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Original Articles

THE IDENTITY OF HUMAN AND AVIAN DIPHTHERIA.*

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Diphtheria of the lower animals, especially of fowls and pigeons, has been the subject of numerous investigations: and when we examine the literature, we are immediately struck by the differences of opinion regarding the disease. On the one side, we have those who believe that the diphtheria of men and of birds are identical, and on the other side, those who believe that the one disease has no relation to the other.

If the two diseases are identical, that is, if both are caused by the same organism, the Klebs-Loeffler bacillus, we should have to demand the most rigorous treatment of diseased birds, and the disease would occupy a place of importance as high as that now accorded to bovine tuberculosis. But does our experience of the occurrence of fowl diphtheria and diphtheria in the human being lead us to the conclusion that there is a probability of there being any connection between the two diseases? Is not diphtheria a disease which is more prevalent in towns and closely populated districts, where very few fowls are kept? Is not roup at certain seasons almost universally prevalent in some poultry yards in the country, where there may be hundreds of cases of the disease without a single case of diphtheria among those who look after the birds and treat them from day to day? Has it ever been observed that poultrymen are more frequently attacked with diph-

* Read at the annual meeting of the Executive Health Officers' Association of Ontario, at Berlin, September, 1902.

theria than those who keep aloof from poultry yards? These and other questions suggest themselves to any one who critically examines the problem.

Let us, however, examine the work of various writers, and investigators on the subject, which we may conveniently group under two heads: (1) Those who have investigated the disease as it occurs in fowls and pigeons, by the usual methods employed in working out infectious diseases; (2) those who have made observations without experimental research, and who have not employed bacteriological methods to support or controvert their views either for or against the identity of the disease as it appears in birds and man.

EXPERIMENTAL RESEARCH.

Rivolta,¹ Silvestrini,² Friedberger,³ and Davaine⁴ made a number of microscopical observations on the disease prior to the introduction of the bacteriological methods of Koch and Pasteur, and hence I shall not dwell upon their results, but pass on to the work of Loeffler,⁵ in 1884, on the diphtheria of pigeons and chickens.

From diphtheritic pseudo-membranes in the mouths of pigeons, which died from an infectious form of diphtheria that prevails in Germany, Loeffler isolated a bacillus which, when inoculated in pure culture into pigeons produced exactly the same symptoms as those which are met with in birds that acquire the disease naturally. This organism was quite different from the true diphtheria germ, and was not pathogenic for guinea-pigs, rats or dogs. Loeffler's discovery was subsequently confirmed by Cornil and Megnin.⁶ Chicoli,⁷ and subsequently Krajeweski,⁸ found cocci in the false membranes of fowls, and Perontito⁹ saw coccidia in those of pigeons, chickens, and turkeys. In 1899, Pfeiffer,¹⁰ from fowls and pigeons attacked by diphtheria and contagious epithelioma observed corpuscles having ameboid movements, which he considered were gregarines, and in other cases discovered flagellata which were difficult to distinguish from leucocytes. The following year Babes and Puscariu¹¹ found trichomonas showing the same characters as those described by Pfeiffer; but in diseased pigeons these protozoa were associated with the bacillus discovered by Loeffler, and which alone was able to produce the disease. Thus the trichomonas must be looked on as being normally present in the pharynx of pigeons. In 1894, Loir and Ducloux¹² studied in Tunis an epizootic of diphtheria which affected fowls, ducks, sparrows, pigeons, and turkeys. From all these cases they isolated a motile bacillus with

rounded ends, which gave yellow colonies on gelatine and did not stain by Gram's method. As cases of diphtheritic angina were frequent among those who cared for the fowls, Loir and Ducloux made bacteriological examinations of such persons, and isolated in one case the same bacillus as was found in the diseased birds. The inoculation of this bacillus into healthy fowls gave them the disease. The same year Piana and Galli-Valerio,¹³ whilst studying an epidemic of pigeon diphtheria, found large motile corpuscles, 4μ in diameter, which these authors considered as protozoa.

In America, Veranus Moore¹⁴ has isolated a bacillus from the false membranes of fowls, which resembled the organism causing swine plague. Moore inoculated a culture of this germ into a young hen, which died, but without showing false membranes. Aged fowls were quite refractory to inoculation. Mazzanti,¹⁵ Piana¹⁶ and others have confirmed the observations of Pfeiffer and others with regard to the presence of flagellata, either alone or accompanied by micro-organisms.

In 1898, as the result of experiments on diseased fowls with diphtheritic antitoxin, Stevenson,¹⁷ of London, Ont., recommended the use of this serum for the treatment of diseased birds, and stated that "roup," the popular name for fowl diphtheria, was "caused by a specific germ which appears to me to be identical with the Klebs-Loeffler bacillus, and that roup and canker were the same disease, a disease identical with diphtheria in man."

In 1899, McFadyean and Hewlett¹⁸ found bacteria resembling the Klebs-Loeffler bacillus in the throats of pigeons suffering from canker; but they demonstrated that the disease could not be produced in healthy birds by inoculation of pure cultures of this germ, and they showed that it had no toxic effect upon mice or guinea-pigs, such as that produced by inoculation with *Bacillus diphtheriae*. Therefore they concluded that it was not the same organism. I¹⁹ have also obtained a germ resembling the Klebs-Loeffler bacillus from the throats of pigeons which were perfectly healthy before examination and remained so afterwards.

The above are a few of the numerous works relating to the etiology of fowl diphtheria. Let us now examine the opinions of some of those writers who favor the identity of human and avian diphtheria.

Buniva supported the first hypothesis of the identity of the two diseases. In 1879, Nicati²⁰ reported that cases of human diphtheria, especially of the conjunctiva, increased after epizootics of avian diphtheria. Menzies²¹ announced that at Posillipo cases of

diphtheria were noticed among children who drank water which flowed over a terrace occupied by pigeons and fowls. Gerhardt²² published the report of an outbreak of diphtheria among two-thirds of the employees of a poultry establishment at Nesselhausen, where thousands of fowls had succumbed to diphtheria. One of the employees, pecked by a diphtheritic rooster in the hand and foot subsequently showed false membranes in these locations. No cases of diphtheria were present in the environs of Nesselhausen at the time. Roth²³ reported that fowls which had swallowed the false membranes of diphtheritic children were affected by this disease. Wheler²⁴ observed diphtheria in a family which had eaten doves affected with diphtheria. Turner²⁵ stated that infant croup had been preceded by fowl diphtheria. According to Paulinis,²⁶ the Greek isle of Skiatos, in which diphtheria had never previously been known, was infected after the introduction of diphtheritic turkeys. Boing,²⁷ Hingworth,²⁸ and Bilhaut²⁹ cited cases of direct transmission of chicken diphtheria to man. In 1884, Chicoli produced diphtheria in fowls by the inoculation of false membranes from man, and observed at the same time diphtheria among children who frequented places used by fowls affected by the disease. Emmerich³⁰ also established in his experiments that pigeon diphtheria could be transmitted to man, and vice versa. Bermont³¹ observed at Bonvillers an epidemic of diphtheria among children affected with scarlatina, who lived in places occupied by diphtheritic chickens. Longuet³² saw the disease in a soldier who attended chickens which were infected. Tissier and Longuet³³ thought that in 40 per cent. of the cases infected manure was the cause of the spread of the disease. This idea was supported by Chauveau,³⁴ who considered the two diseases identical. Barbier³⁵ frequently saw diphtheria among fowls which lived beside insulated buildings for diphtheria patients, and stated the case of a woman, 67 years of age, who was attacked by diphtheria after having disinfected a poultry building infected with the disease.

Debrie³⁶ reported an interesting case. Some soldiers affected with diphtheria were admitted to the hospital at Sebdoou. Immediately the fowls, which were looked after by a hospital attendant, presented symptoms of diphtheria, and the owner and a soldier who cared for them were also infected. Cole³⁷ and Schrevens³⁸ also reported cases of the transmission of chicken diphtheria to children.

Such are the incidents given and statements made by those who believe in the identity of the two diseases; and against them there are almost as many made by the dualists, or those who believe that the two diseases are entirely distinct.

Thus, a pupil of Trasbot's³⁹ swallowed the false membrane of several hens without contracting diphtheria. Megnin⁴⁰ never observed diphtheria among those who took care of diphtheritic birds. Rivolta,⁴¹ discussing the observations of Gerhardt, said that the false membranes of fowls were not diphtheritic, but croupous, and that if the epidemic observed among the employees at Nesselhausen had been true diphtheria, it would not have remained localized, but would have spread to the environs. It was possible that the infection was transmitted by the fowls to man, but it was not diphtheria, but a slight attack of croup.

Sante Sirena,⁴² studying the same epidemic reported upon by Chicoli, declared that he never saw a case of the transmission of the disease from birds to man, and that never had the cases of human diphtheria in Palermo been so rare as at the time of this epidemic. Loeffler,⁴³ the discoverer of the human diphtheria germ, was never able to produce diphtheria in fowls by the inoculation of the true bacillus; and Colin⁴⁴ obtained the same results. Nocard⁴⁵ denied the identity of the two diseases; and St. Ives Menard⁴⁶ considered the false membranes of fowls quite different from those of man, and had never seen cases of the transmission of the disease in the "Jardined" acclimatation of Paris." Straus had never observed cases of diphtheria among those who took care of diphtheritic pigeons. Gratia and Linenaux⁴⁶ had one favorable result from the administration of diphtheria antitoxin to a diphtheritic chicken; but in all other cases the results were negative. These authors concluded that the inefficacy of this remedy for poultry was an argument against the identity of the avian and human forms of diphtheria.

It is impossible to bring into agreement all the data furnished by the above experimenters, unless we admit that the diphtheria of the birds is either produced by several different species of bacteria and perhaps coccidia, or that under the name of diphtheria there has been, as Galli-Valerio⁴⁷ remarks, "a lamentable confusion of different affections." We know that infectious pseudo-membranous inflammation of mucous membranes may be caused by the streptococcus pyogenes, staphylococcus pyogenes, and other bacteria; and many of the disorders caused by these organisms resemble very closely the local and general phenomena of diphtheria caused by the Klebs-Loeffler bacillus; and if such is the case in the human subject, it is more probable it is also true of birds.

Seeing, therefore, that the research from the etiology (physical cause or causes) of diphtheritic affections of birds was so incomplete and so controversial, we have given this subject con-

siderable attention, the work extending over a period of the last four years, and involving observations and inoculations of some three hundred fowls.

The publicity given to Stevenson's paper in the *Agricultural Press* led us first to examine the effect of human diphtheria antitoxin on birds suffering from diphtheria and having well-characterized pseudo-membranes. The antitoxin was injected subcutaneously, and after the operation the birds were observed every day for a week, and then at longer intervals. Many were kept under observation for several months.

A series of thirty birds was inoculated with fresh serum obtained from well-recognized sources (Parke, Davis & Co. and Mulford). The dose varied from 250 to 550 units, given either at one time or at intervals. Of the thirty birds so treated, but two showed signs of improvement following immediately after the injection; but, three days after they were again badly diseased. The remaining 28 either showed no improvement or even became worse after the treatment. In ten cases the disease persisted for three months, when the birds were killed and examined.

A series of eight birds was also treated with fresh horse serum, in doses from 2 to 5 c.c. Two he-ns treated with the larger dose died twenty-four hours after injection, a proof of the toxic nature of some horse sera, a fact which Cobbett has already pointed out. Two other birds showed some signs of improvement after treatment with smaller doses; and our poultry manager reported to me after trying the fresh horse serum on a number of diseased birds, that in some cases he had seen partial cures, but it was not specific, and did not seem of much use.

The results of these experiments, therefore, show that: (1) Diphtheria antitoxin inoculated into birds suffering from fowl diphtheria, and presenting pseudo-membranes produced no practical or permanent results; (2) were the germs of human and avian diphtheria the same, this antitoxin certainly must have influenced the fowl diphtheria, since it is the best remedy known for human diphtheria; (3) ordinary horse serum showed better results than antidiphtheric serum; but it could not be regarded as a specific.

The third series of experiments was made on five healthy fowls, which were injected with human diphtheria bacilli, which were obtained from two different cases and isolated on Loeffler's serum.

Fowl 1.—Inoculated by scratching throat and rubbing in a twenty-four-hour-old culture of the Klebs-Loeffler bacillus. No membrane formed. Bird remained healthy.

Fowl 2.—Same procedure, but bacillus from another source. No membrane formed. Bird remained healthy.

Fowl 3.—Inoculated subcutaneously with the half of a serum culture of the K.-L. bacillus. No results.

Fowl 4.—Same procedure, but bacillus from another source. No ill effects.

Fowl 5.—Inoculated in sub-mucosa with about half a c.c. of a K.-L. culture. No membrane formed. Bird remained healthy.

Two guinea-pigs inoculated with the same culture died within thirty-six hours with typical symptoms of diphtheria.

The results of these experiments, therefore, show that the Klebs-Loeffler bacillus is not pathogenic for hens. We may also mention, in this connection, that we have repeatedly tried to infect rabbits and guinea-pigs by injecting false membranes taken from diseased hens, but never with any success. We have also kept rabbits and guinea-pigs confined in cages with diseased hens; but these animals have never taken the disease. Stevenson stated that in his experiments, when rabbits were fed from the same vessel as a rousy bird, they became infected with the disease and died as the result. But experiments conducted here have entirely failed to corroborate this statement. Not only did rabbits live for weeks in coops with rousy birds without becoming affected, but a doe brought up a litter in a coop in which were kept the worst procurable cases of fowl diphtheria; and these rabbits, though drinking from a vessel used by diseased birds, which was uncleaned for weeks, and eating hay and roots which were in constant contact with the birds, never showed any symptoms of ill-health. If the disease in the fowls had been caused by the Klebs-Loeffler bacillus, it would certainly have been pathogenic for both the rabbits and guinea-pigs, as we know these animals are used for standardizing the diphtheria antitoxin. We have made cultures from over two hundred fowls, which died from diphtheria or were killed in certain stages of the disease; but we have not met with the Klebs-Loeffler bacillus in any of them, and consequently we cannot believe in the identity of the human and avian diseases.

We also find that the structure of the diphtheritic membrane of men and fowls is different. In the former, it consists of necrosed epithelial cells and inflammation of the connective tissue beneath, with an abundant fibrinous exudation. If the membrane is formed in the trachea instead of the pharynx, the epithelial cells are shed and the membrane consists almost entirely of fibrin with leucocytes, the former arranged in laminae, but varying in density. The diphtheria bacilli are most frequently found lying

in clumps in the spaces between the fibrin, and are usually most numerous in the superficial part of the membrane. The bacteria stain very well by Gram's method. The membrane in fowls, however, consists almost entirely of pus cells, some granular masses, debris of epithelial cells (especially the swollen nuclei of these), and bacteria; and the micro-organisms which stain by Gram's method are seldom found in it.

