.

As you all know Bier recognizes three distinct varieties of Hyperaemia, viz. : 1st. Active or arterial; 2nd. Passive or venous and 3rd. a mixture of the two. The methods of producing hyperaemia occupy a very important place in medical liter-

ature, from the earliest to the most modern writings. The poultice of all kinds, the hot water bottle, the ice bag, all the large list of blister; dry cupping and wet cupping, the application of leaches, massage and electricity all represent a more or less direct method of producing the same. Bier recognized the underlying principal and brought order out of chaos. The earlier methods, in fact, nearly all of the above named, produce an active hyperaemia. Bier produces this by his hot air box and more recently by his hot air massage which is nothing more or less than a very strong current of hot air directed to the affected part.

The much talked of Tallerman treatment is nothing but Bier's hot air box popularized and financially exploited.

I want to more particularly speak of the passive and mixed varieties as these are much easier of application and in most surgical diseases give better results. The passive is the easiest to produce and has the widest usefulness. As you all know it is produced by constricting the limb in such a way as to impede venous returns but not arterial flow. This is done by means of a light rubber bandage made for the purpose. The ordinary Esmarch is quiet unsuited and should never be used. As you see this bandage is very light indeed and should be applied with great care. Four or five turns applied with very little tension is usually enough. Of course no two limbs are quite the same. One has adipose tissue, the next none. Another has considerable tonicity of muscles, the next is flabby and so on. Each limb is a law unto itself and must be treated individually. Right here lies the greatest difficulty in introducing the method. The whole thing looks so easy but is difficult. So many are inclined to think the virtue lies in a rubber band wound, round and round. Those of a vigorous and energetic disposition seem to have a tendency to let this character trait enter into the application of the bandage and apply it with so much vigor as to cut off all circulation and consequently defeat their ends by producing anemia of the part. In fact there are cases of sloughing reported by some of these energetic people. The other extreme is not so serious. If applied too loosely it does no harm but of course is useless. The right tension is very difficult to gauge. You will realize this if I tell you that even in Bier's clinic where certain men do little else but producing hyperaemia, the senior often finds himself called

upon to re-apply his own bandages and very often to find fault with those applied by his assistants. This being so, you will believe me when I say that the margin of efficiency is small and that it takes an infinite amount of care and a lot of re-adjustment till the right tension is got. Fortunately the patient can very materially help us here. The correctly applied bandage produces a bluish discoloration of the skin after a few minutes and a sensation of fulness is felt but no pain nor any parasthesia. If pain is felt, either at the site of constriction or below it, the bandage is too tight and should be slackened. Under no condition is there to be any reduction in size or fulness of the pulse below the constriction point and lastly the limb must keep warm. You will have noticed how the cyanoses of the doctor arm (to whom a bandage has been applied) is gradually increasing and now there is something happening to which I want to draw your attention, viz.: this blotchy appearance. Here you see a general bluish hue with spots or rather patches of a distinctly red tinge. Whenever you see this blotchy appearance you know that the band is too tight although the doctor assures us that he feels no pain or discomfort. In a general way however you can rely on the patient's sensation. No pain and no tingling are the watchwords. A correctly applied band relieves pre-existing pain very promptly. It is not unusual for patients to beg to have the constriction re-applied after it has been temporarily removed. This goes so far that in the Bier clinic some of the female patients will exchange hats and coats so as to deceive the attendants with a view of getting the bandage re-applied before the proper time.

This brings us to the question of how long and how often it should be applied. This varies immensely. For the acute condition such as sepsis including gonorrhoeal infection of joints, the constriction is kept on 20—22 hours out of the 24. The less acute the condition, the shorter the time till we get to tubercular joints where it is only left on an hour or at most two. For tubercular affection the constriction is applied a little more tightly however. Here the motley appearance just seen is the correct thing. Here however the same watchwords apply "no pain no tingling". In acute cases one of the things to aim at is the production of a plentiful oedema. The more, the better. After the band is removed the limb is elevated to reduce the oedema as much as may

be but it is not necessary to wait till it is gone before the bandage is re-applied.

Bier does not employ the extensive incision made so popular by Von Bergmann. In fact he does not incise at all unless to evacuate pus and then just extensive enough to allow easy evacuation and no more. Here I would like to point out the one danger or rather drawback to the employment of Hyperaemia and that is this : The artificial oedema is apt to cover up the symptoms of the presence of pus. One has to keep this in mind and look more careful for the presence than even under usual circumstances. You will have noticed that I have only spoken of the extremities and this has its explanations in the simple fact that the method can only be made for the extremities, and head, for very obvious reasons.

For the trunk suction cups are used such as you see here : Select a shape suited to the part you want to treat and with a little skill and ingenuity the required shapes will continually decrease. A comparatively small number will suffice for all ordinary requirements. I would strongly recommend to use nothing but the rubber bulb as a means of producing the required partial vacuum. The bulb is much more convenient than the pump. It can be much more accurately gauged and is so simple. The pumps never work so well especially not the cheaper ones and the pressure must be continually regulated to make up for the leakage of air between the skin and the cup. The bulb will automatically take care of the leakage. For the larger cups of course a pump is required. As a makeshift a bottle aspirator will do. The ordinary funnel has been used as a substitute for the cup but is not satisfactory. The sloping sides do not allow of a proper hyperaemia as you can easily see by the color of the skin when it comes in contact with the glass sides. In fact the only part hyperaemized is the small area at the top unsupported by the glass.

The correct application of these cups is much more easily acquired. All that is necessary is to select a correct shape of cup and apply suction. Here too, there is more danger of overdoing than underdoing. Just enough suction should be applied to keep the cup firmly in place and no more. After 5 minutes the cup is removed to be re-applied in 3 minutes. This cycle of 3

minutes is repeated five times. The time required for each treatment is thus 40 minutes. Two of these treatments may be applied daily. Vaseline applied to the margin of the cup or to the skin will very materially aid the application. If pus is present the whole of the skin should be covered with vaseline so as to avoid skin inoculation.

