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Original Communications.

SMALLPOX AND VACCINATION.

JOHN CAVEN, M.D., TORONTO.

During the year 1898, and till the end of February, 1899, there were reported in Ontario 46 cases of smallpox with no deaths; in 1899, 341 cases, 14 deaths; in 1900, 163 cases, 13 deaths; in 1901 there were reported 1,879 cases, with 12 deaths. Up to the date of writing in the present year there have been reported 700 cases, with 4 deaths, 2 of these from the hemorrhagic type of the disease. The disease is becoming of a more severe type, as is common in smallpox and kindred infections. This is proven by the fact that the average detention in hospital or quarantine has considerably increased for the last few months, that the death rate is rising, and that a smaller proportion of cases can be classed as varioloid, a larger as discrete and coherent or confluent smallpox.

The condition of affairs in our own Province being such as represented, and taking into account the added circumstance that a very considerable epidemic of smallpox exists in the United States at the present time, there can be no two opinions as to the necessity of employing all possible means to combat the disease. The means at present at our disposal are threefold: (1) Police measures; (2) Sanitary measures; (3) Protective vaccination. Of police measures it is not necessary to say more than a word. No one doubts their usefulness when carried out with common sense and honesty. The most perfect measures of this kind hitherto devised, even when their application has been comparatively strict and conscientious have, however, failed to control ultimately the spread of smallpox when once it has

obtained footing in a community such as ours. The present outbreak in the United States and Canada is proof of this. Starting, as the epidemic has done, in the United States, it is impossible to imagine that Canada, with its geographical relationship to that country, could be kept free by any police measures. The extent of the boundary line, ignorance of the signs and symptoms of the disease on the part of physicians and public, together with lack of conscience on the part of individuals, must neutralize to a greater or less extent the efforts of Health Board officials. Especially is the difficulty great, where, as between these two countries, individual commercial interests may seem to be imperilled by regulations.

Improved measures of sanitation have been given by anti-vaccinationists, a large part of the credit for any diminution in smallpox epidemics and mortality noticeable in the past. It is argued that the great falling off in extent, severity and mortality, seen in the early part of the nineteenth century, as compared with the eighteenth, is due largely to sanitary measures, not to vaccination. It is also true that certain "cosmic" or "secular" influences are said to govern more or less the incidence and extent of epidemics, but so far as our present knowledge goes, absolutely no proof has been adduced in support of this contention, and it may therefore be set aside. A general answer to the "Sanitation Theory" is found in the fact that the decrease spoken of occurred in countries where there is no evidence that sanitation made any progress during these years, but in which vaccination became general. (V. Report of R. Com. on Vaccination, pp. 85, *et seq.*) It is also noteworthy that certain other infectious diseases which are, undoubtedly, quite as much controllable by police and sanitary measures as smallpox, or even more so—measles, for instance, increased during the very years when these means are given the credit of having diminished smallpox to a marked extent. Moreover, it is worth while remembering that smallpox attacks the cleanly and those careless of personal cleanliness, the healthy and unsound impartially. A sane body apparently assists to a favorable termination of the disease, but not in an appreciable extent to resistance of infection. Infection may occur through contact, food, drink or be air borne. It is not difficult to believe that careful observance on the part of *all*, of certain well considered rules based upon scientific experiment may, to a large extent, control the spread of disease through the first three modes of infection, but in the case of aerial carriage of germs it is not supposable that we can at all successfully intervene. In the case of smallpox we are at special disadvantage on account of the wonderful infectiveness of the virus and its power of clinging to person or clothing, so that

the probability of communicating it even at a second or third remove from the source is great. Fortunately, the evidence we have goes to show that smallpox germs are not effective through very great stretches of air. Leroy, bacteriologist to the State of Tennessee, says that "at a distance of 100 yards little or no danger may be apprehended." Sunlight and fresh air are rapidly fatal to the gerin. It is therefore difficult to estimate to what extent it may be effectively dust borne, but we must remember that it multiplies in the eruption and is found in the excretions and secretions of the body. The *opportunities* for its spread in dust must be very great.

Whilst then it cannot be held that police and sanitary measures will avail to control the spread of smallpox, it is well to call attention once more to the fact that isolation and limitation of the number of cases so far as possible, are useful not only as such, but as tending to restrain the severity of the type, in any spread the disease may make. It has been demonstrated experimentally that different forms of pathogenic organisms diminish rapidly in virulence—even to loss of pathogenicity—when cultivated from generation to generation outside of the animal body. It has also been proven that virulence may be gradually restored and increased in intensity by subsequent passage of the same organisms through the animal body. These facts have been established of various "pathogens," notably of the streptococcus pyogenes. Observations upon many epidemics of infectious diseases confirm these laboratory results. The returns of the smallpox epidemic amongst our own people already quoted above, show that the degree of mortality which has characterized the outbreak till the present time is sure to increase unless adequate measures of prevention be undertaken and carried out.*

Leaving the questions of police and sanitary measures in controlling smallpox, in the employment of which, at any rate, all are agreed, let us turn to that of protective vaccination. Here, strange to say, we do not find the same unanimity of opinion, even though the evidence as to good results attained be equally or more conclusive. It may seem unnecessary that we should define protective vaccination as *successful* inoculation with the virus of cowpox. Experience has shown, however, that in the attempt to discredit this method of protection it has been not uncommon to classify those upon whom vaccination has been *attempted*, as *vaccinated*, whether the result has been successful or not. This is specially true of revaccinations, and in this connexion it is well to note that when protection seems urgently called for, failure of successful inoculation at the first

* Smallpox epidemics increase in severity in cold climates, decrease in warm.

attempt in the case of any individual ought not to be taken as proof of insusceptibility to smallpox, as is too often done. A single exposure to the virus of any disease is not necessarily followed by infection and various causes arise to prevent vaccination operations being successful. The operation should be repeated several times, leaving just sufficient intervals to prove that previous attempts have failed.

The question of the relation of cowpox to smallpox is an interesting one from both the academic and practical standpoints. It is just possible that in certain instances protection in some degree may be conferred by the use of lymph *even though no local reaction occur*. Copeman has observed this in experimenting with the calf in the case of vaccinia, and Chauveau, Copman and Klein have done so in the case of variola. It certainly would not be wise to trust to the chances of such a course of events, but in it we may possibly find an explanation of some cases of apparent immunity from both cowpox and smallpox. All that is known of immunity from infectious diseases as conferred by previous attacks would lead us to expect that variola and vaccinia must be the same disease, or variations of the same disease. Many attempts have been made to demonstrate the connexion or identity of the two by inoculation of bovines with variolous lymph, with the hope of giving rise to vaccinia, and although the majority of investigators have reported some successes these appear to have been relatively few, and amongst the failures are those of Chauveau and the Lyons Commission. Yet one positive result is worth more than an unlimited number of negatives if it be attained by rigidly correct methods. In spite of the failure of Chauveau to produce typical cowpox by means of smallpox virus it is very suggestive that the animals subjected to experiment could not subsequently be infected with cowpox, lymph of proved potency being used, and that, although they were known to have never previously suffered from vaccinia. Even in those cases in which variolation of bovines has been considered successful, the results have shown but little resemblance to human smallpox and have not been typical of vaccinia until three or four removes from the first animal. Ceely's remarkable observations have not as yet been duplicated so far as we can find out. "He records an instance in which five out of eight milch cows sickened with cowpox within twelve or fourteen days of their having been seen to be licking over a quantity of flock from the bed on which a patient had died of confluent smallpox and which had been spread out on a field for purification." Copeman, whose words have been quoted above, tried to reproduce the experiment by feeding lymph from variola in saline solution to a young heifer. The result was a mastitis, but with-