This year we have succeeded in isolating certain bacteria from diseased birds, and producing the typical disease in healthy birds by the injection of these bacteria.

Our final results and successes were obtained by using pigeons in order to increase the virulence of the causal organisms. Chronic diseases, of which we have an excellent example in fowl diphtheria, are notoriously hard to reproduce by the inoculation of healthy animals, because in most cases of sickness there must be not only the causal organism, but a lowering of the vital forces; and, to get over the difficulty, we used pigeons which are easily infected, to increase the virulence of the causal organisms and thereby assist in the infection of hens. In this way we produced roup in hens at pleasure by inoculation with the roup bacillus taken from roup pigeons. The roup bacillus tends to penetrate the deeper layers of the mucous membranes or sub-mucous tissues. Hence cultures made from swabs taken from false membranes very rarely contain the roup bacillus, because the bacilli are retained in the depths of the tissue.

The roup bacillus (which we have named *Bacillus cacosmus*) is especially difficult to isolate in cases in which the bird has had the disease for a length of time, as the tumors and false membranes contain very many other kinds of bacteria in large numbers. In our experiments, even when roup was produced in healthy fowls by the inoculation of pure cultures of the "roup bacillus," the mucous discharge from the very beginning contained many different kinds of bacteria. The roup germs seem capable of remaining in a sort of dormant condition in the depths of the tissues for a very long time,—so long that the fowls sometimes appear convalescent; but suddenly, when the constitution is weakened by a cold or other causes, the roup germs become active, and the diphtheria symptoms reappear.

We have found that roup, with all its varying symptoms, can be produced also by the inoculation of healthy hens with the well-known *Bacillus pyocyaneus*, or green pus germ, which we have frequently isolated from roup birds. Hence, it would seem that roup is simply a complex suppurative process, but different from ordinary forms of suppuration. The pus in fowls ap-

pears in the form of a half or entirely solid cheese-like, yellowish white mass, without any tendency to become soft or liquid, or to perforate the surrounding skin.

This may be proved by the injection of sterile turpentine oil into the eye-lids, which gives rise to inflammation, and the formation of a solid cheese-like matter in the depths of the tumor. Therefore the cheesy masses must be regarded as pus.

The evidence adduced in the preceding paragraphs of this paper, the isolation of the causal organisms (the roup bacillus and the *Bacillus pyocyaneus*), and the production of typical fowl diphtheria by the inoculation of cultures of both of these bacteria into healthy birds, have, we think, shown the unsoundness of the theory of those who believe in the identity of human and avian diphtheria. We are unable to state the possible danger of the roup bacillus to man; but we know that the *Bacillus pyocyaneus* produces abscesses and occasionally gives rise to an epidemic of blood poisoning, as Williams and Cameron⁴⁸ have shown; but neither of these bacteria has the same pathogenic power as human diphtheria.

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REPORT OF A CASE OF ACUTE LEUKEMIA.*

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Cases of leukemia are by no means infrequently encountered in practice, but apart from the accumulation of facts about the blood condition and clinical course of the disease, we cannot be

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said to have arrived at any solution of the problem in its real nature. Such being the case I need offer no excuse for inviting your attention to the following report of a case recently under my care. Besides the common interest in the subject, the case presents several unusual features, to which I shall refer in the course of the report. I have designated the case "acute leukemia," inasmuch as the entire duration of the illness was exactly one month. During this period the patient was under observation continuously. It is possible he may have been ill for, at the outside, a fortnight before consulting me. However, he had not noticed any departure from his normal health until, perhaps, a week before seeking medical advice. I can believe this, because he took part in the Halloween procession about the city one week before consulting me.

The patient, a well-grown young man of eighteen, consulted me on November 6th, on account of a feeling of weakness and certain symptoms which made him apprehensive of typhoid fever. The boy was in his first year as a medical student, and had applied to Prof. Primrose for treatment. Believing his illness to be of a medical nature, Dr. Primrose referred him to me. The history I obtained was not very definite. He had attended lectures constantly, and had gone on with his other work. There had been no headache, but he felt weak and tired, and had a notable loss of appetite. He slept well, and there had been no disturbance of the bowels. He had, however, because of loss of appetite and a coated condition of the tongue, taken several doses of salts. Halloween night his nose bled, which was an unusual thing for him. His weakness was what concerned him, and made him seek advice. The boy looked pale, with flushed cheeks and perspiring slightly, as though fevered. I took his temperature, and found it 100 deg., pulse about 90. The tongue was coated, breath slightly offensive; gums not swollen or unhealthy. Chest examination disclosed nothing abnormal in either heart or lungs. On examination, I noticed two or three red spots, quite like the rose spots of typhoid fever; no distension or tenderness. Liver also was about normal in outline, and to feel. Spleen found to be very considerably enlarged; easily palpated about a finger's breadth anterior to the ribs. I advised him to stop work and go into the hospital, and explained that his enlarged spleen, with the red spots and elevation of temperature, etc., looked as though his symptoms might be due to typhoid infection. Inquiry further into his family and previous history.—Father and mother are living and well. He is an only child; had had whooping-cough and measles as a child. Three years ago he had an

attack of malaria, with good days and bad days alternating; had distinct chills. His doctor pronounced it malaria, and gave him quinine. Since then he has been well. Shortly before coming to Toronto, in October, he made a visit to Atlantic City. About three weeks ago he had a slight purulent urethral discharge, which quickly disappeared with some local treatment supplied by a druggist. At the time of my examination there was no sign of discharge from the urethra. There were, however, a number of small and very shallow ulcers about the corona glandis, probably herpetic in nature. The secretion from the part was abundant and very offensive. I shall return later to a consideration of this condition. It cured readily in a few days with antiseptic lotions. At the time of entering the hospital, I looked upon the case as probably typhoid fever, and instituted treatment accordingly, pending further investigation. Salol was given as an intestinal antiseptic, and calomel with magnesia sulphate to promote elimination of toxic products, bile, etc. The Widal test was applied with negative result, and repeated on several occasions. Curiously, for typhoid in the early stage, he had a good, at times ravenous, appetite; headache was absent. The temperature was not what one sees in typhoid. Each day it ran up two and three degrees, falling back to about the same level again. The rise in temperature was associated with a chill, and followed by sweating. The history of malaria three years ago, together with his recent visit to Atlantic City, suggested a repetition of the disease. Examinations of smears from the blood failed to discover the malarial or any other organism. There seemed to be a slight excess, however, of leucocytes, which is not to be expected either in typhoid or malaria. In the meantime the blood count gave directly against typhoid, showing a distinct leucocytosis. Reds, 3,600,000; whites, 21,000. Whites showed great excess in the small mononuclear or lymphocyte variety.

The blood count, together with the great enlargement of the spleen, and the unusual symptoms of sound sleep, good appetite, etc., made it evident that the condition was the remaining one of the three conditions we had under consideration, namely, leukemia. This diagnosis was speedily confirmed by signs of enlargement of the liver, and later by slight enlargement of the lymphatic glands. Later blood examination showed rapid increase in the white corpuscles with diminution in the number of the reds. November 16th, reds, 3,400,000; whites, 23,000; November 24th, reds, 2,500,000; whites, 75,000; December, 1st, whites, 86,000; fully 90 per cent. lymphocytes.

The spleen continued to enlarge until almost to the middle line; surface measurement was 11 1-2 inches by 7 inches; towards the last quite tender to touch. The liver increased in size very rapidly, until it reached the umbilicus almost.

No enlargement of lymphatics or any part detected until the disease was well advanced; then the cervical glands became slightly enlarged. Following this there was slight increase in size in the inguinal group, and later a nodule formed on the back of the tongue. This increased rapidly, and at the time of his death, five days after leaving the hospital, I was informed by his family physician that it was as large as a hazel nut. Palpation failed to discover lymphatic enlargement in the abdomen. There was no ascites or anything to lead one to infer that there was enlargement of any of the deeper glands; as, for example, in the gastro-hepatic omentum or iliac groups. The degree of lymphatic enlargement even at the last could only be termed slight. I emphasize this point, because I have already mentioned the fact that in every blood examination there was found a great excess in the small mononuclear of lymphocyte variety of white corpuscles. From the blood examination, one would have expected great disturbance in the lymphatic structures, instead of in the spleen and liver. Myelocytes were rare. The polymorphonuclear were of course greatly diminished. No nucleated reds discovered; no change noticed in the red cells. The last examination showed fully 90 per cent. lymphocytes; fields frequently contained no other variety.

The patient became paler and weaker; appetite remained good, sometime quite ravenous. He took milk in large quantities with his food. On several occasions he had free nose-bleed. These hemorrhages were easily controlled by plugging and application of adalin solution. Intellectually he was exceedingly bright to the last. The urine gave a decided Diazo reaction at first; later there was a diminution in quantity, with albumen and casts.

Patient left the hospital on December 1st, and died on December 5th. His pulse before leaving the hospital was about 115 and small. Heart sounds were weak, but no murmur detected while in bed.

The features of the case are: (1) The exceedingly brief course of the disease, exactly one month; (2) the possible connection between the origin of the disease and the urethral discharge and subsequent balanitis which immediately preceded the onset of the illness; (3) the fact that he was beginning his course as a medical student had engaged him in work which exposed

him to odors of putrefaction, suggests a possible explanation of the condition; (4) the association of malaria and leukemia has been frequently noticed; (5) a total lack of correspondence between the blood count and the disturbance in the blood from organs, very great enlargement of the spleen, and 90 per cent. lymphocytes—according to blood count, a “lymphatic leukemia,” but obviously of the splenic variety.

Treatment.—Liq. arsenicalis was given in full doses, and increased rapidly.

A CASE OF HEMORRHAGE FROM STOMACH AND BOWELS COMPLICATING CHRONIC BRIGHT'S DISEASE.

BY W. T. GEMMELL, '03, TRINITY MEDICAL COLLEGE.

The patient, Wm. M——, aged 42; Canadian; was admitted to the Toronto General Hospital, July 22nd, 1902, and gave the following history: Three weeks before was exposed to a wetting and “caught cold;” was taken to the hospital at Fort William (?). At that time he had had pain and swelling in his legs, anorexia and diarrhea. Had not been able to eat anything, subsisting on milk. He left Fort William for Grenville, but on reaching Toronto was too sick to go on, so was sent to the hospital. By this time the diarrhea had ceased, though he still had occasional tenesmus with passage of small quantities of mucus mixed with bright arterial blood, and frequently vomited up small quantities of altered blood. He also stated that he had not passed any urine for several days. On admission, the patient's temperature was found to be 97, pulse 90, and respirations 23.

Examination.—The patient was anemic; distressed; very sick-looking and restless. He was quite conscious, senses were acute, but was quite drowsy at times. The pupils were equal; the tongue was coated with dirty, blackened fur. The breath was very fetid, with the odor of decomposing blood. Breathing was labored and grunting. Examination of the heart and lungs showed nothing abnormal. The abdomen was tender on palpation, especially over the bladder, but not distended or unduly rigid. The anus was irritable and sore. Eight ounces of urine were drawn off per catheter, and on examination was found to be clear, alkaline, with very foul odor; specific gravity 1.010, containing 6 per cent. albumen by Esbach's tube. Microscopically it was found to contain casts and epi-

thelial cells, but no blood or pus. While he was in the hospital the bowels never moved. Purgatives given by the mouth were vomited and enemata immediately expelled. He was continually vomiting small quantities of blood, dark-colored, foul, and mixed with mucus. Occasionally small quantities of bright, fresh blood, mixed with mucus, were passed from the bowel.

The pulse on admission was weak, but improved with the heart stimulants that were given. He still continued weak, restless, and nauseated, and died July 24th, two days after admission.

A post-mortem examination was held the same day by Dr. Mackenzie. The small intestine was found congested; the large intestine was found to contain some very foul semi-fluid material, but no hard masses, and no sign of any obstruction. On opening, the mucosa was found congested, red, and showed punctate hemorrhages along the course of the vessels. A number of small ulcers were found in the lower part of the large bowel. The stomach contained four or five ounces of fluid, and its mucosa was found in a similar condition to that of the bowel, but no ulcers.

The kidneys were very small. The capsule was much thickened, and very adherent. The pyramids seemed to be masses of fat, and extensive fatty changes seemed to have taken place in the cortex, which was quite narrow. The left kidney contained a number of cysts, some of which were filled with black, tarry-looking material, like old hemorrhage. The heart was hypertrophied, and showed some fatty degeneration. The liver was normal in size, and showed some fatty changes. The spleen was somewhat enlarged, soft and friable.

On microscopical examination, the kidney showed a very typical picture of a chronic interstitial nephritis, on which was grafted an acute inflammation. The interstitial tissue was greatly increased, the vessel walls greatly thickened, the parenchyma in places being scarcely recognizable. The vessels were engorged with blood, which in places had extravasated into the tissues. Certain spots showed a great amount of small-celled infiltration, and a number of hyaline casts were shown *in situ* in the tubules.

The points of interest in this case are the ulceration of the colon and the capillary hemorrhage into the stomach, and the question as to whether or not this condition of the alimentary tract was pathologically connected with the nephritis which was also present. In this connection I wish to give a brief synopsis of a paper by Dr. W. H. Dickinson, which is reported in the *British Medical Journal* of January 13th, 1894, which, I think, will throw some light on the subject. He reports 22 cases of

ulceration of the bowel which were coincident and presumably coincident with the renal disease. Eight cases were appended in which under similar conditions of renal disease, the bowel was the site of extravasation without ulceration. The ulcers were not confined to any part of the bowel, but were most frequent in the lower part of the ileum, nor were they associated with glandular structures. The most marked character of the ulcers was their association with hemorrhage; recent extravasation and pigmentation, the result of extravasation, were frequently to be seen in their neighborhood, and in those cases where the specimen was examined microscopically, blood in various stages of alteration was found in the mucous membrane in connection with the lesion. Two cases were adduced in which the stomach was ulcerated, as well as the bowel. In one extravasation of blood was found in various states of alteration in the submucous tissue.

Of the twenty-two cases, fourteen were granular, two large white. In nineteen hypertrophy of the heart was noted. The ulcer presented itself late in the disease, in company with the other members of the cardio-vascular series, to which it belongs. It brought about the fatal issue by perforation and peritonitis. The symptoms commonly presented were griping, abdominal tenderness, diarrhea and vomiting. In the discussion, Dr. Hale White said that Sir William Gull and Dr. Fagge both taught that ulceration of the bowel was associated with Bright's disease. He himself had reported four cases of ulcerative colitis associated with Bright's disease. His view was that they were primarily inflammatory, and that the severe hemorrhage was an indication of the severity of the inflammation.