Very elaborate cups have been devised but they are not necessary.

Now just a few words for the uses of hyperaemia. In a general way all infections give good results. Gonorrhoeal joints give brilliant results. Pusy joints do well, often remarkably well. At other times they are less good but always much better than those without it. For the relief of pain it is excellent. Neuralgias speedily yield to a properly produced hyperaemia. It matters little where the pain is situated.

I am using it continually both in hospital and private practice and the more experience and skill I am acquiring the better my results are becoming.

No doubt, the method has got yet found its proper status. Time will certainly discontinue many of the extravagant claims made for it by enthusiasts while other fields of usefulness may be found for it one thing of which I am firmly convinced over it is a very potent addition to our remedial agents, moreover it is a very potent demonstration to remind us that our attempts to relieve the ills of man must be along lines laid down by nature. All we can ever hope for is in some small way to assist her. We are certain to defeat our own ends if we attempt to force nature to heal in our way.

J. E. LEHMANN, M.D.  
Winnipeg.

## PROCEEDINGS OF THE WINNIPEG CLINICAL SOCIETY

The Winnipeg Clinical Society met, May 4th, with Dr. Hunter occupying the chair, in the absence of the President, Dr. Nichols. Dr. Munroe, Secretary of the Society, read the minutes of the previous meeting.

### DR. W. S. MACDONALD'S CASE

Age 49, Canadian, widower, superintendent of elevators and traveler, for years a miller. Normal weight 195 lbs.

Family History—Negative, except that a brother died of having Hemiplegia.

Personal History—Never used tobacco at all, nor liquor to any extent. Always been well except for an enlargement of the Thyroid in right side which developed rapidly when he was 30 years old, and has remained the same size since.

Has always been fastidious in his diet and inclined to be dyspeptic. Was treated for acute indigestion for a few days 18 years ago.

About 3 years ago was taken with a severe pain in the centre of his back and fell to the floor from over-exertion while handling bags. Does not think he has ever been entirely well since then. Was told after that, that he looked pale.

Present Illness—Came December, 1907, 2 years and 2 months complaining of increasing weakness, amounting to faintness on exertion, pain in back of head and pain in back and very offensive stools, looseness of bones and loss of color, and marked loss of appetite. Weight reduced to 180 lbs.

Had pulse of 120, systolic murmur heard in mitral and pulmonary areas, not propagated to left. bounding excited action of heart, epigastric pulsation, numbness of feet, stocking-like cords, urine albuminous, 10.22-40 ozs. in 24 hours.

Enlargement of Thyroid as at present.

Treated with diuretics and heart tonics with result that he got gradually weaker and more pale.

Blood examination Jan. 26th, 1907.

R. B. C. 2,240,000. Hem. 90, Poikilo Normoblasts, Megaloblasts.

Gave Liquer Arsenicalis in increasing doses in a full glass of water, as high as fifteen drops, with marked and rapid improvement every particular, until Oct., 1907, when had the appearance you now see, all symptoms passed away except the numbness in the extremities. Progressed favorably and went to work in the fall and worked.

Blood count, Jan., 1908.

R. B. C. 3,820,000. Hem. 92, Poikilogitis M. Megaloblasts, Normoblasts. Was taking nothing but arsenic after that for a time and not doing well.

With onset warm weather in 1908, rapid increasing weakness, pulse 120, temperature 99 to 102, and return of all the unfavorable symptoms, extreme emaciation, lemon color of skin, profound anorexia, vomiting, profuse diarrhoea, pains in stomach and bowels, dizziness, floating specks in eyes, swelling of extremities, oedema of skin over forehead, a troublesome oozing of blood from the gums, and a profuse nose bleed. July 9th, Red 1,456,000. W. 3,009. Hemoglobi 35 per cent. Poikilogitis and a few normoblasts and megaloblasts.

At this time had marked enlargement of spleen and moderate enlargement of the liver, which was made more apparent by the extreme emaciation.

Could take no arsenic.

Was treated in hospital with X-rays and salt solution subcutaneously.

July 15th, R. 1,500,000, W. 3,200. Hem. 40 per cent.

No permanent improvement of any of his symptoms. Was given a bitter tonic with 6 grs. acid, dil. T. I. D. A. C. for loss of appetite. Put on diet largely liquid, with exclusion of meat soups, larger quantities of vegetable, treated for diarrhoea with daily irrigations of Colon and an intestinal antiseptic Bismuth Subsallate gr. x, Lactopeptin gr. v o. Zinc Sulphocarbonate gr. 1 every four hours.

This was afterwards changed to Thymol, grs. x. Kept in bed and took arsenic as high as 17 drops. Rapid improvement in every particular, enormous appetite, disappearance of fever, which was directly in proportion to gastro intestinal symptoms, until Jan. 14th. Numbness in feet remained, and tenderness in back, and pulse abnormally fast.

Blood count 3,600,000. Hem. 80 per cent. Slight irregularities, no nucleated reds.

More liberty of motion and more liberal diet. Acid and bitter tonic. Thymol continued, discontinued arsenic, continued to improve to present condition. Urine normal. Weight 215 lbs., appetite and digestion good, bowels regular, sleeps well.

Blood count 3,800,000, no nucleated red cells. Pulse always a little past 94. Slight shortness of breath on exertion. Slight cough, worse on exertion. Numbness in feet still remains. Tenderness over spinous process in lumbar region. Liver in 80 per cent. of cases which bears no constant relation to severity.

Interesting feat. es.

1. Reached his worst condition in hot weather and his best in cold weather.

2. Rise of temperature and all worst symptoms most unfavorable, blood showing at time when gastro intestinal symptoms were the worst.

3. Marked improvement under treatment for gastro intestinal trouble, viz., H. C. A. Intestinal lavage and Intantiseptic.

4. Enlargement of liver and spleen.

R. B. C. 2,240,000. Hem 90, Poikilocytoses Normoblasts. Megaloblasts. Feb. 16, 1908. R. B. C. 3,820,000. Hem. 92. April 12, 1904. R. B. C. 2,800,000.