out other signs of smallpox. It seems, then, we must assume that some modification of the smallpox germ takes place either within or without the human body before it can give rise to cowpox. Copeman's experiments upon monkeys are most interesting and have apparently indicated in a general way the direction in which we must look for an explanation of these features of vaccination, which have been puzzling when considered in relation to immunity as known to be conferred in the case of infectious diseases other than smallpox. In these experiments monkeys were inoculated with lymph from variolous individuals, with humanized vaccinia lymph and with bovine lymph, and it was found that any one of these lymphs rendered the animal inoculated, *proof against the others*. It has further been observed that infection of bovines with variolous matter is much more readily brought about if the virus have been first passed through the monkey; usually, it is said, at the first attempt. We have, then, in forming our conclusions as to the relationship existing between smallpox and cowpox to take into account what we know of acquired immunity in general, the results of certain accidental transferences of the diseases and the results of purposive experiments, and on all grounds we must admit a very close relationship, if not identity.

The problem of the connexion between smallpox and cowpox while both scientifically and practically important, is, so far as the community is concerned much less so than that of the protection conferred from smallpox by vaccination. Anti-vaccinationists, though few in numbers, have always been strenuous in their opposition to the practice of vaccination and have in some countries—England for example—made their influence to be largely felt. Two chief reasons are advanced why vaccination should not be carried out: 1st. That it is futile as protective; 2nd, that it is frequently accompanied by accidents and complications, and may leave sequelæ which are disastrous to the individual, and may even terminate in death. In all matters affecting the State the "Safety of the Community is the Supreme Law." If it can be shown, and we do not doubt it can, that vaccination properly carried out, even though disastrous results to certain individuals may in some rare instances follow, is any considerable protection against the ravages and mortality of smallpox, then, till we can replace it by better means, vaccination we must make use of. And this involves the propriety of compulsory vaccination not merely the optional acceptance of something recommended. An appeal to statistics ought to be final in this matter, but here, as always where statistics are called in to witness, we find accusations of manipulation made by both sides.

Anyone who is desirous of looking into the matter will see in the first volume of the Report of the Royal Commission on Vaccination, dealing with investigations made in England in the years 1889-97, a statement both most impartial and convincing. It needs no proof that the members of this Commission were men entirely above suspicion as to motive and of the highest scientific standing.

On the general question as to the protective power of vaccination we may condense the results of the Commission's inquiry as follows:

That the death rate in smallpox is much higher among the unvaccinated than the vaccinated and that there is "less liability to smallpox among the vaccinated than the unvaccinated." To the latter statement is added the statement that "the protection enjoyed by vaccinated children under ten years of age is greatly in excess of that enjoyed at a more advanced period of life."

Lastly, it is concluded that the disease, smallpox, is likely to be less severe in type when occurring in the vaccinated than when in the unvaccinated.

These statements are made so moderately and after so careful and detailed an examination of information from all sources that one could hardly credit disbelief to anyone but a Christian Scientist. Further, we find great support for the Protective theory in the facts that all the principal Governments of Europe have demonstrated their faith in it by making vaccination compulsory in their armies; that Germany, with compulsory vaccination of both infants and school children since 1874, has abolished smallpox epidemics from the country, and that the introduction of compulsory vaccination into Italy in 1888 made an immediate diminution in smallpox mortality. In Prussia vaccination was made compulsory in 1874. Previous to that time the mean death rate from smallpox per 1,000,000 persons was 309 yearly; since 1874 it has been 15 per 1,000,000 and for the last ten years 7 per 1,000,000.

Much more of the same sort of evidence has been accumulated but it would be useless to multiply instances in a paper such as this.

Then when we consider that smallpox was the most persistent and fatal disease of the eighteenth and some previous centuries, we must look for an adequate explanation of the change.

Making all due allowance for the effect of police and sanitary measures, it is impossible to believe that they alone have so essentially modified the situation. We have already stated that there is no proof whatever of the so-called cosmic influences which are supposed by some to regulate outbreaks. We are forced then to look for some other explanation of the unde-

niable improvement of the situation during the last century, and the introduction of vaccination is indicated with no uncertainty.

If we are satisfied that vaccination has to any marked degree controlled smallpox as regards both the number and severity of cases, the second great objection to its use should vanish. The number of instances in which it can be shown that *serious* accidents of complications have occurred or that disastrous results have in any way been connected with vaccination as a cause, is infinitesimal when compared with the evils resulting from smallpox, where no protective vaccination is practised. The questions of causation and prevention of ill results to individuals from vaccination must, nevertheless, always be a highly important one to the physician. At the outset it may be stated that out of any large number of people who become infected with a disease, no matter how favorable a course it may usually run, some few on account of idiosyncrasy or deficient powers of natural resistance, will suffer much more than others. This is true of cowpox as of other diseases.

All complications may be divided into Unpreventable and Preventable.

The Unpreventable complications of vaccination are such as result from the inherent qualities of vaccinia together with peculiarities of individuals infected. Of these the majority take the form of abnormal skin eruptions and in very few instances are they at all serious. Pneumonia is a possible complication, but liable to occur only in very weak subjects who are otherwise unfavorably situated. Obviously, taking the ground we do, that vaccination is on the whole of great service to the community, in spite of all untoward circumstances which may happen in connexion with it, nothing is to be gained for our present purpose by further consideration of Unpreventable Complications.

(To be continued.)

A RESUME OF FACTS RELATING TO THE DIGESTIVE ORGANS IN THE INFANT.

By C. S. McKEE, M.D., TORONTO.

This paper is simply a collection of known facts relating to the digestive organs and processes of the infant. It is not possible to give authorities for all statements, but certain ones are named who have been doing research work along these lines recently.

It is not thought that men who have any amount of experience with infants will be able to gain any knowledge from this paper. Indeed, it is presupposed that all such have, if at all conscientious and desiring to thoroughly understand the numerous peculiarities to be observed in this class of patients, looked up all facts mentioned here for themselves. This is by no means easily done, and the physiological text books are rather unsatisfactory for reference in such matters. I have been so frequently asked regarding these matters and as to their differences from the adult digestive functions, and have seen so much alarm created by observation by physicians of seemingly serious illnesses produced by simple causes—the results being alarming simply because the normal was not known—that I have decided to collect, as far as possible, all known facts relating to these organs and put them together briefly for the use of those who have been unable to get them themselves.

It is absolutely impossible to prescribe a proper diet for an infant, or to treat any abnormal functioning of the digestive system, without knowing the normal. The adult digestion is presumed to be understood.

It must also be remembered that there is a comparatively wide limit of variation of a normal condition, according to the infant, before it becomes pathological.

It is only within the last twenty years that much research work has been done which is at all accurate; but within that time many interesting and instructive clinical and experimental researches have been carried on. These researches all show the great difficulties to be overcome, when artificial alimentation has to take the place of breast feeding, and help materially to a proper understanding of proper methods.

The anatomists and bacteriologists have also assisted greatly to a proper understanding of reasons for these peculiarities. The weak muscles, lack of development, small amount of secretions, presence of bacteria and the rapidity with which pathogenic germs gain a foothold when conditions become even slightly favorable, are well known.