Dr. Dickinson, in reply, said that he found no evidence of enteritis, and the hemorrhages were deep in the bowel, and were present elsewhere independent of ulceration.

The cases of ulceration were rare, and he had observed them at St. George's Hospital about twice a year. In "Allbut's System of Medicine," Dr. Hale White again refers to Dr. Dickinson's paper, and explains that while in chronic interstitial nephritis with its high blood tension and weak vessels we may have hemorrhage into any tissue, and this occurring in the bowel would so devitalize the part like a hemorrhagic infarct that the portion would slough off and an ulcer form. This will undoubtedly explain many cases, but there are others where the extravasation is so diffuse and general that it points unmistakably to inflammatory action. I think that the case I have reported falls into the latter class, as the whole alimentary tract seemed to be affected from the cardiac orifice to the anus. I regret that

my report is incomplete in that no microscopic examination was made of the bowel or stomach.

Dr. Bannatyne reports two cases of ulcer of the colon in the *Edinburgh Medical Journal*, August, 1894, one of which was due to simple hemorrhagic extravasation, the other due to colitis. In these inflammatory cases, the renal condition falls into a less prominent position with regard to causation, the exciting cause in these cases being some irritant or infection.

In this connection Dr. F. W. Mott, of the Claybury Asylum, near London, has investigated a large number of cases of ulcerative colitis in the insane, to which they were predisposed by their low vitality and manner of life, but not so much so, perhaps, as our patients with crippled kidney. These cases were investigated by Dr. Durham, bacteriologically, and a diplococcus was isolated. In one patient the large, soft spleen and the fatty changes in the heart and liver were somewhat suggestive of an infection, but no bacteriological examination of the blood was made.

There is another point of interest in this case, which I will not, however, attempt to explain: that is, why did the diarrhea stop, as it did, three days before death, during which time there was no action of the bowels? Hirschler suggests that this is due to the action of some toxin retained in the system, having a specific paralyzing action on the bowel. It is not uncommon, he says, to have uremic diarrhea followed by intestinal paralysis, and cases of uremia have been operated on for the relief of supposed intestinal obstruction.

Reports of Societies

TORONTO CLINICAL SOCIETY.

Stated Meeting, Jan. 7th, 1903.

The president, Dr. E. E. King, in the chair.

MIRROR WRITING.

Dr. R. D. Rudolf described mirror writing as that form of chirography where the words look strange to the ordinary reader until they are reflected from a mirror, or after they are read through the paper upon which they are written. After a general reference to the subject he reported the case of a married lady, twenty-nine years of age, accomplished and highly intelligent. She was left-handed, markedly so, although since child-

hood she had been constantly educated to use her right hand. She thinks she always wrote in mirror writing; at the present time she writes with equal facility with either hand. Dr. Rudolf showed four methods of her writing. She never had any tendency to mirror speech, and she can read mirror writing very readily. There are no signs or symptoms of any disease. Dr. Rudolf then entered into a prolonged discussion of the causes of mirror writing.

REMOVAL OF GASSERIAN GANGLION FOR TRIGEMINAL NEURALGIA.

This case was reported by Dr. H. A. Bruce.

M. C., aged 63 years; consulted Dr. Bruce in January, 1902. About ten years ago the trouble began in his lower lip on the right side, as sort of itching, followed by darting pains, soreness of right side of mouth, gums, teeth, and right side of tongue. After a year the pain spread upwards and downwards, until the whole side of his face was involved. About the middle of March, as the pain seemed to be chiefly confined to the superior maxillary nerve, did Carnochan's operation, removing the nerve and Meckel's ganglion, on March 21st, by antral route. Dr. Bruce detailed the steps of this operation. The patient left the hospital in two weeks, with considerable relief from his pain. In three weeks he returned, and decided to undergo the operation for the removal of the gasserian ganglion. This operation was undertaken on the 2nd of May, Dr. Bruce having in mind performing the Hartley-Krause method. The operation had proceeded as far as separation of the dura mater as far as the foramen ovale and rotundum after trephining, when the patient ceased breathing. There was considerable hemorrhage. The patient was revived, and the operation discontinued at that time. It was decided to do the operation later in two stages. The patient was wildly delirious, but was himself again on the fifth day. Five days later the second stage of the operation was performed, and the ganglion was successfully removed. There was no hemorrhage in this operation. Since, the patient has been free from his old pain, and only has some numbness around the mouth. A small corneal ulcer formed on the right eye, and Dr. Bruce thinks the eye had better be removed.

FOREIGN BODIES IN THE LARYNX.

Dr. G. R. McDonagh then took up foreign bodies in the larynx, their removal, reporting in particular two cases, which had come to him within a few days of each other. The first case occurred in a girl of seven years, in October last. The only symptom she had was loss of voice, which was reduced to a whisper. The history was that two days previously she had

been eating boiled egg, which had been broken in a cup for her. While eating she had been suddenly taken with severe paroxysm of coughing and dyspnea. She explained in a whisper that some of the shell was in the cup, and she thought it had got into her throat. Dr. McDonagh was successful in securing a good view of the larynx, and at once observed the upper border of what he took to be the egg-shell. The two vocal cords were perfectly normal, though slightly congested. She was placed under very profound anesthesia, and in addition a spray of 8 per cent. cocaine was injected. The extracting forceps blades were covered with rubber, so as not to break the egg-shell. It was removed easily, and measured 1-3 by 1-2 inch, being quadrilateral in shape, the fractured ends being downward. This would account for no interference with breathing. There were no subsequent symptoms, and everything went well thereafter.

The second case proved a very troublesome one. This was the case of a boy of seven years, who had a beech-nut in his mouth. A sudden inspiration and the nut passed into his larynx and set up an extreme paroxysm of dyspnea and cough, and the child was almost choked. The extreme part of the dyspnea subsided in a short time. Attempts to remove the body by emetics, etc., were unavailing. He grew worse for four days, and then tracheotomy was performed. The foreign body did not escape, but as the symptoms subsided, it led the physician to believe the foreign body was not there. When the tube was removed the breathing was as bad as in the first instance. At the end of four weeks the boy was brought to Toronto, and Dr. McDonagh was asked to examine him. He was very nervous and frightened. The odd thing about the case was the presence of the voice. One could scarcely realize there was any foreign body in the larynx. He was placed under chloroform, and the cords were seen to be normal. When separated, he could see a dark, almost black object, which he had no doubt was the beech-nut. It could not be removed with forceps. The tube was removed and probe passed up through the larynx. Respiration began to fail; breathing almost ceased, and artificial respiration was resorted to. He recovered and was placed in General Hospital, another attempt to extract to be made later. Dr. McDonagh had no doubt of its presence in the larynx. He contracted pneumonia two days after in the upper lobe of left lung. It was not severe. On the sixth day after the first examination, by taking out the inner cannula and putting finger on the upper one, Dr. McDonagh found that the child could breathe very well indeed. He believed the foreign body had probably come up into the mouth and been swallowed.

Desiring to make a practical, useful journal for the General Practitioner,
the Editors respectfully solicit Clinical Reports from subscribers and others.

Dominion Medical Monthly

And Ontario Medical Journal

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No. 3.

TRINITY MEDICAL COLLEGE.

The announcement in a recent issue of the *Toronto Globe* that a joint committee representing Trinity University and Trinity Medical College, has arranged a plan whereby Trinity Medical College ceases to be a private corporation and becomes the medical department of Trinity University, is one of great and paramount importance to the medical life of Canada. We congratulate both institutions upon this arrangement, and bespeak for it the hearty and cordial endorsement of the thousand sons of Trinity. That the scheme, when consummated, will redound to her brilliant past there can be no doubt. Bright prospects are thus opened up for her future, and with the well-known business man and financier at the command of the helm, great things may be expected, and will be sure to come. Trinity Medical College has long enjoyed a proud reputation. Her graduates are everywhere occupying honorable and responsible positions. The ability and capability of her staff cannot be questioned. Under this arrangement, her future, as the medical department of Trinity University is bright and assured. No

one, who loves and values competency and perfection in medical knowledge, and a high standard in medical attainments, can say anything but "Success." The city of Toronto is certainly going to be a force of great and growing importance in the medical world.

MEDICAL PRACTICE IN MICHIGAN.

Under the title "Chauvinism in Medicine," the *Journal of the American Medical Association* discusses the proposed new Medical Act for Michigan, whereby prospective candidates for registration in that State coming from Canada will have to take a year's course in some of its medical colleges before being licensed to practise. Obviously the law is directed especially against the surplus medical output of the Ontario medical colleges, but may not have so great effect as appears at first blush; for the time has arrived in the history of Canadian medicine when, like as in other walks of life, young Canadians entering upon practice will be able to find openings in their own land. The fact that in 1901 over one hundred doctors were added to the medical population of the North-West Territories, and the continued increment of population in the great and growing West, seems to point to a new channel for the excess of demand over supply in Ontario. We cannot complain against the new medical legislation of Michigan. If she chooses to shut out the good sons of Ontario, because she cannot make examinations difficult enough to compass this end, by resorting to mulcting thus the already impoverished medical student, financially as perhaps otherwise, who is to blame her, when her examiners recognize their inability to pluck the Ontario student? Surely, after all, it is a high compliment to pay to the standard of medical instruction imparted in Ontario colleges. That it will shut out any who desires to locate in practice in Michigan, we do not believe; all such candidates for registration will have to do will be to take their final year at a Michigan medical college. The legislation, therefore, does not seem to be so much in the interests of the profession of Michigan as it does for the finances of the medical colleges of Michigan.

SOMETHING TO BE COMMENDED.

Without knowing the surgeons who were concerned in two operations recently before the public—one of the brain, and the other of the hip joint—the fact that the name of either did not appear in the press notices is an omission to be commended. Press notices are distasteful to the profession generally, whether it be in connection with some unusual operation, or as attendant upon some wealthy and prominent member of the community, who becomes ill and requires medical advice. That the physician could very often keep his connection with a given case concealed, is true; that he does not succeed very often should scarcely be charged against him. It is questionable if these press notices have any practical value; certainly anything in the way of an inspired one is doubly distasteful. One way and another there are getting into the columns of the public press items of a medical character, that the time may soon come when the medical editor will be a valued member of the staff. With a clergyman at the editorial helm of one of our leading dailies, and a purifier of public morals, willing to spend \$500,000 in rinsing the political tank, surely the time has arrived when mesial sections of the male generative organs will no longer be paraded before the gaze of virtue. Let us hope that when the morals of the political world have been purified, that a few cents of the sum total will be left to buy a drastic purge for the public press.

**SEPTICEMIA TREATED BY THE INTRAVENOUS
INJECTION OF FORMALIN SOLUTION.**

On January 19th, 1903, Dr. C. C. Barrows, of New York City, reported before the New York County Medical Association a case of puerperal septicemia occurring in a married negress, twenty-six years of age. On the second day of the puerperium she was seen by Dr. Barrows, when her pulse was 160, temperature 108 deg., and respirations 38, and she seemed to be dying. Five hundred c.c. of a 1 to 5,000 aqueous solution of formalin was at once administered by intravenous injection, with the result

that in three hours her temperature fell to 102, and then to 101 in six hours. The temperature fell to normal a little after twelve hours, but again rapidly rose to 103 deg. A second administration of 750 c.c. was given, and in twelve hours the temperature was normal and practically remained so. The uterus had been curetted prior to first administration. Such, in brief, is the history of this case, which has recreated active interest in a fascinating theory, viz., the introduction into the blood of antiseptic agents in the treatment of septicemia. Since the publication of this report Park and Payne, of New York, and Elbrecht and Snodgrass, of St. Louis, have been conducting a series of investigations and observations for the purpose of testing the efficacy of the treatment, and their results do not seem to bear out the contentions of Dr. Barrows, that formalin is of value in puerperal septicemia, on account of its antitoxic action. As we know, it is not uncommon in cases of puerperal septicemia for the patient to be very low, to be, in fact, almost lifeless, yet suddenly to revive and take on a change for the better, no matter what the treatment pursued. In view of the fact also that the uterus had been thoroughly curetted prior to the first administration of the formalin solution, and that not sufficient time had elapsed for apparent results from that procedure, the deductions drawn by Dr. Barrows seem to have been hasty, and more so as there was only one case to found them on.

We in Canada are generally considered more conservative than our American confreres; and whilst it has not come to our knowledge that the treatment has been experimented with here, it may be pointed out that investigations along this line of treatment might be undertaken, with the result that some day an antiseptic may be found out that would prove a weapon of decided value in attacking this dangerous and fearful malady.

THE LOW BIRTH-RATE IN ONTARIO.

According to the report of the Registrar-General for Ontario, Dr. P. H. Bryce, there were in 1901, 928 more marriages in this province than in 1900, whilst the births fell off sixty-five—and this, too, in face of the fact that physicians and parents have been

compelled to give more attention to the registration of births. At this rate of going, the population is not going to increase; and an investigation will have to be undertaken to explain this disparity of figures. For instance, it might be well to undertake an investigation to find out how much responsibility in this direction lies with the public press, which boldly and unblushingly advertises the monthly corrective, to the wife who does not desire to become a mother, and to the supposed virgin, who about this time becomes penny wise and pound foolish. That the public press contributes to the continual decline in the birth-rate by accepting this debasing and demoralizing class of advertising, there is not the shadow of a doubt.

THE PROPOSED BILL FOR THE TREATMENT OF INEBRIATES.

Good legislation is generally arrived at slowly, and then often by degrees. Premiers and governments have to take these things into their "serious consideration." The promoters of that good piece of prospective legislation—the proposed Bill for the Treatment of Inebriates—expect to advance a step at the coming session of the Ontario Parliament. That it will be enacted—well! one must not be too sanguine of success. Why this delay? The provisions of the measure are now so well known, they need no repeating here. The bill itself, drafted at the request of the Premier, has met with endorsation at the hands of the Canadian Medical Association, the Ontario Medical Association, the Toronto Medical Society, and, we are told, also by a majority of the medical members of the old house. What further endorsation does it need? It is an eminently practical measure. It shows very thorough and careful study of the inebriate. It will not be an experimental law, as many of its provisions have been tried and found practical in other places. The increasing watchfulness and energy displayed by Dr. Rosebrugh in this connection are to be cordially commended. The Government could very well afford to dispense with any proposed amendments to the "Ditches and Water Courses Act" and devote this time to the needs of the poor devil in the ditch.

News Items

DR. W. T. CONNELL, Kingston, Ont., is ill with typhoid fever.

DR. JOHN STEWART, Halifax, has been visiting friends in Ontario.

DR. D. CAMPBELL MEYERS has been created a major in the Royal Grenadiers.