May 13th, 1908. Red 2,192,000. Wht. 4,000. Hem. 65 per cent. No nucleated reds.

July 1st, 1908. 2,900,000. Wht. 2,000. Hem. 40 per cent.

July 9th, 1908. 1,456,000. Wht. 3,000. Hem. 35 per cent.

#### A Few Normoblasts and Megaloblasts

July 15th, 1908. 1,544,000. Wht. 3,000. Hem. 40 per cent..

#### Poikilocytoses. No nucleated reds.

Jan. 15th, 1909. 3,600,000. Wht. Hem. 80 per cent.

April 15th, 1909. 3,820,000. Wht.

Poikilocytoses not marked. Nothing characteristic about blood.

The enlargement of liver and spleen is not characteristic in pernicious anaemia, although it is sometimes present. Dr. Parkes Webber in an article which I read recently, says the enlargement of the



spleen is not always present.

Dr. Sharpe: He gives an interesting statement in regard to the oncome of his thyroid. He says he was working in a mill where the grain had become mouldy and it came on shortly after his shovelling in that particular bin and he spoke of an acquaintance of his also in the grain business who had a similar enlargement of the neck arising under exactly similar circumstances. I wonder how one would account for the increased pulse rates, apart from the condition of the thyroid there?

Dr. Bond: Did you ever try light treatment? It is said to have a very good effect with the pernicious anaemic symptoms. I have had good results with it in acute anaemia.

Dr. Nicholls: What was the result of the arsenic treatment?

Dr. Macdonald: When he was getting the intestinal treatment he improved from 1,300,000 to 1,500,000. The time came when he wanted to quit the arsenic and had to rely on the intestinal treatment and that was when he started to come up, with the cool weather. In this case it was an extraintestinal affection causing this man's trouble. His improvement seems to bear up the same thing.

Dr. Young: Arsenic usually has a beneficial effect and it would be wise to try a again, if there is any sign of remaining trouble. The trouble with these cases is recognition of the disease in the early stages. I think we should endeavor to elucidate an early condition. The fainting spell was the first sign he showed of illness and under conditions of that kind we ought certainly to pay attention to the blood condition and make an examination—repeated examinations—it is hard for most of us to bring ourselves to the point to do the energetic work necessary to accomplish this, as we ought to, but I think the progress along that line would be practically as great as along the line of incipient tuberculosis.

As to prognosis not a definite opinion can be given, but two years would be the limit of the man's life.

Dr. Macdonald: He has now been nearly two years and four months. He is much better now than when I first saw him. I think in view of the fact that he always gets better in cold weather, that points to extra-intestinal disorders. I have in mind having him take a boat trip when the weather gets warmer hoping by that means he may be able to get along until next fall; the cold weather appears to agree with him.

Dr. Munroe: I saw this patient in July, 1908, when the patient was at his worst, and I can corroborate the condition. He was in bed. Hemic murmurs, an enlarged spleen and liver and I thought he would never leave the bed. It is interesting to hear that the time-honored arsenic was not responsible for his recovery. With regard to prognosis the literature shows there is a tendency to relapse.

Dr. Sharpe: One interesting point does not show in this case; that is, the lemon-colored skin. I had a case of a woman who through her pregnancy became very lemony in color and she had marked blood changes of pernicious anaemia and she was put under the arsenic treatment. Dr. Bell saw her and made a blood count and gave a very unfavorable prognosis, as I remember him doing in this case. He held out very little hope and said that while this man would get better for a little while, he would relapse. But in the case of this woman she has gone through another pregnancy with very few bad results. I think this case arose from autotoxication of pregnancy.

Dr. Young: Every case has a history of extra-intestinal disturbance.

Dr. Macdonald: The etiology of extra-intestinal history is becoming more and more accepted. He has had two relapses and he is going out of the second relapse better than he did out of the first. Cabot says in cases where there are great numbers of nucleated red corpuscles that those are the cases that become rapidly fatal. Those that have not the large nucleated red cells in abundance are the relapsing kind or remittent kind. When the color index is high those are the unfavorable cases. This man has had a high index all the time, and this appears to be a favorable case, so the prognosis is very unsettled as far as I can find.

#### DR. GALLOWAY'S CASE

A young man last August smashed his elbow in a railway accident and came to me in January, this year. Had ankylosed elbow. X-ray picture showed large amount of callous about the elbow joint which was completely disorganized. Scar visible along outer and front part of elbow, site of an operation performed before coming to Winnipeg, and he says some bone was removed, but position was one in which there was practically no movement. Arthroplastic method adopted and operated January 8th. Operation consisted first—making an incision along back of elbow exposing olecranon process and detaching it at its junction with shaft and turning it up, the sub-periosteal tissues were stripped back and the lower end of the humerus was then exposed. The callous was taken away gradually—which was a difficult task—the lower end of the humerus made as round and smooth as possible and then excavated in front a cavity for the coronoid process of the ulna, and a cavity at the back for the Olecranon process. I then turned the skin aside and split the fascia and fat over the triceps and left about half the thickness of that attached to the skin and half attached to the fat covering the triceps. With this turned aside a large flap nearly three inches wide and four and a half inches long was mapped out of this fascia. This flap was turned down and covered over the end of the humerus and stitched into place to bring that soft tissue between the Humerus and ulna. The olecranon was brought down into place and wired. The operation is a long one, and a difficult one. Unfortunately there was an accident in connection, which adds considerable interest. The Esmarch bandage had been very tightly applied and perhaps had not been allowed to extend over as wide an area as it might and following the operation there was complete paralysis below where the Esmarch bandage was applied. Paralysis was felt especially in the ring fingers where there is not yet perfect recovery, although it is improving constantly. I had no uneasiness about it because I had not injured any of the nerve trunks and the ulnar nerve had been drawn aside and I knew that the nerves in front were preserved and that the paralysis was analogous to crutch paralysis. He has now good movement both in pronation and supination and has that amount of supination and extension which I think is a very desirable improvement in function.