It has been shown that some germs assist digestion, actively disintegrating albuminous matters, and also that digestion can be carried on perfectly in their absence, that is when the intestines are sterile. In this case, however, absorption is not so well carried on. The germs are absent from the mouth of the newly born, and gain entrance by means of the air. The pathogenic germs gain entrance mainly through cows' milk. The French claim that all milk should be sterilized, and some hold that no other modification whatever is required, even for the youngest infant. They also claim that results of cows' milk feeding are always less good than when breast milk is used; but on this continent, at least, most cases can be just as well fed as nursed.

The problem of milk feeding is also further complicated by the presence in the milk of the various species of animals, according to Escherich, of varying ferments in solution, and in varying quantities—these being very necessary to the young of the species, especially in the early months.

Suction.—This is a physiological act and the first step in the digestive process. The nipple is grasped between the tongue and lower lip below, the upper lip and jaw above, the whole tongue being moved forward on its base, and its sides turned up so that a trough-like formation is seen. The throat is narrow and easily closed by the soft palate, and by a strong downward movement of the lower jaw a partial vacuum is created, which produces the suction causing the flow of milk. Baginsky and Marfan claim that the tongue acts like the piston of a pump, but Ganier has proved that this is erroneous, and that the tip of the tongue is not drawn back. The aspiratory force developed by an infant in sucking varies from 20cc-70cc.

The greater work is called forth in breast nursing. Sucking cannot be carried on in the presence of deformities of the nose and palate.

Basch claims that the act is reflex, the centres being double and symmetrical, situated in the restiform bodies. The centrifugal nerves are the motor branch of the trifacial facial and hypoglossal; the centripetal, the sensory branch of the trifacial.

Saliva.—It is important to remember that the mouth is practically dry at birth and remains so for seven or eight weeks. Before this time the secretion is in very small amounts. This explains the frequency of certain diseases, so frequent at this time, of the buccal cavity. After four months the amount of saliva rapidly increases and, with the appearance of the teeth, becomes very free, announcing a change in digestive powers. Early in life it has very little power of changing starch to sugar, but at five or six months possesses this power and can

do so actively. On account, however, of the relatively small amount of saliva and the absence of amylolytic action in the pancreatic secretion, it is to be remembered that only a very small amount of starch can be acted on, and that the action ceases when the combined acid in the stomach becomes strong enough to destroy the ptyalin, which is about fifteen to thirty minutes after a meal has been ingested. Practically all the starch not acted on before this time escapes in the feces unchanged, or with only the erythrodextrin stage reached, as can be very readily proved by testing the stools with iodine.

Triolo claims that the saliva has pronounced bactericidal powers.

Stomach.—This organ in the infant is almost cylindrical and nearly vertical in position. It is not till the end of infancy that the transverse position is assumed. The fundus is undeveloped and is not fully so till the end of childhood; the lesser curvature is relatively long. The muscular structure is weak, and the cardiac orifice unguarded, explaining the ease with which vomiting occurs. The pyloric muscles also are very slight.

The capacity of the stomach at birth is small; up to four months it increases rapidly, but for the next two the growth is almost nil, when it begins again and increases regularly till the adult stage is reached.

According to Rotch, the capacity at different ages is:

3 Hours after birth.....	25-30cc.
4 Weeks " "	75cc.
2 Months " "	96cc.
3 " " "	100cc.
4 " " "	107cc.
5 " " "	108cc.

It is important to have at least a fair idea of the capacity of the stomach, as on this depends the amount of food to be given at a time. An exact estimate is not possible.

The secretions are of the same nature as in the adult, HCl, pepsin and lab-ferment, but, with the exception of the last, much weaker. The quantities also are less. Mucus cells are much more abundant, and chief cells very few in number. The lymph follicles are not at all well developed, except along the lesser curvature, until after the age of six months.

After a meal of mother's milk the reaction is neutral or alkaline, and of cows' milk, neutral or slightly acid for the first fifteen minutes, when gastric secretion begins, after which the reaction is always acid. The reaction of the fasting stomach is always acid, and usually free HCl is to be found.

Coagulation of milk, solution and digestion of albumin, takes place rapidly in the case of human milk. After such a meal,

the stomach is empty in one and a half to two hours; if cows' milk, from one half to one hour more is required, as the curds are harder and larger, while the curds of human milk are flocculent. Part of the digested proteids are absorbed directly with some of the sugar, salts and water, but most pass directly to the duodenum, in the form of acid albumin or albumose, where the digestion is completed. Marfan believes that the whole of mother's milk is digested and absorbed from the stomach, but in this country the stomach is believed to act mostly as a reservoir, where only the preliminary changes occur.

The acidity of the stomach is due to free HCl when the stomach is empty, and lactic acid and combined HCl during digestion.

During fevers HCl is absent or greatly lessened in amount.

HCl acidity one and a half hours after a meal, 0.13 per cent.

HCl acidity (free acid) 0.85 to 1.8 per cent.

Ac. lactic 0.1 to 0.4 per cent. (Jacobi says constantly 0.3 per cent.). This acid is said never to be found free in health.

In digestion of cows' milk, and some say of human milk, free HCl is never found in health, the casein, of the former more particularly, having a great affinity for HCl.

The lactic acid present is formed from the lactose by certain bacteria. It is more abundant in early infancy than later. In bottle-fed babies, the French claim that the percentage of HCl is as great as in the adult.

After the work of Hayem and Winter, and M. and H. Lable, the affinity $\frac{A-H}{C} = X$ is less than one during the first months. In infants fed on cows milk the affinity is greater than one, on account of the presence of acid fermentation. Lactic acid can take the place of HCl indigestion, but larger quantities are required.

The giving of water increases the secretion and digestive power of HCl, and assists materially the absorption of peptones.

Besides peptones, leucin, tyrosin, syntonin of the amido group are found in the stomach. These are more frequent and in larger quantities when lactic acid is present. Jacobi claims that albumose is the last product of digestion in the stomach of the infant.

The aiding of digestion of the casein of cows' milk, by adding cereal decoctions, is acknowledged as rational by all leading pediatricists; Jacobi for many years has fought for this. Whether it helps, by rendering the curds more flocculent, I do not know, but it does certainly make them softer and capable of being much more easily broken up and acted on by the ferments. It is not necessary in the early months, when the percentage of proteid is small, but later, with increased strengths it is very useful.

Intestines.—Looking on an infant from the side, the abdomen is always seen to be somewhat protuberant, on account of the large volume of the liver and intestines, and the absence of the lumbar curvature of the spine. No protrusion should ever be seen towards the sides, normally.

That the liver has very important functions to perform in the child is seen by its large size. In the infant it averages 3.5 per cent. of the body weight, as compared with 2.5 per cent. in the adult. Bile is present as early as the third month of intra-uterine life. Its blood-forming function disappears at birth, but others appear, glycogenic, urea-forming, toxin destroying and eliminating, etc. These last are not very active in the infant, as is shown by the ease with which toxic infection takes place through absorption of toxic products from the intestine.

The bile is secreted abundantly by the liver of the child; it contains few organic salts (but those of iron), little cholesterin, lecithin, fats and especially small amounts of bile acids. Particularly is glycocholic acid scanty, which is on one hand favorable to the organism, as this acid has an arresting action on digestive powers of the intestinal secretions, which are already weak enough. On the other hand its absence increases the difficulty in the absorption of fats, from which it is seen that very fat milk mixtures are not to be given.