DR. CARLETON, who has been in Arthur for three years, is removing to Thornhill.

DR. SCOTT, of Maxwell, is president of the East Grey Liberal-Conservative Association this year.

DR. R. B. NEVITT, Dean of the Woman's Medical College, Toronto, is visiting his birthplace in Georgia.

GRADUATES may hear of a good assistantship vacant by applying to THE DOMINION MEDICAL MONTHLY.

DR. A. T. STANTON, formerly of Pontypool and the Toronto General Hospital, is now physician on the C.P.R. steamer *Empress of India*.

TYPHOID fever has been quite prevalent at Kingston, Ont. Since February 14th there have been, up to the 1st of March, forty-seven cases.

DR. GILBERT GORDON, Professor of Hygiene in Trinity Medical College, Toronto, has gone to recuperate his health at Old Point Comfort, Virginia.

DR. C. ALFRED AMES, who has been visiting in Montreal, has returned to Bay of Islands, Newfoundland, having fully recovered from his recent illness.

CONGRATULATIONS are in order to Dr. J. Orlando Orr, Toronto, on his appointment to the position of general manager and secretary of the Industrial Exhibition.

MANAGER HAYS of the Grand Trunk Railway has written the London, Ont., Hospital Trust offering a gift of \$500 to the Nurses' Home, as an appreciation of the treatment of the victims of the Wanstead wreck.

ONE ward of the new hospital being erected in Truro, N.S., will perpetuate the memory of Dr. W. S. Muir.

DR. W. H. DRUMMOND, Montreal, was recently tendered a reception by the Canadian Society of Philadelphia.

DR. PAUL L. SCOTT has been appointed lecturer on botany at the Ontario College of Pharmacy in succession to the late Dr. A. Y. Scott.

DR. WILLIAM PETERSON, principal of McGill University, had recently conferred on him the degree of Doctor of Laws by the University of Pennsylvania.

THERE has been an outbreak of typhoid fever among the nurses of the Royal Victoria Hospital, Montreal. A similar outbreak manifested itself five years ago.

DR. JOHN McMASTER, 116 McCaul Street, Toronto, is announcing to the medical profession in Ontario that he is prepared to make skiagraphs, and treat patients by the X-ray. Dr. McMaster is certainly competent for this work.

DR. C. F. MARTIN, Associate Professor of Medicine in McGill University, Montreal, has been delegated to the International Medical Congress at Madrid by the Canadian Medical Association, and the American Pediatric Society.

THE New York Graduates' Society of McGill University held their annual meeting about the 1st of February, when Dr. Wolfred Nelson was elected president; Dr. J. A. Meek, first vice-president, and Dr. Hiram N. Vineberg, second vice-president.

THE Provincial Royal Jubilee Hospital at Victoria, B.C., will build a new maternity ward, and the Hospital Board has the permission of Lord Strathcona to so employ his donation of \$5,000. The number of patients treated in this institution during January was 137, seventy-eight having been admitted during the month.

THE INDIANS OF THE DOMINION.—The annual report of the Department of Indian Affairs, recently issued, shows that there were during the year amongst Treaty Indians, 2,500 births and 2,349 deaths, or a net gain of 151, as against 239 for the preceding year. The total Indian population of Canada is now 108,112.

THE report of Dr. Gordon Bell, Bacteriologist to the Manitoba Board of Health, shows that during 1902, that department examined 2,015 diphtheria swabs, 627 specimens of sputum, 91 specimens of blood, 62 of pus, and 53 of tumors.

THE new Medical Buildings of Toronto University are rapidly nearing completion. Recently a deputation from the Medical Faculty waited on the Premier to ask for an additional loan of \$50,000, to provide for the completion of the new building.

DR. GOLDWIN HOWLAND, Toronto, son of the late W. H. Howland, has received the degree of M.R.C.P., London, Eng. Dr. Howland is at present resident physician of the National Hospital for the Treatment of Nervous Diseases, and clinical assistant at the Hospital for Sick Children, Great Ormonde Street, London.

DR. CHARLES LANG, son of Dr. H. Lang, Granton, who a few months ago left to take up advanced work in the hospitals of Great Britain and the Continent, has been successful in passing the examinations to entitle him to receive the diploma of the Royal College of Physicians, London. This young medico is likely to have a successful and brilliant career.

THE Montreal League for the Suppression of Tuberculosis is seeking affiliation with the Central Association at Ottawa. Dr. Roddick and Dr. Richer have been authorized to make all necessary arrangements. Dr. Roddick has been appointed chairman of the Executive Committee, and Dr. Richer permanent hon. secretary. Hon. Senator Drummond is president of the League.

DR. LAPHORN SMITH, of Montreal, intends leaving New York on the 25th of March by the White Star liner *Cedric*, for a few weeks' visit to Europe, including a week's stay at Madrid for the International Congress, which opens there on the 23rd of April, and before which he has been invited to read a gynecological paper. Dr. Smith expects to return to Montreal by the middle of May.

COST OF MAINTENANCE IN TORONTO HOSPITALS.—The total cost of maintenance in the leading five hospitals of Toronto in 1902 was as follows: Toronto General, \$85,841.34; Western, \$15,504.71; St. Michael's, \$39,224.19; Grace, \$23,021.14; Sick Children's, \$35,000. The cost per patient per day was: General, 93 1-2 cents; Western, 62 1-2 cents; St. Michael's, 60 cents; Grace, 77 cents; Sick Children's, 88 cents.

THE Sherbrooke Protestant Hospital had a very successful year in 1902. The number of patients admitted was nearly one-third larger than in 1901. The total number of patients in the hospital during the year was 288. Of these 238 were discharged as cured, 12 improved, 7 unimproved, 14 died, and 17 remained in the institution at the end of the year. A new surgical ward will shortly be erected at a cost of \$5,000.

LONDON WANTS A HYGIENIC INSTITUTE.—Dr. Robert Ferguson and Dr. H. A. McCallum headed a deputation from London, a short time ago to wait on the Ontario Government to present a request that an institute of hygiene be established in London in connection with the Western University. The Government has not acceded to their request at present, but the petitioners will further prosecute the application in the near future.

THE Beaufort Lunatic Asylum contract will be one of the interesting matters before the Quebec Legislature during the present session. The Sisters of Charity, who now run the institution are asking an advance of \$20 per patient per annum, the amount of the contract now calling for \$100 per patient. At the Longue Pointe Asylum the nuns get \$114 per patient, but out of this they pay for medical attendance, whereas at Beaufort the Government provides for that.

MCGILL GRADUATES IN BRITISH COLUMBIA.—The annual meeting of the British Columbia Society of McGill Graduates was held on the 14th of February. Dr. D. H. Harrison, of Vancouver, the oldest graduate present—1864—was elected to the presidency, and in making acknowledgement said he felt as much pride in his *alma mater* as the youngest graduate present. It was decided to continue the \$50 and \$25 prizes to the best and second best matriculant at McGill each year from the Pacific Province. Dr. McGregor, the founder of the society, was re-elected secretary; Dr. Tunstall, treasurer, and Dr. G. H. Manchester, New Westminster, one of the vice-presidents.

QUARTERLY MEETING OF THE ONTARIO BOARD OF HEALTH.—In his quarterly report before the Ontario Board of Health recently, in Toronto, Dr. Bryce stated that the public health had remained fairly good as regards contagious diseases, with the exception of smallpox and scarlet fever, both of which had existed this winter in a more virulent form. Of smallpox the statistics showed that there had been 2,500 cases in the province in 1902, resulting in ten deaths. Of scarlet fever there had been

3,119 cases, with 266 deaths. The Provincial Board of Health has decided to perfect a stricter isolation system in scarlet fever, and to recommend to the Legislature changes in the Vaccination Act.

LAMBTON COUNTY MEDICAL ASSOCIATION.—The annual meeting of the Lambton County Medical Association was held in the Foresters' Hall, Watford, recently. There was a fair representation of the profession present, including Dr. Balfour, of London. The following officers were elected: President, Dr. J. P. Hubbard, Forest; vice-president, Dr. A. J. Fisher, Brigden; secretary-treasurer, Dr. Thomas Wickett, Watford; Committee on Ethics, Drs. Newell, Gibson and Wickett; Audit Committee, Drs. Gibson and Kelly. The next regular meeting will be held in Petrolea on Wednesday, May 13th. At the close of the business meeting the visiting physicians were entertained at dinner at the Roche House. A number of prominent citizens dined with the medical gentlemen.

MONTREAL'S DEATH RATE FOR 1902.—The total number of deaths occurring in Montreal in 1902 was 6,271, as compared with 5,915 of the preceding year. The decrease of nearly 700 is put down to the unusually cool summer of last year, and the improvement in the general health of the community. The following shows what were the principal causes of death during last year: Smallpox, 10; measles, 76; scarlet fever, 64; diphtheria, 57; croup, 19; whooping cough, 28; influenza, 26; typhoid, 86; diarrhea, 347; cholera infantum, 105; consumption, 664; pneumonia, 544. Canada enjoys the distinction of having two cities which can boast of having the lowest and highest death rates of 100 American cities, viz., Hamilton, Ont., which has the lowest death rate, and Three Rivers, Que., which has the highest.

MONTREAL GENERAL HOSPITAL.—The annual meeting of the Montreal General Hospital was held a short time ago, when the financial and medical reports were submitted. Dr. F. G. Finley, the secretary, read the former, which showed that the receipts for 1902 amounted to \$87,439, and the expenditure to \$99,967, leaving an excess of expenditure over receipts of \$12,528. Dr. Finley was re-elected secretary. The medical report showed that on the 1st of January, 1902, there were in residence 166 patients, that 2,894 were admitted during the year, and that 2,652 were discharged during the year; there died in the hospital

226; there remained in the hospital at the end of the year 184. Of those who died 88 died within three days of their admission. The mortality was 7.85 per cent, or, omitting the 88, it was 4.8 per cent. In the outdoor department there were 31,993 consultations. The cost of maintenance per patient per day was \$1.49. The endowment fund grew during the twelve months from \$37,500 to \$43,500.

Obituaries

DR. CAIRD RYERSON MACLEAN, MEAFORD, ONT.

Surgeon Lieutenant-Colonel Caird Ryerson Maclean died at Meaford, Ont., on the 16th of February, of apoplexy. Deceased was in his 66th year, and was in active practice up to a year ago. Dr. Maclean was graduated from Queen's University, Kingston, Ont., in 1859, and the previous year from the University of New York. On the outbreak of the American Civil War he joined the Union Army as surgeon, and when the war was over he returned to Meaford, where he had resided ever since. Dr. J. Douglas Maclean, Sault Ste. Marie, Ont., is an only son.

THE death was announced in January of Dr. Thomas McCort, of Thessalon, at the age of forty-seven years.

DR. SAMUEL COWAN, of Harriston, Ont., died on the 1st of February, at the Guelph General Hospital, aged 70 years.

Do not treat chronic constipation by cathartics, and only use laxatives when other means have failed. Massage the colon from cecum to left iliac region for five minutes before rising; use large draughts of pure water on retiring; eat articles known to be laxative; endeavor to get a regular hour of stool, and permit nothing to interrupt it; injections or suppositories are splendid temporary measures, but must not be persisted in long enough to form a habit; use more common sense and less medicine, and you will have more cures.—*Medical Council.*

The Physician's Library

The Diseases of Infancy and Childhood. For the use of Students and Practitioners of Medicine. By T. EMMET HOLT, M.D., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York; Attending Physician to Babies and Foundling Hospitals, New York, etc. With 225 illustrations, including nine colored plates. Second edition, revised and enlarged. New York: D. Appleton & Co. 1902.

The second edition of this work maintains its former position as a leading treatise on the subjects of which it treats. It embodies important additions and alterations, as was necessary in order to keep the work in touch with the rapid advances of medicine. Nearly every chapter has been subject to careful revision, and many of the chapters have been rewritten. The volume is an extensive one, supplying the every-day needs of physicians and students studying the diseases of children and practising among them. The great value of the book is due largely to the fact that Prof. Holt's very large clinical experience, both in hospital and private practice forms the basis of the subject matter. This character stands out prominently in the illustrations and descriptions of post-mortem observations. The chapters on Infant Feeding have been entirely rewritten, and much new material added. This is the department in which we think the author particularly excels. We know of no other work which surpasses this volume in the thoroughness and practical presentation of the subject of diseases of infancy and childhood.

Surgical Anatomy. A Treatise on Human Anatomy in Its Application to the Practice of Medicine and Surgery. By JOHN B. DEEVER, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. In three volumes. Illustrated by 499 plates, nearly all drawn for this work from Original Dissections. Vol. III., Abdomen, Pelvic Cavity, Lymphatics of the Abdomen and Pelvis, Thorax, Lower Extremity. Philadelphia: P. Blakiston's Son & Co. Toronto: Mr. A. P. Watts, Chandler & Massey, Limited.

The third volume, which completes this magnificent set, embraces eight hundred and sixteen pages, and easily

surpasses either of the other two. There is nothing disappointing in it, as sometimes occurs where succeeding volumes do not continue the high standard set by the first. The third in this case is the crowning effort, perfecting a work which stands second to none in its own particular department of medicine and surgery. As in the first and second, there are the same high-class, unsurpassable, artistic plates, embracing in all nearly five hundred full-page illustrations. These must be seen to be fully appreciated. The text is full and explicit, admirably penned, a pleasure to read. This work will long stand as a monument of faithful and persevering application, and as a standard production on the subject. The obligation the profession is under to the distinguished author, and also to the publishers who carried out their mechanical part so superbly, can never be repaid. No student, no teacher, no physician or surgeon who wishes to know and know well, who wishes to teach and teach well, and who wishes to practise and operate successfully and skilfully will be approaching near unto perfection if he have not Deaver as his friend, his adviser, and his guide. To produce, or to even share in the production of this masterpiece, one should be extremely proud.

Surgical Anatomy and Operative Surgery. For Students and Practitioners. By JOHN J. McGRATH, M.D., Professor of Surgical Anatomy and Operative Surgery at the New York Post-Graduate Medical School, Visiting Surgeon to the Harlem Hospital, and Assistant Visiting Surgeon to the Columbus Hospital, New York. Illustrated with 227 illustrations, including colors and half-tones. Pages xiv-559. Royal-octavo. Extra cloth, \$4.00 net; sheep or half-Russia, \$5.00 net, delivered. Philadelphia: F. A. Davis Company, 1914-16 Cherry Street.

This work seems to fulfil the author's ambition of producing a work combining surgical anatomy and operative surgery, as viewed from an essentially practical standpoint. A few general considerations of anesthesia, hemorrhage and surgery introduces the general subject which is taken up regionally. The author's experience as a teacher has favorably influenced the character of the work, and the style in which the different subjects are presented. Nothing in the nature of minute anatomy is attempted; the idea followed throughout being to introduce such anatomical facts only as influence the mode of procedure in the various operations.