This form of procedure, putting soft tissue over the end of the humerus which has no cartilage and introduces a soft tissue which Murphy states it is necessary to have, some fat tissue along with your fascia.

Dr. Lehmann: I think Dr. Galloway got a splendid result.

Dr. Nicholls: I have a case almost similar to Dr. Galloway's. It is a case of dislocation of the elbow existing over a year. When I saw

him first he had considerable movement; he could extend it to average extent but could not bring it up very well. I attempted to reduce it by the open method, severing the olecranon in the same method and Dr. Rorke assisted me. We found a great deal of difficulty in reducing the elbow. We thought since he had such an amount of movement we would find the olecranon and the lower end of the humerus intact. We reduced the dislocated portion and wired the olecranon and he has now very considerable restoration of function; he is not able to extend it straight out but he can bring it up pretty close to his mouth and get the most advantageous position of the arm movement. I kept up passive movements shortly afterwards and got him to make active movements, but he could not get the arm up close enough, and three weeks after that we gave anaesthesia and opened up, with the misfortune of loosening the olecranon, but that does not apparently disturb him. I think a portion of the internal condyle is knocked off. Here is the detached portion and that was removed and the olecranon was sawn through just at the junction of the ulna. I found a great deal of difficulty in reducing the ulna and radius forward. The olecranon process became detached and it united itself, and I suppose that movement is not as strong as the prehensive or grasping movement, and he is very much satisfied.

#### DR. W. S. MACDONALD, FLATFOOT

This young man came to me about a month ago; works standing at a bench; complained that feet became so painful it was almost unendurable, and the pain was in the centre of the heel radiating up the Tendo Achilles, as far as the middle of the back of the leg and sometimes in the centre of the foot between the greater and the lesser toe. The pain was very severe, frequently he had to hang onto fences when walking. He considered it rheumatics as some years ago after he had an attack of typhoid he had some Rht. symptoms but when he got strong they disappeared. He got a pair of shoes with good stiff shanks and the shoe he wears also acts as a spring and the stiffness of the shoe probably accounts for his improvement. He is not entirely well, and I do not consider he has perfect spring by any means. I want Dr. Galloway and Dr. Lehmann to criticize the spring and give what information they can. The arch had sunk almost to the floor. There are a couple of prints here that show the left foot, which bothers him most, is down to the shoe, and the right foot isn't down quite so much.

Dr. Galloway: That patient has undoubtedly flatfoot. But personally I am very decided that is not the cause of his pain. The arch of the foot is lowered, the foot is pronated to a very marked degree in appearance as he stands on it, and one sees the way the line of weight transmission throws the foot into a position of eversion and abduction. It is impossible to make a diagnosis of flatfoot in the pathological sense from any impression the foot will give. The final touch, to my opinion, was put on by Dr. Huffman, of St. Louis, by a paper he presented to the Orthopaedic Association of Washington. He had abundant opportunity of making observation on tribes from South Africa of feet that had never been distorted by shoes, and followed this up by observations on a large number of shoe-wearing individuals. He made observations of feet that didn't complain of any symptoms and also of other series of patients presenting themselves because of complaints of the feet. He gave plates—he kindly presented me with a series of them—showing different types of imprints and represented in these normal natives' feet and also to the same percentage in the feet of people who had not complained of symptoms who wore shoes, and also in those

who presented themselves to him for treatment. The normal arch may be high, medium or low, and with a low arch it does not necessarily indicate a flatfoot in the pathological sense. I have discouraged taking imprints of feet.

This patient, while he has a low arch and has a badly pronated foot, while taking a photo of it one would say it is a typical flatfoot, it is absolutely pliable, he can abduct it and invert it and as far as I can get, there is no muscular rigidity as one would get in the flatfoot. Press upon the heel, and everyone can see how he winces, and it is in both heels. If an X ray picture is taken of that man's feet there will be found on the lower surface of the os calcis a sharp exostosis. This morning I operated on a man unable to work for two years owing to the pain on pressure at that point. A little hook-shaped exostosis was found and removed. These cases have only been understood since the introduction of the X-ray. A number of papers have been presented by Dr. W. S. Blair and Dr. Charles Jaeger, presented 13 cases and reproduced the X-ray plates illustrating his cases. The interesting part of the matter is this, that it had come to be known as gonorrhoeal exostosis of the os calcis. You can get a history of gonorrhoea from the patient, and in a number of cases the organisms can be cultivated from the tissues removed at the time of the operation. Dr. Blair in one of the four cases succeeded in getting an absolutely pure culture of the gonococcus and in some cases where this could not be done they showed organisms so identical with those of the gonococcus that they were shown to be of that kind. I would like to hear the result of the X-ray picture. Why has the foot been relieved by flatfoot treatment? I think the pressure is evenly distributed upon the foot. We have that plate in, this man has a low arch and this is one of the plates that props the arch up and the weights taken out from the exostosis. I don't think any ready-made plate is suitable for a flatfoot case. A number of them can be managed without the use of a plate at all.

Dr. Lehmann: I was interested in what Dr. Galloway said about the so-called physiological flat foot. Of course everyone knows that the negro is a physiological flatfoot. He goes along, although he may make an impression with the centre of his foot instead of the heel, he goes along without any pain. The same applies to the shoe-wearing nation, the Jew. He naturally has a flatfoot, but the impression would indicate a flatfoot, and still he goes along perfectly comfortable without the slightest symptom. The other nationalities of which Dr. Galloway speaks, no doubt come under the same head. I also quite agree with what Dr. Galloway says about the bought insole. There are very few that fit; it is just a matter of chance. Some are high, and some are low, and it is hard to expect any bought sole to fit. This one is malleable as lead, and is quite springy and quite elastic. It can be very easily hammered out on a piece of lead and the flange can be raised on the outside of the foot leaving the inside of the foot where there should be spring quite flexible. This is another one; this is made over a cast of the plaster paris of the foot most easily, and is impregnated with celluloid and steel put in on the bottom. This can be put in any shape that the mould is put, and has to fit. The negative is put on, and it fits in every case. It is rather strange, that it seems a large thing but it will go into the boot that the patient has been wearing. It does not apparently take up any space where the boot touches the foot. The boot that fits without it will fit with it.