Tissier states that while bile is not bactericidal it is anti-toxic.

Bile pigments and urea are abundant, and are excreted in the meconium along with a red oxidation substance. Stools containing bilirubin are changed to a green color by the formation of biliverdin on exposure to the air.

The pancreas is large at birth. Trypsin and steapsin are present in small amounts, but amylopsin is absent till the fourth month. Towards the end of the first year it is secreted in larger quantities and is as active as in the adult, changing cooked starch almost instantaneously.

The length of the small intestine is relatively greater in the infant than in the adult; its proportion to the length of the large intestines much greater, six to one, or nine and a half feet to one and a half feet. The muscular structure is very weak. The duodenum is relatively very long. The sigmoid ilexure is more than half the length of the large intestine, is much more curved and is situated almost wholly in the abdomen, instead of the pelvis, as in the adult. The mucosa and lymph follicles are well developed, mucous cells very numerous, the villi very vascular, nerves numerous and perfectly myelinated. The valvulae conniventes are scarcely apparent.

The reaction of the intestines is acid, due to the presence of

organic acids. This acidity does not interfere with pancreatic digestion, and decreases as the lower part of the small intestine is reached.

The succus entericus is alkaline and probably, besides helping to render the chyme less acid, assists in the changing of starch to sugar. Marie says it breaks up lactose.

The products of digestion are mainly absorbed from the upper part of the small intestine. Except in the duodenum, absorption is less active than secretion. The food not acted on and digested in the stomach passes on to the duodenum and mixes with the intestinal secretions, and the acid albumin, etc., acted on by the trypsin. Rachford claims that HCl albumin is acted on by the trypsin in the presence of bile much more easily than alkali albumin, a fact having a great bearing on the feeding of sick infants. Digestion, therefore, goes on most rapidly where absorption is best. Trypsin can act if the medium is alkaline and as the acidity of the intestine becomes less as the lower part is reached, it is able to act throughout the whole length. That most of the proteids are digested in health is seen by the small amount found in the feces.

The processes of absorption are pretty much the same as in the adult. The lactose is completely absorbed, almost all the proteids, but only three-fourths of the fat.

The putrefactive products found are skatol, phenol and indol, toxins, partly absorbed and destroyed in the liver, and partly eliminated in the infant's stools. Baginsky holds that indol is the only one of these products found, and then in very small amounts, in the motions of a healthy infant.

Bacteria.—*B. coli commune* and *B. lactis ærogenas* are the two varieties found constantly, the first being most abundant in the lower bowel and usually the only variety in the feces. *B. lactis* disappears as the diet is changed from milk, and is believed not to be pathogenic. That *B. coli* may become so, under certain conditions, is pretty generally acknowledged now. Nothing much is known as to whether these bacteria are indispensable for purposes of digestion, but they are said not to be necessary.

Feces.—In the infant frequent stools are the rule—3-5 daily for the first two months; but also constipation is easily brought about on account of the weak muscular structures, and, at times, by an abnormally long and much curved sigmoid flexure being present. The stools grow less frequent, until at eight to nine months there is only one a day usually. The first few days they consist of meconium and number from four to six daily. Its expulsion begins six to twelve hours after birth, never longer than twenty-four, and continues for four or five days. It is a soft, dark, inodorous substance, and consists chiefly of bile,

epithelial debris and secretions from the intestine. The stools continue greenish for some days and then take on the normal golden-yellow color. If cows' milk is being used for feeding, the stools are lighter in color and not of the normal yolk-of-egg consistency. These normal stools have an insipid, slightly acid smell, and slightly acid reaction. On exposure to the air they turn greenish, but should not be green on being passed after the first few days.

In the case of infants fed cows' milk the stools are larger, paler and more formed, due to the presence of more casein. They also contain more fat and have an alkaline or neutral reaction. Greenish stools, that is green on passing, are more frequent when cows' milk is being fed. The stools of bottle-fed babies have more odor and are likely to be cheesy or foul.

Fat should not be visible to the naked eye, but should be thoroughly mixed with the motions, as should the mucus, which is present in much larger quantities proportionately, than in the adult's stools. Fat forms, on an average, 25% of the dry residue of feces.

Microscopically, are found the bacteria named above—bilirubin crystals, lactate and oxalate of lime, cholesterolin crystals, epithelial debris, large and small fat droplets and starch granules, if this is being added to the food.

Selected Article.

ON THE PHAGOCYTTIC DEFENSIVE POWER OF THE LYMPHATIC GLANDS AGAINST THE SYPHILITIC VIRUS AND ON THE SEMEIOLOGICAL VALUE WHICH BELONGS TO THE DIFFERENT ADENOPATHIES IN SYPHILIS.*

BY PROFESSOR TOMMASO DE AMICIS,
OF THE UNIVERSITY OF NAPLES.

In the rapid and incessant progress which the experimental sciences are making in the field of the infections, principally in the investigation of the nature of the infective agents, much light has been thrown on the mechanism of the action of the germs which assail the organism, and upon the natural defences which the organism can make against them. Not all the infections lend themselves easily to the same investigations, and in some of them one is obliged to judge only by analogy, comparing them with the infective states, which have been more or less completely studied. That is precisely the case with syphilis; we are ignorant of the real nature of its specific agent, but we are quite justified in claiming that it is a microbic parasitic element, as in the case of other diseases, which may resemble it (tuberculosis, leprosy, etc.). In spite of this ignorance, the clinical study is complete as to the mode of action of the infective principle from the beginning to its last manifestations.

It is well known that, after the inoculation of the virulent principle in a point of the organism, there is a period of incubation, after which there arises in that point a lesion which represents the initial poisonous focus. From this point the virus, passing through the lymphatics, penetrates the nearer glands, stops there and forms, with the adenopathy which accompanies it, its first station. It multiplies there and penetrates farther into the glandular system until it enters the circulation. Here the infective products gradually accumulate, so as to form the constitutional infection. The blood, now filled with the infective elements, flows into the other glands, which, in their turn, retain the virus, multiply it and in part preserve it and in part pour it into the circulation, and thus we

* Translated from *Giornale Internazionale delle Scienze Mediche*.
By HARLEY SMITH.

have the further localizations in the different organs and tissues of the animal economy. In this way are constituted the various stages in the evolution of the infective process.

It is therefore claimed that the lymphatic glandular system in syphilis forms the best soil for the development and preservation of the poisonous elements. Hence the cellular hyperplasia which produces the multiple swelling of the lymphatic glands, whether the adenopathy is primary or secondary, has represented one of the most important facts in the localization of the infective principle; and in the greater number of cases the hyperplasia has been considered as the measure of the intensity of the infection in the organism.

This is the opinion which has hitherto been held as to the participation of the lymphatic system in the syphilitic infection; are we right in changing this opinion? This is the question which we must answer, taking into account the additions to our knowledge acquired as a result of experimental investigations, and comparing them with the answers given us by enlightened clinical experience, which is always the supreme tribunal to which we must appeal in doubtful cases, because it represents the most extensive experimental field which nature can present to us.

It is important to examine if the phagocytic theory is able to change our views. If we look closely at each anatomical element in the animal organism, we see that it can be considered as an individual which, in the exercise of its vital activities, can act on its own account and also help the whole of which it is a part. Each cell, having to provide for its relative nourishment, appropriates to itself those substances which are more adapted to it. Not infrequently, however, it nourishes itself also at the expense of other cellular elements, incorporating them into itself (De Bruyne). Hence there are cells which nourish themselves by devouring other cells—the process of *phagocytism* or, better, *cytophagism*. This feeding on other cells, while it is profitable to the cell itself, can also be sometimes helpful to the whole organism, because it may free the latter from unwelcome guests.