Manton's Obstetrics. Lea's Series of Medical Epitomes. A Manual of Obstetrics for Students and Practitioners. By W. P. MANTON, M.D., Adjunct-Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine. In one 12mo volume of 265 pages, with 82 illustrations. Cloth, \$1.00. Philadelphia and New York: Lea Brothers & Co. 1903.

This, the fourth volume of Lea's Series of Medical Epitomes, presents a clear compendious covering of the essentials of modern obstetrics. It is written in admirably simple language, and its arrangement and scope give ample evidence of its author's experience in teaching this subject. For convenience in quizzing, a series of questions are given, but in order that they may not break up the continuity of the text these questions appear at the end of each chapter.

Diseases of the Skin. Lea's Series of Medical Epitomes. A Manual for Students and Practitioners. By ALFRED SCHALCK, M.D., Instructor of Dermatology, Genito-Urinary and Venereal Diseases, Rush Medical College, Chicago. Illustrated with thirty-four engravings. Philadelphia and New York: Lea Brothers & Co. Cloth, \$1.00.

This little volume sets forth the cardinal facts of dermatology, as they are understood by dermatologists of the present day. It should prove a useful work for students commencing the study of dermatology. The diseases are taken up in alphabetical order, and described in a continuous manner, which, we think, is superior to the quiz-compend arrangement, at least in a work on skin diseases. However, in order to render the volume suitable for quizzing, questions are given at the end of each chapter.

An Epitome of Physiology. Lea's Series of Medical Epitomes. For Students and Practitioners of Medicine. By THEODORE C. GUENTHER, M.D., of the Norwegian Hospital, Brooklyn, and AUGUSTUS E. GUENTHER, B.S., formerly Assistant in Physiology in the University of Michigan, Ann Arbor. In one 12mo. volume of 250 pages, with 57 engravings. Cloth, \$1.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

The object of the publishers and the editors is to issue a series of epitomes covering the entire realm of medicine. They believe

that brief works of high character, covering the subjects under consideration in all essentials are valuable not only to students, but also to practitioners, who might wish to refresh or supplement their knowledge to date. This volume on Physiology is a compact little treatise. The matter is presented in a clear and concise form, and the arrangement is such as is likely to facilitate reading and study.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By PROF. DR. CARL VON NORDEN, Frankfort-on-Maine. Translated under the direction of BOARDMAN REED, M.D., Philadelphia. Part I., Obesity; The Indications for Reduction Cures. New York: E. B. Treat & Co. 1903. Cloth, 50 cents.

For many years Prof. Von Norden and his pupils have been occupied in an extensive study of the disorders of metabolism and nutrition. The results of this work have been published from time to time in various periodicals, and several long monographs. The latest additions to the list are the little treatise before us on obesity and a somewhat longer one on Nephritis. The study of obesity is an important one, and covers a wide field of investigation. The physician must be in a position to decide when it is proper to institute a reduction cure. This little volume tells us when reduction is indicated, as well as the best methods of reducing the weight of the body. It should be read by every physician.

Clinical Treatise on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By PROF. DR. CARL VON NORDEN, Frankfort-on-Maine. Translated under the direction of BOARDMAN REED, M.D. Part II., Nephritis. New York: E. B. Treat & Co. 1903.

Prof. Von Norden's name is so favorably known as an authority on Diseases of the Kidney, that it should be unnecessary for us to say anything in commendation of this little work. He handles the subject of nephritis in a bold and original manner. In the therapy of nephritis his guiding principle is to secure rest for the kidneys. This he secures by stimulating the skin, careful selection of the diet, correcting every defect of digestion, etc. Dietetic treatment is the most important factor in his therapy, and the selection of the diet is based upon the chemical composi-

tion of foods, sufficient being given to just maintain the nutrition of the body. Excess of any constituent of food is carefully avoided. The work might be said to be both scientific and practical. The therapy is rational, and clinically the author has found it successful.

Regional Minor Surgery. Describing the Treatment of those Conditions daily encountered by the General Practitioner. By GEORGE VON SCHAICK, M.D., Attending Surgeon to the French Hospital, New York. New York: The International Journal of Surgery Co., 100 William Street. Price, \$1.50.

This seems a valuable little book, containing many "tips" useful in every-day practice and in every-day conditions—subjects frequently disregarded by the larger text-books, on account of their trivial nature, yet important on account of the frequency with which one is called to consider them, are taken up carefully, as for example, ingrowing toe-nail, sprains, etc. No attempt is made to consider any subject except as regards its treatment. The proof-reading might have been better.

Special Selections

NOTE ON THE RESULTS OF THE TREATMENT OF AN UNUSUAL SERIES OF CASES OF ACUTE INTUSSUSCEPTION.

BY HUGH M. RIGBY, M.S. (LOND.), F.R.C.S. (ENG.)

Assistant Surgeon to the London Hospital; Surgeon to the Poplar Hospital for Accidents.

During the nine days from December 26th, 1902, to January 3rd 1903, no less than seven cases of acute intussusception were admitted into the surgical wards of the London Hospital. As I was fortunate enough to be surgeon on duty during this period I had the opportunity of seeing and dealing with them all. It seems worth while to record the notes and results of treatment of these seven cases, six of which were submitted to operation. The result, viz., five recoveries out of the six operated upon, is distinctly encouraging, and should be a strong argument in favor of early resort to surgical interference in these too often fatal forms of intestinal obstruction. Statistics of cases of acute

intussusception with the results of their operative treatment have been dealt with by many writers. It seems to me that in no class of cases can statistics be of less value than in this; the operative mortality must vary enormously from time to time, depending as it does on such slight alterations of the pathological changes found within the abdomen. The very fact of the invaginated portion of the gut being irreducible immediately causes the mortality to rise from, perhaps at the best, 50 to 90, or even 100 per cent. The age of the patient also has a marked influence on the prognosis, while the duration of the illness before its serious nature is recognized is another all-important factor which has to be reckoned with. The notes of my cases show that of the six operated on only one was irreducible and gangrenous; the others were reducible, some with ease, and some with more or less difficulty. One case (Case 1) was evidently quite beyond surgical treatment, and died shortly after admission into the hospital. Of the five successful cases, four were quite young children, being five months, six months, six months, and eight months old respectively. In no case was inflation or injection of fluid by the rectum attempted; the futility of thus wasting valuable time has been amply demonstrated, whilst the cases relieved completely by these methods are few and problematical. Whilst surgical registrar of the London Hospital, I collected for Mr. Frederick Eve, the results of fifty-three cases, many of which had been either inflated or injected, and in every case laparotomy had to be subsequently performed. Injection or inflation is undesirable, for two reasons, first, because it might actually rupture the gut by the pressure exerted, and, secondly, because it is likely to reduce the intussusception up to the last inch or two and then cease to act. This last portion is always the most difficult to reduce manually; again, this last inch or two gives rise to a comparatively small mass which may easily be overlooked on abdominal palpation. The condition is supposed to be completely relieved, only to return again when the pressure of fluid or air is relaxed.

In text-books on intestinal obstruction mention is made of the physical condition of the children as a factor in the production of intussusception. Some authors consider that it is more often found in the ill-fed and delicate. My experience at the London Hospital has been exactly the reverse; in nearly every case which I have observed there during the last seven years one has been struck by the good physique and general lustiness of the patient. One might suggest, therefore, that too vigorous peristalsis is responsible for the condition rather than an atonic

state of the gut wall; probably in many cases careless feeding with indigestible food has been the exciting factor. That so many cases should occur in the week following Christmas Day may also point in the same direction. With regard to the actual operative technique practised in those five cases which recovered, in three cases a median incision was made below the umbilicus, while in the other two the abdomen was opened in the lower part of the right semilunar line. In those cases in which the sausage-like tumor could be made out in the descending colon, left iliac region, or per rectum a medium incision was made. In each case an attempt was made to reduce the gut by simply introducing two fingers of one hand within the abdomen and manipulating the gut with the other hand on the abdominal wall. Complete reduction by this method was found impossible; in every case the cecum colon and ileo-cecal junction had to be brought up to the wound and manipulated outside the abdominal cavity. The difficulty of complete reduction by the first method was, I found, due to the mobility of the cecum, a distinct mesocecum being present in nearly every case. Great care was taken to prevent prolapse of gut through the abdominal wound, and the colon which was exposed was protected carefully by hot sponges wrung out of boiled water.

I feel sure that the key-note of success in operating on these cases is "rapidity." The time occupied from the actual incision of the abdominal wall to the tying of the last suture was noted. It did not exceed fifteen minutes in each case—one took ten and another twelve minutes. The usual precautions were taken to prevent shock, the limbs and chest were incased in cotton-wool, and the operations were performed on a hot-water pillow.

With regard to the after-treatment, the feeding of these children was commenced almost as soon as they had recovered from the anesthetic effects; this in the absence of vomiting is an essential point. In many cases children have been constantly sick for two or perhaps three days before admission to the hospital. They are much exhausted, and to withhold nourishment, as is sometimes practised for a further six or eight hours after operation, may just prove sufficient to turn the balance in the wrong direction. Opium was given to each child if any restlessness was present. Two-minim doses of nepenthe acted well; in one case a small hypodermic injection of morphia was necessary owing to persistent vomiting after anesthesia. In two cases—viz., Cases 2 and 5—a rise of temperature (104 deg. and 106 deg. F. respectively) followed within a few hours of

operation; this was doubtless due to sudden toxic absorption from the lymphatic area of the inflamed and damaged gut. Saline fluid injected per rectum in the latter case appeared to have a very beneficial effect. Case 7, in which resection was performed with a fatal result, was a particularly interesting and unusual one. The site of the intussusception commenced only five feet from the duodenum; it was an enteric form, *i.e.*, small gut within small gut, and curiously enough the lower part was invaginated into the upper, *i.e.*, a retrograde or ascending intussusception. This was verified at the post-mortem examination. In addition to the actual intussusception of the gut the mesentery had been twisted on its axis, so giving rise to gangrene of about two and one-half feet of intestine. The following are brief notes of the cases:

CASE 1.—The patient was a male, aged five months, who was admitted into the London Hospital on December 26th, 1902, with the following history: The illness began three days previously, with severe pain in the abdomen; blood was then noticed in the motions; the child had vomited constantly up to the day of admission. His condition on admission was as follows: He was a well-nourished child, evidently much collapsed; his eyes were sunken, and he had the abdominal facies. The pulse was feeble and not countable. The abdomen was generally much distended; no definite tumor was made out on palpation. No tumor was felt per rectum, but some blood and slime were present on the examining finger. The child's condition was considered to be too bad for operative treatment, and he died four hours after admission. At the post-mortem examination an ileo-cecal intussusception was found, which had entered the ascending and traverse meso-colon. The whole of the small gut was much distended. The intussusception was reducible with difficulty.

CASE 2.—A female, aged five months, was admitted into the London Hospital on December 26th, 1902, with the history that the child was in good health until 5 p.m. on the previous day, *viz.*, the 25th; she then suddenly woke up, crying out. The mother gave her a teaspoonful of syrup of rhubarb. Blood was noticed in the next motion, and a good deal of blood passed during the night in four or five motions. The child began to vomit in the night; this had continued up to the time of admission. The child had always been breast-fed. On admission she was found to be a healthy and well-nourished child, not markedly collapsed, but the extremities were cold and there was general restlessness. On abdominal examination a well-defined

sausage-shaped tumor could be felt lying transversely across the abdomen and extending to the left iliac region. The apex of an intussusception could also be felt easily per rectum. The rest of the abdomen was flaccid and not distended. Operation was performed half an hour after admission. A median incision was made below the umbilicus, and two fingers were inserted; an attempt made to reduce thus proving unsuccessful, the tumor was brought up to the wound and reduced fairly easily, the last portion to be reduced being the caput ceci. The abdominal wound was sutured with silkworm gut. The time occupied in operation was 15 minutes. With regard to her progress restlessness was marked after operation. Two minims of nupenthe were given with very good results. The bowels acted three hours after operation; the first motion contained blood. The temperature rose to 104 deg. F. on the evening of the operation day; this subsided to normal two days later. The after progress was uneventful. The sutures were removed on the tenth day after strapping was applied.

CASE 3.—A male, aged six months, was admitted into the London Hospital on December 29th, 1902, with a history that two days previously, at 6 p.m., he began to scream, and shortly after blood and slime were passed per rectum; the bowels had not acted since. Vomiting had been incessant. The child had always been breast-fed. On admission he was found to be a well-developed child. Some amount of shock was present, and whilst being examined vomiting occurred with apparently no effort. On examination general rigidity of the abdominal wall was found. No tumor was made out on palpation, and nothing definite could be felt per rectum. The examining finger was, however, coated with bloody mucus. Operation was performed. Under anesthesia a tumor was easily felt in the right iliac and hypochondriac regions, placed vertically. An oblique incision about two and a half inches in length was made in the right semi-lunar line. The intussusception was brought up to the wound and reduced. This was effected with some difficulty, the peritoneum of the crsheatheing layer being torn for about one inch transversely. This was not sutured. The last two inches of the ileum were invaginated through the ileo-cecal valve, and so formed the apex of the intussusception. This had drawn the ileo-cecal valve with it, constituting the form described by Lichtenstern as ileo-colic-iliaca. The abdominal wound was closed with silkworm gut. The time occupied was altogether ten minutes. Progress was uneventful. No stimulant or opium was required. There was a slight rise of temperature, viz.,

100 deg. F. on the day after operation. Feeding was commenced as soon as the effects of the anesthetic had passed off. The sutures were removed on the tenth day.

CASE 4.—A male, aged six months, was admitted into the London Hospital on December 29th, 1902, with the history that the child was quite well until 7.30 p.m. on the 28th. He then began to scream with pain; some brandy was given, and a good deal of blood was passed in the motions during the night, and vomiting was frequent. The child had always been breast-fed. During the last week he had had diarrhea. On admission he was found to be a well-nourished child. He lay in an apathetic condition, and the pulse was small and quick. On examination, the abdomen was generally flaccid, and a well-marked sausage-shaped mass could be easily felt in the left hypochondriac and iliac regions. Per rectum the apex of an intussusception could be easily felt within one and a half inches of the anus. Operation was performed. A median incision was made below the umbilicus. The intussusception could not be reduced without exposing it through the wound. There was some difficulty in reduction, especially the last two or three inches; the apex was formed by the caput ceci; the cecum and appendix, were much injected, edematous, and covered with thick lymph; this was gently sponged away. The wound was sutured with silkworm gut. The time occupied was altogether 15 minutes. After operation there was much collapse, the child was restless and his extremities were cold; 1-120th of a grain of strychnine was given hypodermically and two minims of nepenthe. The bowels acted nine hours after operation, some blood being passed. On the day following operation the general condition had much improved. The sutures were partly removed on the ninth day; no strapping was applied. A few hours later the child was sick, and on examining the abdomen the house surgeon, Mr. F. G. Bowen, found that the wound had partly given way, and that some small gut had prolapsed; he immediately under anesthesia replaced the protruded portion and resutured the abdominal wound. The further progress of the case has been uneventful.