Dr. Bond: As to the gonorrhoeal cases. I had one of pain in the heel of a rheumatic nature. I went into the question of gonorrhoea and he acknowledged he had. In about ten days after that, with the

proper treatment, the trouble disappeared. I have a patient now with pain not in the heel but towards the arch of the foot, and of a similar character.

Dr. Hughes: I would like to hear from the different members as to the different diseases they meet in so-called "cured gonorrhoea." I saw a case lately which was sent to me for an old gonorrhoeal stricture, and he has a peculiar form of conjunctivitis and this man had gonorrhoea fifteen years ago. This is only one of many surprises that crop up in cured gonorrhoea. I think it would be an interesting thing if the Clinical Society would take a symposium up on the gonorrhoea in its surgical form. Most people look at gonorrhoea for simple irrigation to cure it, and I don't think that seventy per cent. of the cases of gonorrhoea that are treated are cured, and that the after-effects are seen by the practitioner more often than they suspect.

Dr. Young: The fact remains that some of these get better.

Dr. Bond: I have a patient treated for sciatica. One day in a moment of inspiration I told him to take his boot off, and I saw a case of flatfoot. I told him to get an insole and he got one and the sciatica disappeared and he is now walking around as lively as anyone present.

Dr. Nicholls: The ordinary insole that Dr. Macdonald showed could be moulded to give very good results by hammering it on a block.

Dr. Galloway: The insoles do treat the symptoms but not the cause. It is not curing the disease, because you relieve the patient. I don't have made up a pair of plates once a month. And I am using fewer of them all the time, and when I use them I say to my patients, and I try to instill it into my own mind that this should be regarded as a temporary necessary evil, a temporary crutch, to help the patient over the difficult places. The permanent cure of flatfoot must be brought about often by surgical means; hot air baking, resection of the peroneal tendons; in extreme cases removal of the scaphoid, but in every case the practicing of exercises which strengthen the muscles which Nature has put there to support the arch and hold up the one support of the foot, is in all cases the most important connected with the instruction in the physiological and pathological means of using the foot. The average patient doesn't know how to stand properly on the feet. The giving away of the arch is consequent on the giving away to mechanical strain. The instruction as to how to place the weight on the foot, will often relieve the trouble. When one of these patients come to us at the age of 20, it is rather provident that we should condemn them to wearing of a plate for fifty or sixty years.

Dr. Nicholls: I find that high heels and narrow toes are responsible for much.

Dr. Kenny: I was much impressed with the way Dr. Oschner treats his flatfeet. He straps them up with adhesive plaster and then instructs them to toe in, and they immediately leave the room walking quite naturally.

Dr. Lehmann: In that connection, the standing of "attention" in the armies and the toeing out is no doubt accountable for a number of flatfeet. Dr. Galloway, (Hear, hear) And I believe there is a movement on foot in the German army to change the orthodox manner of standing and walking to toe in.

Dr. Bond: Indians who wear moccasins year in and year out have fine arches, elastic gait and high insteps, and never tire, and walk in narrow trails with perfect comfort.

Dr. Galloway: Dr. Lehmann has mentioned a most important point. There is no orthopedist but who would say that the efficiency of the army, their ability to make long marches, would be enormously increased if they were made to walk with the feet straight ahead or turned in. It is no doubt what nature intended; it is a matter of mechanics. The turning out of the foot imposes on it a vastly greater strain than walking with the toes turned in. The habit of walking with the toes turned out is a large factor in the increase of work of the orthopaedic surgeon.

Dr. Young presented a case of paralysis of larynx. About Christmas this patient had a cold. He is driving all the time. Fairly severe attack of cold. Never was hoarse before; onset of hoarseness sudden; had the grippe two years ago and was in bed about a week. Never had diphtheria; no sore throat at the time of the grippe; had had headache. Always worked hard; never sang or used voice or never did shouting. Now cannot speak very loud. Has phlegm in the throat but inability to expel it. Has a sore chest. Laryngoscope shows left is still, the right is drawn over the middle line, the right arytenoid is drawn over behind the other so there is one above the other. That is all I can find. What accounts for the hoarseness? There is no history of syphilis. Pot. iod. didn't do any good. No sign of aneurysms. Health hasn't deteriorated at all. There is slight reddening near the arytenoids; the cords are very slightly congested, if any. Since then they have improved. No sign of inflammation about the larynx.

## EDITORIAL NOTES

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Dr. Halpenny, Secretary of the Manitoba Provincial Medical Association, has made arrangements for a special train to leave Winnipeg at 6.30 a.m. on Tuesday, the 22nd June, and to return on Wednesday evening after the meetings are over.

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One of the most important matters for discussion at the Annual Meeting of the Manitoba Provincial Medical Association, at Brandon, will be the question of WESTERN Registration. Dr. Lafferty, has been appointed the delegate from Alberta. Manitoba will be represented officially by Drs. Patte-son and Milroy. Saskatchewan is also sending a delegate and most likely British Columbia will be officially represented.

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The Saskatchewan Medical Association meets at Saskatoon, the first week of July. A very good programme has been prepared.

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The Alberta Medical Association meets at Calgary, August the 18th and 19th and 20th. Full details of the programme will be given in our next issue.

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The Canadian Medical Association meets at Winnipeg, August 23rd, 24th and 25th. Dr. Blanchard has arranged for a Symposium on the diagnosis of kidney diseases. Those who are to open the discussions are as follows :

Paper on Pathological-physiology of the Kidney, by Dr. John McCrae, Montreal.