We know that Metschnikoff, of Odessa, (*Virchow's Arch.*) was the first to direct the attention of observers to the service which the "cytologi" leucocytes could perform in the struggle of the organism against parasitic diseases. He studied the phenomenon in the living subject, in the parasitic disease of the *Daphnia*, little transparent animals, whose parasites are fungi which bud, producing spores. These elements, as they introduce themselves into the circulation, are attacked and gradually devoured by the white globules of the little Crustacean.

Subsequently, by the studies of De Bruyne on the cytophagism of the leucocytes of the blood of the molluschi, and the studies of Werigo (1892) on the behavior of the leucocytes towards foreign bodies introduced into the blood, and also by the researches of Kanthnack and Hardy on the white globules of the blood of the frog—by all of these studies our knowledge of phagocytism has been perfected.

The last authors (Kanthnack and Hardy) distinguish three kinds of white corpuscles in the frog, called by them *wandering cells*, because of their power of passing from the blood into the tissues. The first are *eosinofili*, because they are colored red with *eosine*, and also when subjected to the action of a mixture of eosine and methylated blue. The second, *jaline*, remain colorless, not showing a preference for any of these coloring substances. The third take up large quantities of methylated blue, which makes them rose-colored. Those of the third species are few in number.

The three kinds of wandering cells have each a special office in the hunt for bacilli, as the aforesaid authors were able to study in the bacilli of carbuncle inoculated in a drop of lymph.

The eosinofili cells serve to gather the prey together, they rush where the bacilli are found and encircle them, placing themselves side by side, so as to form a mass like a plasmodium. The jaline cells arrive after the former, since they do not know how to search out the bacilli, but go where the eosinofili cells guide them. The latter leave the prey untouched, to be devoured by the former. At this moment there arrive on the field of battle the cells of the third species, which the authors call *basofili*, and since they appear at the end of the struggle it is supposed by the authors that they have the duty of clearing the ground of the refuse products. Finally the *jaline* cells, having done their work, separate themselves from the plasmodium, and resume their migrations.

Now, after these studies, judging by analogy, it has been claimed that the leucocytes of the higher animals must behave in much the same way in their struggle against the microbes of the different infections, which try to attack the organism; and in this way one would explain the special manner in which the organism reacts, often successfully, in the various diseases.

The lymphatic glandular system by its great extent, its distribution and relation with the peripheral lymphatic channels, must be considered as a barrier to the admission of foreign substances, which try from without to invade the organism; and the lymphatic glands can therefore be considered as stopping-places for the invading elements. This has been thoroughly investigated for inorganic corpuscular substances, as cinnabar and coal dust, and china ink. Hence, by induction,

the same has been taken for granted, with respect to pathogenic micro-organisms, chiefly in those infections in which the first stop was a glandular station; and then some investigators, going a step farther, have thought that the lymphatic glands, having a maximum phagocytic power, were intended also for the destruction of the microbes which were contained in them. *Augagneur* has therefore concluded that when the glands were acting energetically, the phagocytism was modifying the infective agent, and that therefore an intense adenopathy was a favorable phenomenon in syphilis, because it indicated the defensive power of the organism rather than the offensive energy of the virus (Feb. 1895). *Landouzy* was of the same opinion. *Labbé* (*Presse Medicale*, 1899) also claims that the lymphatic gland can be considered as an arresting organ, charged with the duty of stopping those bacteria, which have escaped from the leucocytes and from the endothelia at the point of inoculation and along the lymphatic channels—constituting thus a second centre of phagocytosis. The size of the gland therefore would indicate rather the degree of resistance of the subject than the gravity of the disease. The absence of lymphatic swelling in syphilis would be, according to *Labbé* and *Landouzy*, of evil import because it would indicate that the protective action of the lymphatic organs is insufficient.

Now, we would have no difficulty in accepting the opinion of these authorities as to the importance of the swelling of the glands in the course of the syphilitic infection, if clinical experience corresponded with the conclusions they have drawn from the phagocytic theory applied to the glandular system.

Daily observation shows very often that the great number and the notable development of the glands coincides frequently with a syphilis of great severity. Not rarely we observe cases of mild syphilis accompanied only by slight glandular enlargement. In proof of this fact, many cases, which fell under our observation, were reported five years ago in a thesis elaborated in this Institute (*The Institute of Dermo-Syphilopathy of the University of Naples*) by Doctor *Michele de Amicis*.

When, therefore, clinical proof is not in accord with theory, we must argue that the latter is not exact or that it is wrongly applied in the special case. Indeed, leaving out of consideration the existence of microbes, which live and multiply within the cellular element (tuberculosis, leprosy), the phagocytic power of the lymphatic glands is far from being proven and the most recent studies seem to indicate that this power is quite hypothetical.

Prof. Manfredi, Director of the Institute of Hygiene at Palermo, by a series of investigations as to the importance of the lymphatic glandular system in the modern doctrine of in-

fections (1898), has thoroughly studied this question from the above point of view. His experiments prove clearly that "the gland can for a longer or shorter time retain within its parenchyma a pathogenic bacterium, without any loss of vitality of the latter," while in the blood and in the connective tissue, the microbes are more or less rapidly destroyed by the phagocytic power of the leucocytes or by the germicidal action of the blood-serum.

Every gland can be regarded as an accumulator of pathogenic bacteria, because neither the phagocytic theory nor the humoral theory can be applied to it, inasmuch as the leucocytes in the lymphatic glands are, for the most part, young, small elements, to which Metschnikoff has denied any phagocytic power. Only rarely are the large mononuclear and polynuclear leucocytes—the real phagocytes, which abound in the other organs—found in the glands. Therefore we cannot accept the theory that the lymphatic glands are the organs in which is exercised the most active phagocytic power of the organism, because in them are produced those leucocytes which have no phagocytic property. Nor can we apply the modern humoral theory, as to the bactericidal or antitoxic property of the blood and of other organic liquids, because it has been clearly proven by the experiments of Pagano that the lymph has no such property, but constitutes a good medium for the cultivation of micro-organisms. Therefore the peculiar power of the lymphatic glandular system of separating and entertaining not only the inert powdery substances, but the micro-organisms; and also the absence or extreme deficiency in that system of those bactericidal influences which everywhere concur in maintaining the asepsis of the living and normal tissues, explain how in an infective process, which may be cured, the special pathogenic agent may remain for a long time in the latent state an inhabitant of the glandular system, forming thus a *latent microbism*. This latter may manifest itself anew, given any cause which weakens the natural resistance of the organism. The organism thus becomes a victim of new explosions of the same virus which has been preserved in the glandular system.

The lymphatic glands therefore, in the struggle which the organism wages against the bacteria, while on the one hand by blocking the way to the micro-organisms they act as organs of defence, yet on the other hand, by keeping them alive, act as dangerous depositories of infective material in the animal economy.

Now these experimental deductions are in perfect accord with what clinical experience shows us as to the evolution of the process of syphilitic infection, and we accept them willingly, because they explain experimentally what is clinically observed.