CASE 5.—A female, aged eight months, was admitted into the London Hospital on January 2nd, 1903, with the history that she had been vomiting on and off for the last seven days. Two days before admission blood was passed in the motions, and a good deal since that time; slime had also been passed. She had always been breast-fed. On admission, at 11 a.m., the patient was found to be a small, under-sized child, but well nourished,

She was evidently suffering from collapse; the lips were pale and the eyes were sunken. The pulse was thready. On examination the abdomen was generally flaccid, and a definite tumor could be felt in the left iliac region; no tumor could be made out per rectum. Operation was performed at 1 p.m. A median incision was made below the umbilicus; the tumor was drawn up to the wound; the intussusception had extended into the rectum. The apex proved to be the ileo-cecal valve. There was much swelling and edema of the lower end of the ileum, cecum, and appendix. During the necessary manipulations the child stopped breathing and artificial respiration was carried on for a few minutes. The abdominal wound was closed with silkworm gut. The time occupied in operation was 15 minutes. The child was much collapsed immediately after the operation; ether was injected and half a pint of saline fluid was also introduced into the subcutaneous tissue. At 7 p.m. on the same day the child had vomited several times after the anesthetic; she was very restless, the temperature had risen to 106 deg., and the pulse was uncountable at the wrist. A rectal injection of saline solution (eight ounces) was given, and a hypodermic injection of morphia (one-twenty-fourth of a grain). These had a very marked effect; the child slept and next day was much improved. On January 8th the child had an attack of abdominal pain; she vomited several times, and her temperature rose to 101 deg. F. Nothing was found on abdominal examination, and further progress was uneventful. The sutures were removed on the tenth day.

CASE 6.—A male, aged five years, was admitted into the London Hospital, on January 3rd, 1903, with the history that the illness began on the 1st with abdominal pain. There was no vomiting, and nothing was noticed abnormal in the motions. On the 2nd the boy had several attacks of colicky pain, but he did not vomit. He had been subject to attacks of colic and diarrhea from time to time, and he had attended the North-Eastern Hospital for Children for tabes mesenterica. There was a family history of consumption. On the day before admission the bowels acted normally. On admission, he was found to be a well-nourished boy; he appeared to be comfortable and free from pain. The pulse was full and regular, 80 per minute. On examination, the abdomen was not distended, it moved freely on respiration, and there was no tenderness on palpation. An ill-defined tumor could be felt placed transversely above the umbilicus; it felt nodular and somewhat movable. Nothing abnormal was felt per rectum. A glycerine enema was

given, with the result that formed motions were passed quite free from blood or slime. As the diagnosis was doubtful, no immediate operation was thought necessary. Next day, the 4th, at 12 noon, the child had vomited after milk four times during the night; the bowels had not acted. The temperature was 100 deg. F. The general condition was unchanged, except that the abdominal tumor had quite disappeared. At 6 p.m. the child was again examined. No further vomiting had occurred, but there had been several slight attacks of colicky pain lasting only a few seconds at a time. On abdominal examination, a well-defined tumor could again be felt; it was situated transversely above the umbilicus, was slightly tender on palpation, and whilst being manipulated was found to enter into peristaltic action. A diagnosis of recurring intussusception was made and operation was immediately decided upon. This was performed at 7 p.m. An incision three inches long was made in the right semi-lunar line; an intussusception was found formed by the last two inches of the ileum; this had passed through the ileo-cecal valve and was there fixed. It was easily reduced; the wall of the gut was much thickened and congested. The abdominal wound was sutured with silkworm gut. The time occupied in all was 12 minutes. The after progress of this case was without incident. The sutures were removed on the tenth day.

CASE 7.—A male, aged nine years, was admitted into the London Hospital on January 3rd, 1903, with the history that the illness commenced with an acute attack of abdominal pain on December 31st, 1902, *i.e.*, three days before admission. There were continual retching and vomiting, the bowels were confined, and no blood or slime had been passed per rectum. There had been no previous history of abdominal trouble. On admission, he was found to be a well-nourished boy, evidently suffering from severe shock; the extremities were cold, the lips were blue, and the face was blanched. The pulse was 160 per minute, thready and collapsible. On examination, the abdominal wall was not rigid, but the whole abdomen was distended. No definite tumor could be made out on palpation, and a rectal examination was negative; no blood was seen on the examining finger. Stimulants were given and hot bottles were applied, and as the general condition improved shortly after admission to hospital, an operation was decided upon. The abdomen was opened in the mid-line, and a large coil of deeply-injected gut was drawn into the wound; it proved to be small gut forming the insheathing layer of an intussusception, the mesentery of which was twisted on its axis. The intussusception was partly

withdrawn; there were no adhesions, the invaginated gut was found to be gangrenous, and an immediate resection was decided upon. This was done as quickly as possible; about three feet in all were excised, including the intussusceptum and part of the intussusciptens. The cut ends of the gut were united by a Murphy's button. The abdominal wound was closed with silk-worm gut. There was profound shock after the operation. Saline fluid was injected, and strychnine, caffeine, and brandy were given, but without any appreciable result, and death occurred six hours later. At the post-mortem examination, it was found, as above mentioned, that the intussusception had been a retrograde one. The contracted part of the gut continuous with the intussusceptum was found in a condition of commencing gangrene where the button had been inserted. There was early general peritonitis present.

To summarize briefly, the chief conclusions to be drawn from my short series are: (1) That in these cases immediate laparotomy should be insisted upon without delay; (2) that no valuable time should be lost in attempting inflation of air or injection of fluids per rectum; (3) that the keynote of operative success is rapidity; (4) that in favorable conditions, as in hospitals, and with skilled assistants, the mortality of reducible intussusceptions should be diminished to a very small percentage; and (5) that the chief points in the after treatment are (a) early feeding, and (b) the use of opium when necessary. In conclusion, I have to thank Dr. E. F. Fisher and Mr. F. G. Bowen, house surgeons, for their valuable aid in the care and after treatment of these cases.—*The Lancet*.

DANGERS FROM THE INDISCRIMINATE USE OF MORPHIA.

BY T. D. CROTHERS, M.D., HARTFORD, CONN.

Morphinism and other narcomanias are rapidly increasing in this country.

Some of the more apparent causes are nerve and brain exhaustions, so common in all circles of life. Next are the toxic conditions, following failure of nutrition, with auto-intoxications from lowered vitality and general debility. From these and other sources, the brain centres lose their vigor and power of endurance, and become highly sensitive to pain.

The absence of proper rest to the brain centres is followed by irritation and instability, which are transmitted to the next generation, and is apparent in the neurotic and hypersensitive states.

The increasing number of neurotics and psychopaths in every community is an unmistakable sign of brain and nerve failure. In such persons, morphinism, alcoholism, and narcomania generally are symptoms of low vitality, starvation, and poison states.

It is these conditions that prepare the way and make ready the soil for the growth of nervous diseases, of which morphinism and other narcomanias are common instances. There are reasons for believing that physicians are responsible for many of these conditions, which a larger and more accurate knowledge would have prevented. One class of physicians who are more or less responsible, are the thoughtless, unreasoning doctors, who believe that the highest achievement of art is to relieve pain and suffering, irrespective of all consequences.

These physicians have never been taught that morphia, therapeutically, was dangerous, except in the size of the dose and in certain conditions. The professors of therapeutics describe at great length the value of morphine in medicine, but say little of the possible dangers from its use.

In nearly all medical colleges, little or no instruction and seldom any warning is given the recent graduates concerning the danger of addiction to morphia. The moral theory of vice and wilful giving way to the impulse for relief from morphia is prominent in both medical and lay circles, and the victim who has become a habitue is regarded as one who might have done otherwise by the exercise of his will.

A prominent physician recently wrote that the mania for morphine by the needle was more a moral lapse than a physical one.

Another writer of eminence in this country talks at great length of the moral treatment of morphinism, conveying the same idea. Physicians believing these theories would naturally use morphia by the needle with great indifference.

It is urged by some writers that in all conditions of pain, it is justifiable to use morphine by the needle. Some physicians, when called to an obscure case, give morphia at once, before making a diagnosis, believing that after certain narcotism of the pain centres the symptoms of the disease can be more easily determined, or they reason that the effect from cessation of pain by the needle will create confidence in the mind of the patient that will be followed by more successful after-treatment. Other physi-

cians use morphine in the most routine way, giving it in nearly all cases, either alone or combined with other drugs, varying from the amount of pain present.

In neurotic and rheumatic cases where the use of morphia brings rapid relief, it not infrequently happens that the physician instructs the patient in the use of the needle, and trusts his judgment when and how to use it.

Instances are not uncommon in which the physician has given morphia daily for weeks. When it dawns on the mind of the patient that he is contracting an addiction the physician is discharged, but the drug is continued in some form or another.

Where the physician has concealed the drug from the patient a change of physicians is almost sure to reveal the fact, and show the inability of the patient to get along without narcotics.

Many very excellent physicians have thoughtlessly given morphia until its poison effects were marked, and the patient was unable to bear its withdrawal. In that case, the patient usually drifts away from the doctor, falls into the hands of quacks, and soon becomes an incurable.

A second class of medical men, who are very active in promoting morphinism and other narcomanias, are spirit and drug takers themselves. They are physicians who believe in the food, tonic, and stimulant qualities of alcohol, and use it in so-called moderation, socially and at meals, or upon any occasion of strain or overwork as a stimulant. Morphia is used in the same way. In suffering from insomnia or overwork, morphine by the needle is used for relief. These physicians believe implicitly in the stimulant value of morphia, and do not hesitate to use it on all occasions. The morphia-taking physician will combine this drug in nearly all his prescriptions whenever pain suggests its use.

To him there is no possibility of an addiction, and should it follow, it is ascribed to other than the real cause.

In one instance, a physician of this kind was known to have made or assisted in promoting morphinism in at least six different persons.

A third class who are active in promoting narcomanias are druggists and manufacturers of proprietary medicines. The former soon discover the magic effect of prescribing doses of morphia for pain; the latter teach the person how to use the needle, and the druggist profits by the sale of the drug.

Many druggists change inebriates to morphomaniacs by counter-prescribing some of the forms of opium or morphia.

Physicians may start these cases, then the druggist helps on the addiction and continues to sell the drug as long as the habitue can pay for it.

The patent medicine proprietors use large quantities of opium, morphine, and cocaine in the pain-killers and nerve remedies. In one of these widely-advertised drugs, an eighth of a grain of morphia was found in every teaspoonful. Many of the brain and nerve remedies contain cocaine in addition to some form of opium. The popularity of such compounds often depend largely on the narcotics they contain. After their use a few months, the druggist substitutes for them a similar compound containing morphine. The patient is then a narcomaniac.

Not infrequently the history of the case begins with proprietary medicine first. The effects of morphia is then realized, although the drug is unknown. The physician is then called in, and he discovers morphinism in the abstinent symptoms when the proprietary drug is stopped.

After an ineffectual struggle, he continues the morphia concealed in some other drug and from this down the course is rapid. The patient drifts from one physician to another, each one discovering the addiction, and, unable to check it, allows the case to drift into other hands.

Sometimes the case begins with the druggist, who prepares a mixture of morphine concealed in some flavoring substances, which is used for a time; then the patient drifts away to a physician, and finally becomes a morphine taker.

There are in every community neurotics and psychopaths who are continually seeking relief from the states of exhaustion and depression.

Indigestion, excitement, overwork, and underwork are followed by general emotional disturbances for which drugs are taken. Such persons are hunters for panaceas and specifics. When morphine is given, the narcotism is so perfect as to be a revelation of a new world of comfort and peace, and this is repeated with eagerness and reckless disregard of consequences. Should the drug produce nausea, and, after a short period of quietness and rest, be followed by still greater depression, it is not usually used again. It is one of the unmistakable signs of danger when the morphine brings complete abolition of pain, with quiet, restful slumber and no after depression.

Such cases are sure to become morphomaniacs with very little temptation.

In one instance a physician found two members of a neurotic

family peculiarly susceptible to the narcotic action of morphia, given by the needle. Fearing that this would lead to a serious addiction later, he gave large doses of apomorphia, which produced intense nausea and disgust, breaking up the mental fascination for morphia.

Neuropathics seeking relief from both physical and psychical pain should never be given morphia by the needle except for some special purpose, and then only when concealed. In these cases there is often a needle mania or an intense desire to get instantaneous effects from the drug, and to feel the prick of the skin, and see the raised surface into which the fluid is forced.

This needle mania is serious and persistent, requiring great skill on the part of the physician to break up.

Hypersensitive men and women insist on having drugs given this way, and when nothing but hot water is used are satisfied. The danger of addiction to morphia by using it indiscriminately and on all occasions, while always a serious one, is by no means the most important. The physiologic action of morphia on the nerve centres is first a slight stimulant or irritant and then a narcotic.

This narcosis falls most heavily on the sensory brain centres, and, while checking pain symptoms and depressing functional activities, reacts on nutrient centres and the metabolic processes.

Narcotism of these higher centres disturbs elimination, and when continued increases the growth of toxins, which still further depresses and deranges the equilibrium of the nerve centres.

The physiological effect of morphia, first causing irritation, increasing the heart's action, then depressing nerve activity and consciousness to a degree of coma and sleep, after which reaction in nausea and depression follow, are certainly very serious interferences with the normal physiological processes of the body.

Recently several eminent surgeons have sharply condemned the custom of giving morphia after operations, asserting that the narcotism following still further depresses the nerve centres, deepening the shock from the operation and depressing the vitality. Some English surgeons have recently protested very emphatically against the common use of morphia, giving as a reason the diminished secretions and changed metabolism which always follow.

Dr. Price, of Philadelphia, believes that opium in any form increases the mortality from abdominal operations, and sustains his argument with strong clinical proof.

Other authorities condemn the use of morphia by the needle, reasoning that the sudden introduction into the blood of a toxic agent, lowering the nervous activity and concentrating its power on the sensory centres is a far more dangerous and serious interference with the vital processes than if used by the stomach. There seems to be good reasons for believing that chemical interference from suddenly changing the hyperesthetic sensory centres is followed by other and more serious states. The mere cessation of pain may be an interfering with and a prolonging of the cause of which pain is a symptom.