Paper—Experimental Nephritis and its Bearing on Diseases of Human Kidney, by Professor J. J. McKenzie, University of Toronto.

Paper—Dr. John Fotheringham, Toronto.

Paper on Diagnosis, by Dr. R. P. Campbell, Montreal.

Paper on Physical Methods of Diagnosis, by Dr. Cummings, Toronto.

Paper on Surgical, by Dr. Armstrong, Montreal.

Paper on Surgical, by Dr. McKeown, Toronto.

Names so far for discussion are Dr. V. E. Henderson, Toronto ; Dr. I. Cameron, Toronto ; Dr. J. F. W. Ross, Toronto. Prof. Alcock, London, promises something on Chloroform.

Among others coming to the British Association are :

A. H. Benson, FRSI Dublin, (~~Eye-swell~~) ; W. B. Hardy, FRS Cam. ; Prof. Hering, University St. Andrews ; W. A. Jolly, M.B. Edin, Prof. J. S. Macdonald, Sheffield University ; Prof. MacDougall, East of Scot. Agric. Col. Edin. ; Prof. Starling, Prof. W. H. Thompson, Trin. Dub. ; Prof. A. D. Waller, FRS Uni. London, all Physiologists ; also Dr. Joseph Blumfield, Dublin ; Prof. Cushney, Univ. Col. London ; Prof. A. S. Grunbaum, Univ. Leeds ; F. W. Hewett, M.D., Anaesthetist to the King, London.

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Yukon-Alaska Exhibition Board have arranged for Medical Men visiting the Exhibition to have their letters addressed to the ground free.

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Will subscribers kindly send any particulars of change of address, new medical men in their district, erection of new hospitals, etc. Also any clinical notes or papers whether read at Society meetings or not.



## GENERAL MEDICAL NEWS

### MEDICAL NEWS

There is a movement on foot in New York to have all School Children taught the proper care of their teeth. In New York two young dentists give free treatment to needy children at certain hours.

A milk can has been invented with a hermetical seal and an apparatus for drawing off the contents in composite samples of uniform quality by means of sterilized compressed air. Its purpose is to prevent adulteration and contamination of the contents during transportation and sale. The can will be filled, sealed and locked at the dairy and is not opened except for cleaning and sterilizing.

Disease has been greatly lessened among immigrants to the U.S.A. by sanitary reforms of the Commissioner of Immigration Robert Watchhorn. The dormitories in which the immigrants are detained for final examination have been remodelled.

It is proposed to establish in Toronto a system of milk depots for the free distribution of pasteurized milk similar to the Straus bureau in New York. J. Ross Robertson, chairman of the Board of Trustees of the hospital for Sick Children in Toronto, is practically the donor of the new system.

The Journal of the American School, Hygiene Association, will in future be "Hygiene and Physical Education."

A fire broke out in the Melfort Hospital, Sask., but fortunately owing to the prompt aid rendered by the fire brigade and citizens none of the patients were injured.

The plans for the big asylum building at Selkirk have been nearly completed. The structure is to have 152 feet frontage and a depth of 90 feet. In height it will be three stories besides a basement. It will be entirely of brick and when completed will double the capacity of the present building. The estimates provide \$100,000 for asylum improvements and additions of which the larger part will go toward this building.

Dr. William Osler, Regius Professor of medicine at Oxford, addressed the Annual Meeting of the Ontario Medical Association.

Dr. Wallace A. Watson and Dr. George R. Lyon, of Innisfail, have been appointed coroners.

At the meeting of the P. K. J. Hospital, Victoria, the necessity for building a new hospital was urged—one costing about \$100,000, the present maternity ward to form part. The daughters of Mrs. Joan Dunsmuir contributed \$2,000 to the fund in memory of their mother.

The ninth annual meeting of the Canadian Association for the prevention of Tuberculosis opened May 19th at Hamilton, Ont. Dr. Lafferty, Secretary of the Provincial Board of Health, of Calgary, presided, in the absence of the president. The Secretary, the Revd. Wm. Moore, said an institution for incipient cases would be built next fall in Manitoba. Application is soon to be made to the Provincial Government for permission to erect a sanatorium for advanced cases near Winnipeg. A branch association had been formed recently at Winnipeg while in Quebec a public grant of 130 acres had been made for such purpose and \$60,000 voted for the erection of a suitable institution. The financial statement showed that with a balance from last year of \$895.68 and the Dominion grant of \$5,000 the total receipts were \$5,962.38 and expenditures \$4,189.13.

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### PERSONALS

Dr. Rice, (Winnipeg, Man. 1909) has been appointed to the staff of St. Boniface Hospital.

Dr. McIntyre, M.P., has returned to Stratheona from Ottawa.

Dr. Bridgeman, (Man. 1909) has started practice in Winnipeg.

Dr. Dow, of Regina, is visiting Chicago.

Dr. P. H. Bryce, Chief Medical Officer of the Immigration and Indian Departments, is in the West on his annual tour of inspection.

Dr. Good, of Winnipeg, has return from Europe.

Dr. Fagan, Provincial Medical Officer, has been visiting Vancouver and New Westminster for the purpose of investigating conditions relative to contagious diseases.

Dr. L. N. MacKechnie has gone to Penticton, B.C., for a fortnight's holiday.

Dr. H. D. and Mrs. Jamieson, of Bella Coola, have been visiting Vancouver.

Dr. Whitelaw, House Surgeon of the Vancouver General Hospital, has returned from his holiday in the East.

Dr. Joseph Falconer, of Queen Charlotte's Islands, has been visiting Victoria.

Dr. and Mrs. Priest, of Grenfell, Sask., are on a visit to the Coast.

Dr. and Mrs. Newcomb, of Grand Forks, B.C., are in Vancouver, where Dr. Newsomb intends starting practice.