They confirm entirely the opinion that the glandular tissue may be an opportune medium for the cultivation of the possible pathogenic micro-organism of syphilis whose biology is unknown to us, this infection being a sad prerogative of the human species. They also support us in claiming that the lymphatic system in syphilis represents the location where the poisonous elements find all the conditions favorable for their further development. It is easily understood, therefore, how the primary adenopathy, faithful companion of the initial lesion, and also the secondary adenopathies, more or less developed, represent the diffusion and multiplication of the infective products. It is also clear how, after the syphilemia has occurred by the continual pouring of the poisonous products from the glandular system into the blood, the various localizations in the different tissues are determined during the eruptive period, and this being past, the swelling of the glands remains as an exponent of the persistent infection. It is not difficult to understand the long pauses which are observed in the course of syphilis, given the possibility of a *latent microbism* which may exist in the glands not accessible to direct observation, in which the infective germs may be preserved for a shorter or longer period, always retaining their vital activity, which it would not be possible for them to preserve in the other tissues owing to the bactericidal means with which the normal organism is endowed, making it therefore a perfectly sterile medium.

Rightly had the prince of pathologists, Virchow, long ago declared that the syphilitic infection represented, not a permanent, but a transitory, dyscrasia in the blood; and that its chronicity was due to the persistence of the morbid elements hidden in the organism, and to the pouring of these from time to time into the circulation; and that the lymph tissue was the receptacle of these infective germs.

It is true that the adenopathies, both primary and secondary, are not uniformly developed in all persons; in some being more, in others less, marked. This fact, as most syphilographers agree, must be attributed to the greater or lesser activity of the infection in the different organisms, or to their varying vulnerability. In this way the clinical value and the pathological significance of the adenopathy remains unchanged.

Nor is this conclusion negated by the power assigned to the lymphatic glands of attenuating the virulence of pathogenic bacteria, not admitting the existence in them of phagocytism and of the antiseptic properties in the products of the glands, since we do not know the mechanism with which the glandular parenchyma can influence the pathogenic bacteria in order to lessen their virulence.

Manfredi, who has proven this power experimentally, is

inclined to attribute it to particular biochemical influences intimately related to the special structure and functions of the glandular apparatus, which are not found in other organs and tissues.

Clinical experience shows that the great number and the exaggerated development of the glands in many regions coincide frequently with syphilitic manifestations more or less intense, and adenopathies reduced to the slightest expression accompany a mild syphilis. We cannot, as Fournier well says, elevate that to a general law, and establish a constant relation between the gravity of syphilis and the quality of the adenopathies; because no law can be absolute in nature, and because many other factors may concur to render the course of an infection more or less severe, determining a greater vulnerability in the affected organism by diminishing its degree of resistance. But common experience shows us, in the greater number of cases, that severe forms of syphilis are marked by multiple secondary adenopathies; at least this has been my own experience and also that of several colleagues, including Prof. Gèmy, who has found that in the Algerians, whose syphilis is generally severe, the glands are almost always very numerous.

Modern researches, therefore, do not destroy, but rather confirm, the semeiological value which had been given to the lymphatic glandular system in the syphilitic infection, in which the swelling, whether in a group of glands or in a single gland, may represent a *residual infective focus*, the seat of a *latent microbism*. Experimentation and clinical experience are therefore in perfect accord, and that shows that the interpretation is just and exact.

We can, therefore, claim that syphilis is one of those diseases which specially affect the glandular system, parts of which are more prone to be influenced than others. For this we can give no explanation.

Not taking into account now the primary adenopathies, which accompany the initial lesion, but only the secondary adenopathies, due exclusively to the constitutional infection, the groups of glands most frequently affected are: 1. Those of the inguino-crural regions; 2. Those of the anterior, lateral and posterior cervical regions; 3. Those of the epitrochlear region. The examination of these glands must not be neglected by the clinician. I ask your attention here principally to the epitrochlear adenopathy, that is, to the swelling of those glands situate at the lower and internal part of the arm, along the internal border of the biceps, a few centimetres above the epitrochlea. It consists generally of a single gland, rarely of two or more, arranged in a series. (I have seen four on each side.)

The epitrochlear gland, which physiologically is sometimes

absent, is usually of the size of a pin's head and, therefore, not perceptible in the normal condition. In syphilis it may become as large as a pea, or even a hen's egg.

The epitrochlear adenopathy is less frequently observed than that of the other regions above mentioned; it begins in the secondary period, often later than the other adenopathies; it undergoes the same changes as the others, including the gummatous evolution. Its examination in every case of syphilis is all the more important as it is less influenced by other morbid principles, which often cause enlargement of the glands in other regions.

Tuberculosis and leprosy can cause, though rarely, swelling of the epitrochlear glands; but when these two infections can be excluded in a special case, the existence of syphilis must be considered.

When these glands are enlarged, it would seem to indicate a more severe degree of infection. I have also observed that the swelling lasts longer than in the other regions, in some cases from twenty-five to thirty-five years from the beginning of the infection, after all swelling had disappeared in the other regions. In case of doubt we should search for these enlargements, as they may help us in the discovery of a hidden or forgotten syphilis.

I. John S., 50 years of age, is a man of robust constitution; has never had malarial fever; has not abused wine or liquors. In 1870, while in the militia, had a chancre and bubo; does not remember having any trouble afterwards. In the year 1897 he was attacked by severe neuralgia in the right hypochondriacal region, which radiated towards the umbilicus and the lumbar region, beginning about 5 p.m. and becoming more intense during the night until 3 a.m., after which the pain became less severe. For six months he had tried different remedies, prescribed by distinguished medical men, without any good result. He came under my care in July, 1897. The objective examination of the abdomen was negative; liver normal, also the alimentary canal. The glands in the inguinal and cervical regions were not perceptible. A large epitrochlear gland was observed on the right side and also one on the left.

The presence of this adenopathy and the nocturnal character of the pains made me think of a syphilis, of which the man had been ignorant. I therefore prescribed hypodermic injections of sublimate. At the seventh injection the neuralgia disappeared. He had twenty injections and then received the iodine treatment until the end of the year. He then stopped all treatment. In December, 1899, the neuralgia recurred with the same characteristics, beginning at 5 p.m., but remaining severe till the early hours of the morning. Under the mercurial

treatment the neuralgia vanished at the seventeenth injection, and he considered himself cured after the thirtieth. Three months later the patient, when seen by me, had no pain; the epitrochlear adenopathy, although diminished, was still present.

Two other cases, almost similar, in which neuralgia characterized an old syphilis, fell under my notice in 1898. In these, too, the only exponent of the latent syphilis was the epitrochlear adenopathy, and in them the therapeutic test confirmed the clinical idea of the nature of the disease.

2. This is a case of long persisting epitrochlear adenopathy in a woman 64 years old, observed in August, 1899. G. C. had a sore at 28 years of age. Now she presents an osteo-periostitis in the diaphysis of the right tibia and a tubercular syphilderma in the body. Epitrochlear swelling is found on the right arm. In the other regions there is no glandular swelling.

3. P. S., of Riposto in Sicily, 46 years old, was seen by me in December, 1899. He had a sore at 23 years of age. He remembers no other trouble except a right gonorrhoeal rheumatism. Now he presents a laringo-stenosis from infiltration of the chord on the left side. He has also large epitrochlear glands on both arms, pointing to the syphilitic nature of the infiltration, which was cured by specific treatment.

It is not necessary to give other cases in order to show the diagnostic value of this epitrochlear adenopathy. In conclusion, we can claim that modern experimental researches have not at all destroyed the semeiological value which clinical observation had assigned to the changes in the lymphatic glandular system in relation to syphilis, and you will therefore give a proper prognostic appreciation to the existence of the adenopathy.