Morphia used to quiet pain is simply treating symptoms while the cause remains.

Dr. Barrett has shown conclusively that water may be used in the place of morphia as a narcotic in nearly every instance where pain is to be overcome.

Dr. Cowles concludes that the continued use of morphia favors the growth of intestinal toxins, absorption of which still further poisons and deranges the vital processes. Opium, as a fluid or solid, has far more pronounced narcotic action; and, when given by the stomach, is followed by more prolonged after-effects. The alkaloids, morphia, heroin, and other new combinations, are more intense and brief in their action, and all of them seem to fall more heavily on the higher brain. Another source of danger is apparent in many of the common cases which come under daily observation,—as for example:

A person taken down with all the symptoms of la grippe is given morphia in small doses for days and sometimes weeks. He recovers, but complains of symptoms which have all the appearance of derangements from morphia poisoning, such as nutrient disturbances of the stomach and bowels with periods of depression, irritability, and emotional sensitiveness. The appetite is variable, and the brain is easily exhausted by the slightest over-exertion. While all these symptoms are usually attributed to the influenza, they resemble closely the withdrawal symptoms of morphinism and sustain the belief that they are in a large measure due to the poison action of morphia.

More familiar examples are the neurotic persons who are suddenly affected with chills and coryza, called colds, accompanied with mental fears of pneumonia, pleurisy, and other diseases, and morbid dreads concerning the symptoms and their meaning. Morphia used in these cases with syrups is a common remedy, and is sometimes used for weeks. When discontinued, the same symptoms of nutrient disturbances, with mental and motor irritability seen in the withdrawal of the morphia, follow.

In an example of this kind, the patient continued to be a nervous invalid for a year or more, and then found a specific in a quack medicine containing morphia. Later this patient became a morphomaniac.

The order of sequences was clear from the time of the first morphia prescription for the cold up to the development of morphinism. The patient was not aware of the nature of the drug, but only conscious of its good effects.

Other equally common examples are those of rheumatism, nutrient and neurotic disturbances or states of toxemias in which morphia is given, alone or with other drugs. While the pain symptoms are checked, new sources of poison and new derangements follow, evidently due to the action of morphia.

Malarious affections for which morphia may be given are frequently followed by equally significant and almost pathognomonic symptoms. After a period of continuous use of this drug, either concealed or known to the patient, its withdrawal is followed by neuralgias, depressions, and obscure psychopathic symptoms, for which the physician prescribes wines and tonics containing alcohols, inebriety and alcoholism are almost sure to follow.

Cough mixtures containing morphia have been condemned by many authorities. There is not only the danger of the addiction, but marked nerve and nutrient disturbances which lead to very serious diseases later.

Continual narcotism of the pain centres leaves a degree of susceptibility and feebleness of control that may continue a long time.

States of neurasthenia, marked by obscure pains, both physical and psychical, with morbid fears of disease and irritability, credulity, and skepticism, when treated with morphia are supposed to be cured.

The temporary subsidence of the irritation and pain is followed by an increased debility and exhaustion. Cases so treated often become alcoholics and morphinists, and later the effects of this continued narcotism and covering up of the pain symptoms may culminate in pneumo-paresis, with death in a few hours, or tuberculosis ending fatally in a few days.

The sudden pneumonias and tuberculosis so often noticed are frequently traceable to narcotism from either alcohol or opium. The routine treatment of our fathers, using calomel and venesection for all forms of disease, was infinitely superior and scientific when compared with the present use of morphia by the needle for all aches and pains.

The first fact I wish to make prominent is that, while morphia is a most valuable remedy, and cannot be dispensed with in medicine to-day, it is an exceedingly dangerous one, and should be used with great caution, and never continued long, except for special reason and under special conditions. In case of carcinoma or fulminating diseases that are curable to a large extent, it is invaluable. Even here the derangement that follows its use is apparent, but this is insignificant compared with the comfort it brings.

There are other diseases often successfully controlled and managed largely by the use of morphia, but the wise physician anticipates and provides for the dangers and lessens them.

The second fact I wish to emphasize is that morphia given to neurotics and psychopaths is almost certain to increase the brain and nerve degeneration, and even if it does not produce an addiction, it will increase the instability of control and the hypersensitiveness of the nerve centres.

The possibilities of narcomania, including spirit addiction, is greatly increased, no matter for what purpose morphia is given. The third fact is that morphia, while relieving the pain incident to the common disorders of the functional activities of the body, actually increases the disturbances of metabolism and favors the growth of toxins.

The pain symptoms which it checks obscure the disease and make the treatment more difficult. By paralyzing the sensory centres, diverting nerve energies and breaking up their nutrition, this checking is therefore always dangerous.

Our knowledge of the good effects of the drug on the brain centres is obscure, but the injury which follows from its use can be clearly mapped out in any clinical study.

Another fact, although well known to all physicians, cannot be too strongly emphasized, namely, that proprietary drugs given for the purpose of controlling pain, always contain dangerous and uncertain narcotics, and their use should be condemned. Reckless prescriptions over the counters of drug stores for sudden symptoms of pain are equally hazardous. Physicians should be more cautious in the use of narcotic drugs, particularly opium and its alkaloids, and should remember that many obscure diseases can be traced to the reckless medication, and are the direct results of poisons from morphia.—*Quarterly Journal of Inebriety.*

IN obstinate anal eczema, a 5 per cent. ointment of chrysa-robin will frequently bring prompt and permanent results.—*Medical Council.*

IDEALS IN MEDICINE.*

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The career of every man is made in part by his opportunities, his powers, his equipment for the particular work and by the accidents of life. It is made quite as much by the plan and conception of his work and of himself, with which he starts out—and these are his ideals; and the ideals of no two men are ever exactly alike.

That a man's ideals are his making or his destruction is a very old truth, but it refers mostly to the cardinal virtues. The standards of *honesty, truthfulness, uprightness and personal cleanness* are the teaching of the best of all time. They are the indispensable ideals. To enlarge on them now would be to preach a sermon, and that is not a part of this programme.

I would rather present some of those usually forgotten or unthought of ideals, those hidden standards that guide and govern the life in unexpected and surprising ways. These are numerous and varied, and nearly always possess a man without his knowing it; often without his friends knowing it. But they are automatic and never stop, and they control a man like a fetish. They are the hidden leaks that lose the wine, or some undiscovered supply that increases it. A man may forget for an hour his good resolutions or his religion, but these stealthy, idealistic guides will stick to him like his habit of breathing—they work with the certainty of subconscious mind. These ideals create habits that control us inevitably, and we are often ignorant both of the ideals and the habits they have created.

What are ideals for? To make an upright life? Yes, but also to make a successful one; to increase our power to do for ourselves and for others.

The greatest success on the average comes to those with symmetrical powers and character; not to those who are warped and one-sided. That ideal is of most worth which makes a man stronger in his weakest power; that is most worthless that increases his unbalance and accentuates his warping. Wherefore there are fit and unfit ideals.

* An address delivered at the Commencement Exercises of Rush Medical College, in affiliation with the University of Chicago, Oct. 2nd, 1902, the introductory remarks being omitted.

But the surprising paradox is that, apart from the greater virtues, the ideals a man usually selects or becomes in some way committed to—what we may call his secular ideals—are unfit; that is, they are such as increase rather than lessen his asymmetry.

The reason for this is not strange: our ideals of this sort come to us along the lines of least resistance. The reverse ought to be the case; we need ideals that will help us over our defects, not to increase them.

We do the same thing many times in our educational methods. A boy selects as the branch to study that which he learns easiest and knows most about, and neglects the tasks that for him happen to be harder. This tends to make the great talent greater, and to let the lesser talent atrophy. When carried to an extreme degree this state of things constitutes genius; carried a little further it is degeneracy, and the world is not sufficiently in need of geniuses to make degeneracy, or even the borderland of it, profitable.

The sometime gospel of pedagogy has said that the child, from the beginning, may select his course of study, learn what he likes and omit what he pleases. Of course he likes those things in which he is apt and strong, and hates those hard ones in which he is weak—and so he grows more uneven. Happily, all educators do not agree to this tenet; some believe that a child's course of study should tend to make a symmetrical man, not favor asymmetry. This is logically the part of wisdom.

Thus of a man's ideals. They ought to contribute to his power and increase his happiness. But unfit ideals, both positive and negative, are the source of a great amount of grief, failure, and chagrin. That man who knows (from his examination papers or otherwise) that his use of English is crude and blundering, should have the perfection of the language for one of his ideals, and try to acquire a critical sense of it. But this is the very thing he is least likely to do, both because his consciousness of his fault is dull and because the ideal is hard. The lack of such an ideal has kept many a man below his deserts, and sometimes even blasted a career. I know of several notable examples of this sort. One was a man of great superiority in the science of medicine, who failed of appointment to an important professorship he had coveted for years, and for no other reason than the lack of such an ideal.

If a man could know that in his demeanor he is liable to be rude, brusque, and impolite (as his neighbors know it), he might erect an ideal of gentleness and courtesy with great profit

to his spirit, and, if he practises a profession, profit to his purse also. Probably he has already fully or over-developed powers in other directions, most likely in force and effectiveness. Can he discover the need of a new ideal and create it? Perhaps he can, but nothing short of a new birth in introspective psychology will enable him to do it.

On the other hand, the man who is naturally courteous and thoughtful of the feelings of others in little things and especially in the entertainment of others, is in danger of overdoing a good ideal. For it can be carried so far, and often is, as to entail a burden in the manifold duties which it imposes. It is a greater burden in the fear, dread, and terror it often produces in its possessor lest it may be violated. And when it is in excess it has no compensating advantages, except some very dubious ones. The standard requires the person to be polite and to entertain others in conversation—so a sick man wears himself out entertaining thus a lot of people to whom he is under no obligation. A distinguished friend, when on his death-bed and too weak to talk to anybody, actually felt called on to apologize for not talking. The ideal sometimes grows to be a sort of craze—not only to talk, but to believe it a duty to talk whenever within earshot of others. Then follows a species of deception and finesse, for we get tired of people, even our friends, and tired of talking to them; so we shun them, keep out of their way, avoid them, give a lot of fictitious excuses for not coming and for being out. For we know perfectly well that once in their presence nothing but syncope or death can stop the wagging of our tongues. That we have enough of plain courage to stop it, is unthinkable!

Ideals as to personal appearance, dress and adornment lead to many bypaths that take us into unexpected regions. Sometimes the effect is grotesque in its influence on character and success in life. The sum total of it is usually unfortunate, if not bad, the one advantage being the happiness which the individual himself seems to get out of his indulgence. It is a cheap sort of happiness, always yoked with a degree of vanity, but some people can be made happy by such things. Once there was a judge in the East who, for a quarter of a century, appeared daily with his hair wrought into large curls. It was inevitable that it should influence his character and his relations with others. Not that the curls amounted to anything *per se*, except as they singled him out from among the rest of the community, but solely through the introspecting influence, the egoism which is engendered in the man.

If it were the custom for men to wear rings in their noses it would mean little except a thralldom to a mere fashion, a thing we are constantly victims of. Fashion allies us to a race, a guild, or a set of people. For one man in a hundred thousand to wear a ring in his nose takes him conspicuously *out* of the fashion and into the realm of vain conspicuousness.

The curls of the judge even failed as a mark of defiance of that fashion whose purpose is show. Such a defiance would have required a fine sort of courage and independence. If that kind of fortitude had been required in order to wear the curls he never would have had them. It needed only a species of vanity, a desire to do something others did not or could not do, something that would distinguish this man from all his fellows; or an abounding desire to please his personal fancy. It was different, too, from a wholesome desire to distinguish the self from others. That could have been sought through work, art, achievement, skill or daring, what countless thousands of men and women are doing every day. This took no courage worthy of the name, no work, save a few minutes each morning with his curling facilities, no attainment, or study, or skill. He paraded his curls like the color of his skin, or the shape of his features, or the gait of his walk, and without a particle of credit of any kind.

Now the curls were a trifle, like an inch-long finger-nail, or a beard the length of the body. These are all little things in themselves, and amount to nothing in the world's greater arithmetic. But they are vital if they signify a mental quality, an emotion, which colors the life and segregates in some way an individual from his fellows, and they always mean a weaker rather than a stronger purpose. They are more lamentable still if they beget, as they tend to, an emotion that lessens the power of the individual in the world. Such a waste of personal force and influence is a sin.

It is no adequate reply to the criticism to say that such habits are happiness to the individual, for joy can come as truly from ennobling and developmental emotions as from weak and minifying ones.

To make oneself odd by defying a useless or injurious fashion when it takes courage to do it, is commendable, that is, to defy the class conscience and take a stand for the sake of individual conscience. The fashions in trifles, like neckties and ribbons, is the refuge for souls that lack courage. To refuse to use tobacco or liquor, or wear high collars or tight corsets, some-

times takes the manner of courage that pushes a man into battle, or makes him face an epidemic of deadly disease and not run away from it. No case can be made out against such courage; it cannot even be laughed down.

There are some ideals which a practitioner of medicine cannot afford to do without, as there are those he ought to shun with all his power. One of the latter that is very common to us is that of our own certainty and sufficiency. We fall into it unavoidably. We have, we believe, the very foundations of all wisdom, and we are bent on reforming the world, if not making it over, in the first decade. So there grows up within us a great amount of dignity and personal importance that is sure to be jarred by sundry experiences of life. But we feel bound to protect and defend them, nevertheless. When a patient fails to take the medicine, as ordered, or otherwise ignores our advice, we are affronted and get warm or grieved over it, and so waste a store of good energy that we might put to a better use.

It is a slow lesson that people have notions of their own, foolish ones often, which they have been following very much for centuries, and that they have some rights to follow them, even if they are foolish; also, that they frequently will follow them in spite of any and all of our efforts to the contrary. And we gain less rapidly when our sense of independence and personal importance runs against theirs. It is a long step forward when the young physician can say to the misbehaving patient, and say it gently: "Of course, you do not *have* to take the medicine I prescribe, or to follow my advice. They are both given on the theory of doing you good, but you can omit them if you wish; only remember that if you do omit them, not I, but you, take the responsibility. I am willing, even glad to be freed from responsibility if you wish me to be." Say that and see how quickly the moral atmosphere will change.

Have an ideal that you will do your work honestly, faithfully, not lazily or carelessly; that you will keep written records of your work and not trust to your memory of it, and that then you will take the consequences without grumbling or whining. This is of the very essence of the best courage. Moreover, after you have planted your seed as best you may, watch for its sprouting, but don't dig up the ground to see if it has sprouted or is growing downward.