Dr. Todd, of Victoria, has had the degree of D.sc., conferred on him in recognition of his work—especially his researches in the study of sleeping sickness. The degree was conferred May 8th, at St. George's Hall, Liverpool, by the Chancellor, the Earl of Derby.

Dr. Brett, of Banff, is visiting Vancouver and Victoria.

Dr. Gray, of Bowden, is visiting Vancouver.

Dr. Allum, late senior house surgeon in the Winnipeg General Hospital, has started practice at Melville, Sask. Dr. Allum is a graduate of McGill.

Dr. C. A. Boyd has gone on visit to England.

Dr. Sullivan, who has been in charge of G.T.P. work at Clover Bay, will probably settle at Androssan.

During Dr. Hugh Cochrane's absence East, Dr. W. Gauvin is acting as his locum at Maryfield, Sask.

Dr. Nesbit Gunn, of Vancouver, has gone East and will not return till the end of June.

Dr. and Mrs. Elkin, of Winnipeg, have gone to Europe where Dr. Elkin will take a post-graduate course.

Dr. Stanley, of Victoria, has gone for a trip to Cologne, B.C.

## BORN

BOARDMAN—Wife of Dr. E. J. Boardman, of Winnipeg, of a son.

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MARRIED

SECORD-CAMPBELL—At Broadway Church, Winnipeg, June 2nd, Miss Gertrude Campbell, to Dr. Herbert Secord, of Winnipeg, son of Dr. L. Secord, of Brantford, Ont.

STEVENS-CAMERON—At Stratheona, Dr. Stevens, of Olds, was married to Miss Kathleen Cameron, June 1st.

COCHRANE-McARTHUR—At Graniteville, Vermont, Dr. Hugh Cochrane, Maryfield, Sask., to Miss E. McArthur, daughter of the Rev. G. S. McArthur, June 9th.

MURDOFF-DUNCAN—At Miami, Manitoba, Dr. Murdoff, of Winnipeg, was married to Miss Duncan, of Miami, June 8th.

KENNY-HOWELL—At Holy Trinity Church, Winnipeg, June 8th, Dr. R. W. Kenny, of Winnipeg, to Annie, daughter of Chief Justice and Mrs. Howell, of Winnipeg.

## EXTRACT

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“So far as quackery is concerned and it was thought the State Boards would do much to abolish quackery, there is little less of it now than there was before the boards were created. The board have received practically no assistance from the public authorities in their efforts to prosecute the quacks. . . . The boards have received practically no assistance from the public in a good medical school to get a licence to practise and they make it in many cases, prohibitive for a man who has been some years in practice to move into another state and engage in practice there. Moreover, since the establishment of these state boards there have sprung up many sects of persons calling themselves Osteopaths, Chiropractics, Naturopaths, Psycho-therapist, Magnetic healers, Optometrists, etc., etc.

The upshot of the matter is getting to be that anyone who wants to practice medicine without going to the trouble and expense of getting a medical education can do so by getting himself adopted into some one of these numerous “paths,” or “ties” or “ists”. The rest is easy.

In the present chaotic state of affairs with the multiplication of boards having power to license all kinds of practitioners, there is considerable doubt as to whether we would not be better off without any such boards at all. We believe that if the barriers were removed for a few years and no restrictions at all placed upon the practice of medicine, the people themselves would awaken to a realizing sense of the necessity of having some means of knowing whether those who offer to treat their diseases are safe people to trust their lives to or not. If the people demand protection, their demand will be listened to with respect by legislatures and protection will be furnished which will actually protect. . . . .

From editorial:—“Concerning State Boards of Medical Examiners”.—*St. Paul Med. Journ.*, June 1909.

## THE BREEDING OF FLIES.

In a summary report by Dr. Hamer, of the London County Council, on the fly nuisance, according to his investigation, he concludes that the most productive of all factors in the fly genesis are accumulations of horse manure; but all collections of dust and other refuse act as breeding grounds, though less actively, and promote fly nuisance in their neighborhood. He observed that such refuse placed over two hundred yards away from dwellings, distinctly influences the number of flies that may haunt the houses.

His investigations also clearly and scientifically corroborated the common belief that children, dirty walls and ceilings, particles of food on the floor and in the sinks, are particularly congenial to flies and influences them to haunt such places.

His method of investigation consisted in selecting stations in the neighborhood of twelve premises such as cowhouses, stables, manure, depots, a jam factory, a knacker's yard, and a place where catgut was manufactured. Ordinary dwelling houses inhabited by working people, two fifty yards and two two hundred yards away, were selected as stations. In these houses squares of paper smeared with honey gum were suspended at a definite height collected at definite intervals, and calculations made of the number of flies caught.

This report again emphasizes the fact that the house-fly lives its larval life almost exclusively in animal dejecta, especially in horse manure, and in its complete larval form carries disease germs in a passive way.

Laboratory experiments have clearly demonstrated that the house fly is capable of disseminating the germs of zymotic diarrhoea, typhoid fever, tuberculosis, Asiatic cholera, etc. A fly contaminated with the germs of any of the above-named diseases may carry the infection for a considerable distance and remain infectious for a comparatively long time. It has been shown that flies may carry the typhoid bacillus in a living condition for over two weeks. Experiments have proven that the typhoid bacillus may pass through the intestinal tract of a fly and remain alive; hence the danger of the fly spot. The tubercle bacillus is another germ that has been found

alive in the intestinal tract of the house-fly. The flies become infected by eating the sputum of tubercular patients.

Flies are not as dangerous to disseminate disease by carrying the germs alive in their bodies as they are dangerous by carrying the germs in their hairy feet, which are particularly adapted for picking up germs and thus conveying them to the food of healthy persons. They settle on the dejecta of patients, crawling over the patient or the soiled linen, and thus pick up the germs and become a potent medium in disseminating, especially the diseases previously mentioned.