In any case, therefore, you must not raise the hopes of your syphilitic patient, if you observe a considerable swelling of his glands, by making him think that this indicates an active phagocytic process. But you will hasten to use all those therapeutic measures which science places at your disposal in order to avoid the possible serious consequences which the gravity of the infection might bring upon your patient in the future.

Society Reports.

TORONTO CLINICAL SOCIETY.

The regular meeting of the Toronto Clinical Society was held in St. George's Hall, Elm St., Toronto, on the evening of the 4th of December, the President, Dr. J. F. W. Ross, in the chair.

Fellows present: W. H. B. Aikins, Ross, J. M. Cotton, A. J. Johnson, R. B. Nevitt, J. O. Orr, C. Trow, K. McIlwraith, W. McCollum, J. Harrington, W. Oldright, F. Fenton, W. H. Pepler, H. J. Hamilton, C. Small, G. Elliott, H. B. Anderson, W. Lehman, A. Primrose, E. E. King, J. Leslie, H. A. Bruce and G. Chambers.

Visitor: Dr. Hooper.

Blastymocosis.

Dr. Graham Chambers presented this patient, a railway engineer, aged fifty years. The present attack began about October 1st of this year (1901). It began as a bluish-red pimple of lower eyelid of the right eye. The eyelids were swollen and there was great difficulty in seeing. Dr. Chambers examined the patient for the first time on the 23rd of November, when the characteristic warty growths were present, the surfaces for the most part being covered with crusts. The lesions were seen to be on the face, about the nose and upper lip, and on the backs of the hands and fingers; and when presented they had the appearance of dark rounded swellings the size of marbles. Dr. Chambers had diagnosed the condition as one of blastymocosis, although up to that time Dr. McKenzie had been unable to detect the fungus. The patient was taking 150 grains of iodide of potash daily and the lesions which were undergoing improvement were kept dusted with iodoform.

Menorrhagia.

Dr. R. B. Nevitt read notes of this case, which had occurred in a woman of thirty-five years of age, married for eight years, but no children. She menstruated first at fifteen years of age and suffered much pain, and at that time she was plunged into cold baths daily. When first seen by Dr. Nevitt fifteen years ago, she was undeveloped, pale and anemic. She was suffering from almost a constant flow, beginning with a rush and gradually diminishing in fifteen to twenty days, and then ceasing, leaving her weak and exhausted, to begin again and pursue the same round. This was going on for two or three years before she was first seen by Dr. Nevitt. At that time he advised rest

with tonics and astringents. She was examined under anesthesia and an infantile uterus found with a long cervix, a pin hole os, exceedingly small and almost impossible to feel it. The pubes were smooth and unprovided with hair,—altogether the genitals of a child. Nothing could be found to account for the normal flow. After curetting the uterus, she slowly improved and was finally married. Dr. Nevitt then lost sight of her for a year or two, when she turned up again and told him that she was troubled in early married life with almost constant flow. Since last June she has about sixteen days in which she has had no flow. Examined about a month ago, and she has developed a little since the last examination. The uterus is still small, but the left pelvis is now occupied with a rounded elastic swelling as large as the fist. All kinds of treatment, by drugs, rest and topical applications, curetment and electricity have been employed without lasting benefit.

Dr. E. E. King in discussing this case referred to the use of stypticin, which he had used in two cases. Both had been treated with other drugs, but they were absolutely useless. With stypticin, he has controlled two very severe hemorrhages.

Dr. Ross stated that he was very much opposed to the operation of hysterectomy in these cases. He has never had to perform it yet in this condition, and he has had some troublesome cases of hemorrhage.

Excision of Elbow.

Dr. William Oldright presented this patient, upon whom he had performed excision of the elbow, the patient having been one of the South African Contingent. The patient had had typhoid fever; blood-poisoning set in in the arm and ankylosis of the elbow resulted. There was also union of the radius and ulna for about three inches. About the 1st of November, Dr. Oldright excised the lower portion of the humerus and took about three-quarters of an inch off the radius and ulna. Dr. Oldright described the operation and exhibited the patient.

A Case of Mushroom Poisoning.—Reported by DR. A. J. HARRINGTON.

This occurred in a married woman of thirty-two years of age. She had eaten a few small pieces of raw mushroom and was seized with great dyspnea. Dr. Harrington gave two hypodermics of atropine; at two-hour intervals, of one-fiftieth of a grain, and the patient was quite well the next morning. (Fully reported in December number of the *Dominion Medical Monthly*.)

Dr. Oldright showed a pathologic specimen of fibro-myoma of the uterus.

Cyst of Kidney—Specimen.

This specimen was shown by the President, Dr. Ross, who also related the history of the case, which occurred in a married woman, forty-two years of age, twenty years married and had three children; no miscarriages. Owing to her feet and legs swelling, she thought she had Bright's disease. She consulted her physician and on examination of the urine, albumin was found. Her only complaint was swelling of the feet and headaches. Her doctor had also stated that there was a growth in her side. She was examined by Dr. Ross, who came to the conclusion, that the mass, from its fixity and situation and contour, was due to disease of the kidney. At this time there was no pus nor albumin in the urine. Dr. Ross stated that he did not rely upon a tympanitic note in the median line as of any value. The question was whether it was due to pus or a simple cyst of the kidney. Operation was made in September, 1901; made an opening on the left side. This opening was made good and large, and the tumor of the kidney was found, a cyst could be made out. The peritoneum was opened forward and the tumor drawn away from the peri-renal fat, and the ureter was tied off. Dr. Ross believes it always wise to bring the ureter out of the wound. The vessels were tied off en masse, and afterwards the artery was tied separately. The ligatures from the artery were left hanging from the wound. The patient left the hospital on the 12th of October, and she is at present in perfect health.

Ectopic Gestation.—By DR. J. F. W. ROSS.

For the fourth time, Dr. Ross has met with ectopic gestation, twice in the same patient. Dr. Ross then gave the history of one case. In 1898, a woman had hemorrhage, lasting for three weeks. On examination a mass was found behind the uterus and a diagnosis of rupture of pregnancy made. Operation was performed and a blood clot found shut off by adhesions. A good recovery was made. In June, 1901, the same patient had indefinite pains and flow of blood from the uterus. On careful examination a very small nodule was found on one side of the uterus. It was not easy to feel it, but it could be distinctly made out and it was separate from the ovary. A delay of two weeks ensued and patient came back at the end of that time for re-examination. The nodule had enlarged to about double the size. There were no other signs of pregnancy present. Operation followed, and Dr. Ross stated that this was the smallest unruptured ectopic gestation he had ever seen. The patient made an uninterrupted recovery.

Double Extra-Uterine Pregnancy in the Same Patient.

Dr. Ross then reported the following case which had come under his care since the one above reported. On examination a

blood clot could be felt breaking down in the pelvis, the mass being chiefly felt on the left side. She was taken ill with sudden severe fainting while lying in bed. She had a peculiar coloring of the skin and collapsed look. She had very little menstruation in September and October. As soon as this gestation sac was removed, the finger was passed down to the left side and another one was found on that side, a three and a half months' fetus, and the right one was certainly active as well as the left. The peritoneal cavity was washed out rapidly and salt solution had to be given and the legs bandaged. The wound was closed with through and through sutures. At the time of reporting the case, the patient was going on to recovery.