Shun the vicious ideal of speculating in your mind as to what in general others think of you. Don't walk down the street metaphorically, asking people whether they recognize in you the sort of fellow you think you are. To do it distracts the mental

attention, and prevents serious work; or leads to worry, fear, suspicion, jealousy and heart-burnings. It doesn't pay. And when you begin to guess—for many will, and usually guess wrong—as to how others think and feel about you, then you are walking along the rim of the grand canyon of gentle lunacy. You may never do it—pray that you never will—but you can then very easily plunge over into the canyon.

I once had a friend, eminent in the profession, who, when called in an emergency to see a patient of another physician in his absence, always prescribed with ingenuous loyalty, both to the patient and his physician. But he would go round the next day and make an unexpected call on the patient. When asked why he did it, he said: "I do it to see how I stand with the family." He was a good man in most things, but he was wrong in this, and the foolish ideal tinged to his discredit his whole career. He had no call to constitute himself a detective to find out whether the people thought well or ill of him, and it was little advantage if he did know, for if it was well his vanity grew, which was needless, and if it was ill he increased his bitterness, which was unnecessary. His duty ended when he had served the patient honestly and scientifically, and he ought to have had the courage to rest his case there. His duty, like the duty of all men, was to know himself that his conduct was correct, and that it tallied with the Golden Rule.

One of the best ideals of all is that we will not and cannot afford to be petty and trifling. This is a hard one to hold to, so naturally do we fill our heads with the trivialities of life. We talk about trifles, hear about them by the hour, and read them in the columns of personal gossip in the daily papers. If you care for a curious study in the anatomy of your own daily life, just make a list every night for a week of all the trifles that have concerned your mind during the respective days, and lay the record aside for a year. Reread it then, and say whether you think it was a profitable week.

One of the hardest things of all to do, and one of the most important to be done, is to make sure that we do not regard today that thing to be momentous which to-morrow we shall know to have been a trifle. The struggle after real consistency is a hard one.

One of the greatest achievements of a young physician is to be able to be dismissed by a patient and be serene about it. It is a question of point of view and the relation he thinks he holds to his patients. If he has the only right view, namely, that he is a servant of the public, and that his relations with his patients

must be of absolute mutualness, and that he most of all desires that the relations shall cease the moment the mutualness is broken, if he can get himself up to this platform he has smooth sailing, otherwise he encounters repeated seas of hot water that rob him of many of the joys of life.

Numerous physicians go through life with such false and artificial notions about their fees as to create for them a lot of trouble. Their difficulties are chiefly of two kinds: One is an unreasoning idea, acquired out of nothing and from nowhere, that all patients must be averse to paying for their medical services, and resent being asked to pay. So the young physician is likely to feel that sending a bill, and particularly the dunning of a patient, has some of the qualities of a challenge to combat; and that it will be at best a very unpleasant task. This is all wrong; the average patient expects to pay a fair fee for faithful attendance, and to take the contrary view discredits both the physician and the public. Of course, there are a few men and women who have no appreciation of their just obligations, and always try to shirk them, but they are the exception, and we ought to be willing to teach them such lessons by wholesome insistence, and to do it without anger and without looking or acting as though we had been stealing.

The opposite ideal with which a few start out is that of coveting the enormous fees they have heard of a few men receiving. This attitude is unfair to the people, who should only in the rarest instances be expected to pay such sums, and can only in a few cases afford to pay them, and it does the physician discredit, since it begets a spirit of sordidness, and works against the best service of the profession to the public, which is one of the most sacred of all duties of the physician.

Let us first be scientific and faithful to our patients; let us acquire friends and a large clientele if we can; then let us raise our fees to keep down a flood of work that happens to flow our way. When, if it ever comes, something leads the public and the profession to make a large enough market for such talents as we have, then let our fee bills to those able to pay recognize the fact, but let us never, as we hope for future happiness, be grasping with the poor people who give the world its best lessons in frugality and honesty; and let us, as we hate meanness, never forget our own days of small things.

Let us be honest to science and to ourselves. If we have to shade the fact to the patient for his own good, and even to give him placebo to the same end, we must never deceive either science or ourselves. There is only one right way to study and

practise medicine and that is in a spirit of humanity to the truth, and especially to the new truth, but to the truth proven.

Probably the most effective mental quality that most young practitioners lack, that few men have at beginning, is the power of imperturbability. No other quality so makes the physician superior to accidents, emergencies and trouble as this; as no other is so profitable in making his reputation as a power.

If a patient dies on the operating table, or goes out in a minute from pulmonary hemorrhage, or, if you discover you have blundered, you must not shake; and you must not throw up your hands while life lasts. However appalling the emergency you must not be dismayed; and you must make your best fight when the tide sets against you. In athletic games that man is worth little who can only play his best when victory and the shouts of his friends are in the air. So in this professional life, the man who is strong only when no calamity threatens is worth little. In this civilian career the best quality of a soldier is needed, that quality is dependableness in times of trouble.

Finally, there are a few ideals that are so vital for an all-round success that they are sacred. One is that this business of life is too important for us to waste time and energy in contentions for personal ends. If we contend it must be for some principle or for a benefit to the public whose servants we are. There is one sovereign remedy for all personal quarrels that anybody may attempt to get you into, that is, to ignore them and go on with your work. If you will only have pleasure in this and let it fill your days, you will have no time to contend, and your neighbors will soon know the fact.

Another ideal, and the most sacred of them all, is one of discontent—a discontent that must only end with your latest breath of mentally competent life. You must be dissatisfied with the many unsolved questions of science; problems of the greatest interest; problems that concern the lives of all the people. It is an unending work of love and interest to solve them; and the long night of our past ignorance about them must not discourage you. So much new science has come by the labors of our profession within the memory of men still young, that nobody should be discouraged as to the future. Cancer will be understood, and pernicious anemia and diabetes, and a hundred other diseases; and the greatest enemy of all, tuberculosis, will be controlled, and toward these ends every man can contribute. If you cannot become an investigator you may help hold up the arms of another who is, and so shall have some part in the cumulative consummation. Stirred by this discontent your eyes must look

steadily forward for new light, beware of the false ones, for the true light will appear, and you will not be surprised because you have been looking for it all the years; so shall you grow and learn to your latest day, and you shall escape mental fossilization. This deplorable fate of so many physicians comes of a fixed notion that most of the knowable is known, and that science will remain as it was. But whoso postulates that many things are yet to be discovered, and that some of his most precious theories may one day have to be given up or recast, and that it is a disgrace to stand still—that man will keep his heart warm and his interest close to the moving column. He can never become a mental fossil; and though living unto age he shall die young.

The medical profession must progress and grow in knowledge, and the new knowledge must make for higher usefulness. But we are in danger, and the more volatile of us in most danger, from this very fact. We are liable if not likely to be side-tracked in a pursuit of one idea, and to be governed by it, and so lose our sense of proportion; to become seized with a fad and to try to square the world with it. The rapid progress of our science and art during the past few years has increased this danger, and we have had plentiful examples of medical men being dominated by a single thought, and losing all judicial judgment. Some of the more enthusiastic of them have had a new fad each decade for forty years. Hardly one of them has attained to great success in any way, unless the occasional riding into pecuniary fortune, possibly in the saddle of their fads, may be called success.

No professional man has great success merely because he makes money. Success requires also usefulness to the public, loyalty to the truth, the approval of the great body of his associates, and a clear conscience of his own. Thorough sanity and moderation in all our judgments is, therefore, the only safe ideal, and there is more need now than ever before for this standard in the medical profession. To "prove all things; hold fast to that which is good," has not ceased to be wisdom. We can be progressive and be sensible also.

We can be moderate and judicial, refuse to be stampeded either for or against a new doctrine, and yet put every new truth to its best use. We have no warrant, simply because we have discovered a new fact, to throw our hats into the air and forget that this fact has important relations with a hundred old truths that cannot be abandoned, and we will show our wisdom by searching for those relations. If complete salvation ever comes

to us, it must be through all the truth, not a mere fragment of it. And a due sense of proportion, otherwise common sense, as an unswerving and insistent ideal is, in a work-a-day life, the best guide for a safe journey.

THE X-RAY IN CANCER AND SKIN DISEASES.*

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Of all the recent advances in the treatment of skin diseases, none has attracted more widespread interest than that of phototherapy. The treatment by light, while not strictly a novelty has received such an impetus since Finsen first brought out his treatment of smallpox by red light, that actinotherapy, as well as the more recent radiotherapy, can almost be considered a method introducing a new era in the therapy of many affections. While the reports from the application of the Finsen method abroad appear most encouraging, comparatively little of a positive nature is to be reported from this side of the Atlantic. Radiotherapy, on the other hand, although of much more recent development has advanced with such rapid strides that already sufficient reports are available to justify certain definite conclusions. I cannot attempt here to collect statistics from the scattered literature, but must content myself with a brief report of my personal experience during the past year.

At the present time I can make a report on thirty-five cases of cancer of various kinds in which radiotherapy has been employed. Of these nine were carcinoma of the breast, six recurrent, and three primary. Of these one has died, three have ceased treatment, two of their own volition and one by my advice, and five are still under treatment, and all showing improvement. One cancer of the chest wall, with extensive involvement of the skin, extending on both sides of the line of incision, has been discharged apparently or symptomatically cured. The opposite breast is, however, suspected of being involved, and treatment may be resumed for this reason. Of the

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other, internal or deep-seated cancers, there has been one death in a recurrent cancer of the neck, following operation for cancer of tongue; one case of cancer of the rectum, which had improved decidedly up to a certain point, has been forced for some time to interrupt treatment; a cancer of the pelvic organs following removal of the uterus is still under treatment. Three cases of sarcoma, or more properly speaking, two of supposed sarcoma, one of the jaw and one of the chest, and a small round-celled sarcoma of the finger now involving the meninges of the cord and probably other internal organs, are still under treatment, no positive report of progress being warrantable. In the small cell sarcoma the very worst prognosis has been made, and the rays are administered for the patient's mental comfort rather than from any expectation of lasting benefit.

Beside these cases there are now under treatment six patients, one with a rodent ulcer on the lower third of the left arm of twenty years' duration, involving nearly the entire circumference, being nearly three and one-half inches in length, and penetrating to the bones and tendons; an epithelioma of the lip in a woman; a recurrent cancer of the lip in a man, and a multiple epithelioma of the face, forehead, and neck. This last patient has had the disease for about twenty years, and has lost his left eye by operation on account of the disease, which several years ago invaded the periorbital structures.

Fifteen cases in all have been discharged as cured. These include six lesions involving chiefly the nose and lip, two the nose and eyelid, one the cheek and eyelid, one the region of the cheek just beneath the eye, two the chin, one the forehead, one the chest wall, one the face and eyelid, and one of the cheek. Of the cases remaining under treatment, two can be regarded as nearly well, and a third has apparently recovered, so far as the skin lesions are concerned, while the eyes, which are both affected by the cancerous process, are making decided progress, though the sight of one eye has been, in all probability, permanently destroyed.

This case is worthy of a moment's consideration, the subject being a boy of fifteen years of age, afflicted with the rare dermatological condition of xeroderma pigmentosum, which first began to show itself three years ago. It is of interest to note that this affection, which probably depends in a measure on the effect of exposure to sunlight for its development, should be beneficially influenced by light in another form.

Of the skin diseases proper subjected to the Roentgen ray

there have been seven cases of lupus erythematosus, all of which have shown decided improvement, but only one of which is considered cured. There have been four cases of lupus vulgaris; three can be regarded as cured, and one is still under treatment very much improved. Eczema of various kinds is represented by ten cases, in which the ray appeared to assist, at times, other coincidentally employed methods. Five cases of inveterate psoriasis have been subjected to the rays with pronounced benefit in at least one of them. Eight cases of sycosis of inveterate form have all shown decided improvement, four having been symptomatically cured. In hypertrophic and rosaceous acne, two at least out of five cases have shown a marked effect beyond what could be expected from treatment coincidentally employed. Beside these there have been one case of leprosy, the patient claiming that improvement has taken place, and three cases of favus, in one of which at least the ray has appeared to be of decided benefit.

Taking, then, this series of cases as a basis for a personal estimate of the value of the X-ray as a therapeutic agent, my belief is that while it shows nothing especially brilliant, there are sufficient positive factors to enable us to state that in a class of obstinate and, in many instances, practically incurable maladies, so far as other known methods are concerned, we possess in the X-ray an adjunct to treatment which bids fair to prove of incalculable benefit.

Care must be exercised in its employment, for it is an element of power which may be exerted for evil as well as for good. Severe cancer, I believe, must be treated with careful oversight, and not left to electricians and non-medical workers in X-ray laboratories, with occasional observation on the part of the physician. Symptoms may arise with great suddenness which require modification or entire withdrawal of the rays for a season, with substitution of careful medical treatment.

30. East Thirty-third Street.

THE best way to administer castor oil is to place a tablespoonful of whiskey in the bottom of a cup, and overlay it with the indicated dose of oil, and over this place a little more whiskey. Do not stir, but give at one draught, and follow with coffee or hot milk. Given in this manner, oil is never tasted. The whiskey prevents griping. There is nothing better as a laxative after confinement, or in irritable states of the bowel.—*Medical Council.*

BARIE states that a 1-to-30-part solution of hydrochloric acid in alcohol, applied to the scalp once each day will stop falling of the hair.—*Medical Council.*

WHEN ladies afflicted with superfluous growth of hair object to electrolysis or depilatories, satisfaction may often be obtained by bleaching the offending hair by peroxide of hydrogen frequently applied in full strength.—*Medical Council.*

WHEN desirable to give large doses of quinine, as in malaria, reflex irritability of the stomach may be avoided entirely or greatly alleviated by the simultaneous use of scale pepsin, dilute hydrobromic acid, or large doses of potassium bromide.—*Medical Council.*

HEROIC dosage with castor oil will dispose satisfactorily of all cases of cholera morbus, diarrhea, and dysentery, if seen early, and the drug can be retained. A few divided doses of cocaine before giving the oil will often quiet emesis, and permit of the oil being retained.—*Medical Council.*

WARTS and moles are permanently removed without subsequent scar by the daily application of glacial acetic acid, full strength. Apply with a glass rod or match stick; do not allow fluid to reach healthy skin; suspend application as soon as soreness results. When the soreness disappears, renew applications. A few weeks will see the skin clear.—*Medical Council.*

METHYLENE-BLUE, combined with small doses of oil, sandalwood and copaiba, and drop doses of oil of myristica, in capsules, will act promptly and efficiently in gonorrhoea. The chemically pure medicinal drug must be used in doses of one to two grains three or four times daily, and the patient be warned that the urine will be colored blue. An efficient injection to accompany such treatment is found in full U.S.P. strength peroxide of hydrogen used after each urination, and retained for a few moments.—*Medical Council.*