The moral to be learned from this lesson is that flies are a source of great danger to the welfare of healthy individuals; that they should be kept away entirely from foodstuffs, and all possible breeding places for them should be avoided near dwellings. In fact, the value of flies is nil, except for their ability to pester man and beast.

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#### THE DOCTOR'S CHARGE

'The average man will give a lawyer \$300 to \$500, together with a lifetime's praise, to keep him out of the penitentiary for from two to ten years, and at the same time he will raise a phosphorescent glow and a kick that can be heard around the world if a doctor charges him \$50 to \$100 to keep him out of hell for a lifetime. We are the only people under God's ethereal tent today who keep open shop 24 hours each day and 365 days in each year. We are also the only laborers to keep on working for people who do not pay. I can carry my part of charity with as good a grace as most men. I can go through rain, snow or mud and do my best, provided the case is one of worthy need, but to reward continually downright rascality, willful drunkenness and wanton laziness is getting out of my line.'—*Dildy, Texas State Journal of Medicine.*

## BOOK REVIEWS.

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**"Text Book of Gynecological Diagnosis,"** by Dr. George Winter, Professor of Diseases of Women in the University of Königsberg, Prussia, with the collaboration of Dr. Karl Ruge of Berlin, edited by John G. Clark, M.D., Professor of Gynecology, University of Pennsylvania. Philadelphia and Montreal, J. B. Lippincott & Company.

The above work is devoted to differential diagnosis of Gynecological condition translated from the German.

It is well arranged and divided into three parts, as follows: (1) **General Diagnosis**—A thorough discussion of the methods of examination pointing out dangers to be avoided. The pages devoted to microscopic diagnosis are of special interest as also are those on cystoscopic examination and radiography.

(2) **Special Diagnosis**—The author here goes first fully into normal conditions and pregnancy which is so often overlooked. Then various pathological conditions are treated from displacement of the uterus—various tumors and malformations of the internal genitalia—finally treating with these conditions the urinary apparatus.

(3) **Analytical Diagnosis**—Menstrual disorders and sterility.

One cannot bring to mind a work quite of this nature and without doubt it is well worth reading. G. H.

**"International Clinics,"** a Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Edited by W. T. Longcope, M.D., Philadelphia, with the collaboration of leading members of the medical profession throughout the world, and Vol. 1, nineteenth series. Philadelphia and Montreal: J. B. Lippincott Company. Cloth, \$2.00 per volume.

This number contains a series of very interesting and instructive articles on the advance made in medicine during the past year. One of daily value to the practitioner is written by James Walsh, of New York, upon "Occupations and so-called Rheumatic Pains." A very good article is that by Dr. Lawrence Flick on the "Hospital care of Advanced Cases of Tuberculosis," showing the great good accomplished by isolation, thus minimizing the amount of infection material. Professor Poncet and Dr. Lericke in their article on acute tubercular rheumatism, discuss fully the similarity between acute articular rheumatism and an acute tubercular process in the joints, and showing the differences.

Dr. Corner, writing of appendicitis, claims that all cases are suppurative. The so-called medical cases having discharged into the bowel, but his conclusion that all cases should be operated on rather than allow this to happen, is open to question.

There are other very interesting articles, especially one on "Absorption from the Peritoneal Cavity." This volume is exceedingly well illustrated. J. W.



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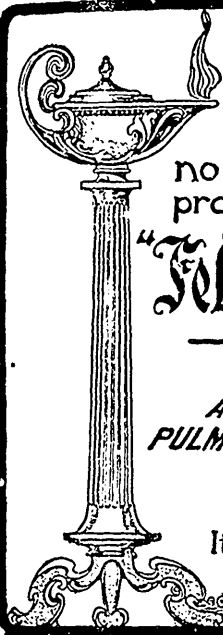
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## NOTICE

### ODD-NUMBERED SECTIONS

As already publicly announced, odd numbered sections remaining vacant and undisposed of will become available for homestead entry on the coming into force of the Dominion Lands Act on Sept. 1, next.

As the records of only the even numbered sections have hitherto been kept in the books of the various land agencies in the western provinces and the time having been very limited since the passing of the act within which to transfer the records of all odd numbered sections from the head office at Ottawa to the local offices, it is possible that the transfer of records in some cases may not have been absolutely completed by the 1st September. In any case where the record of any quarter section has not been transferred, application will be accepted but will have to be forwarded to head office to be dealt with.

As it has been found impossible as yet to furnish sub-agencies with copies of the records of the odd numbered sections and in view of the large probable demand for entries, all applicants for entry upon odd numbered sections are strongly advised to make their applications in person at the office of the Dominion Lands Agent and not through a Sub Land Agent. Applications for even numbered sections may be dealt with through the Sub-Land Agent as before if desired.

J. W. GREENWAY,

Commissioner of Dominion Lands,  
Winnipeg, August 22, 1908.



### Synopsis of Canadian North-West Homestead Regulations

Any even numbered section of minion lands in Manitoba, Saskatchewan and Alberta, excepting 8 acres not reserved, may be homesteaded by any person who is the sole head of a family, or any male over 18 years of age, to the extent of one quarter section of 160 acres more or less.

Application for entry must be made in person by the applicant at a Dominion Lands Agency or Sub-Agency in the district in which the land is situated. Entry by proxy, may, however, be made at an Agency on certain conditions by the father, mother, daughter, brother or sister of the intending homesteader.

#### DUTIES:

(1) At least six months' residence upon and cultivation of the land each year for three years.

(2) A homesteader may, if he desires, perform the required residence duties by living on farming land solely by him, not less than 80 acres in extent, in the vicinity of his homestead. Joint ownership will not meet this requirement.

(3) A homesteader intending to perform his residence duties in accordance with the above while living with the above while living with the above or on farming land owned by himself must notify the Agent in the district of such intention.

Six months' notice in writing must be given to the Commissioner of Dominion Lands at Ottawa, before applying for patent.

W. W. CORY

Deputy of the Minister of the Interior.

N.B.—Unauthorized publication of this advertisement will not be tolerated.

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