GEORGE ELLIOTT,
Recording Secretary.

TORONTO CLINICAL SOCIETY.

On account of the regular meeting night falling on the night of New Year, the January meeting was held on the evening of the third day. Dr. J. F. W. Ross, the President, occupied the chair.

Dr. Hamilton moved, seconded by Dr. King that the sum of \$25.00 be donated to the Ontario Medical Library Association. Carried.

Loose Cartilages from the Knee Joint.

Dr. George A. Peters showed these specimens and reported one case. The patient in this case was a young man of twenty-two years of age with a good family history. Nine years ago, while playing hockey, he was struck on the knee. He complained of weakness in the joint for two years. He was serving on a training-ship and was then incapacitated. The condition was accompanied by considerable pain. The foreign body could be felt quite readily, though it would disappear under the patella. This had existed now for seven years. It was removed under cocaine anesthesia. The incision was made at the upper aspect of the joint about an inch and a half above the upper border of the patella, cutting through the quadriceps extensor. The little body obtained was cartilaginous on one surface, but the opposite aspect bony.

Case Foreign Body in the Esophagus.

Dr. Peters presented the patient, a young man of about thirty, and the foreign body, a dental plate containing one tooth which

had become dislodged and swallowed while in the act of drinking a cup of tea. Dr. Peters also showed a somewhat larger plate, which had been removed from the esophagus by the late Dr. MacFarlane, the two cases being the only instance of the kind in the Toronto hospitals. In the present case the foreign body had lodged just below the level of the cricoid cartilage and gave the patient great pain at the time and afterwards. Attempts to extract the plate through the mouth failed, so it was decided to employ the X-ray to locate it. With this the plate could be seen, but not the tooth, as the porcelain was permeable to the rays. Operation was then undertaken, assisted by Drs. Baines and Wishart. An incision about three inches long was made on the left side of the middle line corresponding to the anterior margin of the sterno-mastoid muscle. When the finger was passed into the esophagus and in an upward direction, the foreign body was found embedded in the pharyngeal wall. The wound healed kindly.

Dilatation of the Esophagus.

Dr. Peters then reported this case and showed the specimen. It occurred in a young farmer of thirty-five years of age. He had been a healthy, hardy man until thirty years of age. At that time he noticed regurgitation of food and liquids after meals. There had been no difficulty in swallowing before that time. He noticed that the food came back sweet and not sour. During the last year and a half he had lost fifty to sixty pounds. He was placed under the care of Dr. Howitt, of Guelph, who did a gastrostomy. After this he improved for a time to the extent of gaining fifty-three pounds. He began to go down hill again and he then came under the care of Dr. Peters. Dr. Peters operated and made an incision on the left side parallel to the margins of the costal cartilages. With his fingers in the wound and a tube passed down the esophagus he could not feel the tube at all. The stomach was opened and after putting finger in and searching a great deal, he found the esophageal opening. It was to the right of the middle line. The man died very promptly after the operation. Dr. Peters then gave his method of cutting calculi by means of a horse-shoe and plaster of paris and exhibited a calculus, removed by the super-pubic operation, weighing six ounces.

A Case of Peripheral Neuritis Simulating Tabes Dorsalis.

This was reported by Dr. D. Campbell Meyers, who believed that cases of this nature are often diagnosed as cases of tabes dorsalis. The patient's previous history showed that he had always been healthy and had never had any venereal disease. The present illness began in July, 1899, with depression of

spirits, head and headache and failure of sight. There was impaired sensation from the feet to the knees which he compared to that present in a limb which has been asleep. Under treatment in the hospital he did not make very rapid recovery at first for a long time and Dr. Meyer began to fear he had made an error in diagnosis. However, a return of his natural condition set in and he was soon able to leave the hospital, and in September he was able to do everything in connection with his work.

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, J. FERGUSON, T. M. McMAHON, H. J. HAMILTON,
AND INGERSOLL OLMSTED.

Carbonate of Creasote in Pneumonia.

In the treatment of pneumonia, Dr. Leonard Weber, of New York (*Med. Rec.*), has presented a report of a number of cases doing remarkably well under the use of the carbonate of creosote; using from fifty to sixty grains daily. The above-mentioned observer remarks: "It may be urged that, pneumonia being a self-limited disease, even bad cases will recover; so they do, as we all know; but then good and uncomplicated cases die in spite of the best care and the so-called symptomatic treatment, because the system does not furnish a sufficiency of serum antitoxins to end the pneumonic process. Unfortunately, we are not in a position to tell in any case of pneumonia whether Nature will be able to do the one thing needful and cure the patient; we must go on, therefore, trying to find a remedy on which we can rely in helping Nature's efforts. These cases, and many others, have shown, I believe, that creosotal is such a remedy, working in a very similar way to the antitoxins furnished by the system."—*The Clinical Review.*

Danger of Lead Poisoning from Use of Pewter Drinking Cups by Children.

Vaxiot describes a case of lead poisoning under his care for some months. The child, of four and a half years, had the blue line on gums, paralysis and constipation. It is recovering under the ordinary treatment, but the interesting fact is the cause.

On questioning the mother, nothing was obtained to throw any light on the subject. No lead soldiers or toys of any kind were found, but a pewter goblet was obtained, which the child always used. This was found to leave a black mark when drawn across white paper, just like lead, and could be scratched with the finger nail. On analysis, tin and antimony were found in quantity, but 75 per cent. was lead.

Tracing up the literature and making enquiries from other sources, he obtained news of other like cases and ends by warning physicians to see that such utensils are not used.—*Gazette des Hopitaux.*

Persulphate of Soda in Tetanus.

Gelibert gives an account of numerous experiments carried on for the last two years with persulphate of soda injections in tetanus. Dogs were used for subjects, and it was found that injection of poisonous doses of tetanus toxin were antidoted, if followed at once by subcutaneous injection of sodium persulphate. Fresh and pure salt must be used.

Mixed with 10 centigrammes of soda persulph., solution was given to a guinea pig of 500 grn., ten times a fatal dose of tetanus toxin, and no effect was noticed.

The neutralization was not obtained if some minutes elapsed between the large dose of tetanus toxin and the soda solution but the guinea pig lived some time. A dog of 25 kilos. which received 20 c.c. of tetanus toxin, of which 1-100 centimetre killed a guinea pig in three hours, lived and recovered.

Persulphate of soda has an invariably favorable action on the tetanic contractions.

In animals in which the disease develops slowly, the chances of recovery are much better.

Then follow two histories of cases in children, which were treated by injections of persulphate of soda, and who both recovered although the cases were serious.

Ten c.c. of a five per cent. solution were injected three or four times daily, and favorable results noticed early.—*Lyon Medicale*.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, JAMES F. W. ROSS, ALBERT A. MACDONALD,
AND K. C. McILWRAITH.

Pregnancy.

If the uterus grows faster than usual during pregnancy, suspect vesicular degeneration of the chorion (hydatid mole).

If the uterus stops growing, or grows more slowly than usual during pregnancy, suspect "missed abortion," (fleshy mole).

If after a threatening of abortion, the breasts soften and their secretion disappears, be sure that you have to deal with "missed abortion."

When you suspect missed abortion, do not interfere unless signs of sepsis appear, or hemorrhage is severe, for it must be remembered that in twin pregnancy one fetus may perish and the other go on to term.

When dealing with the symptoms of abortion, never forget to consider the possibility of ectopic pregnancy.

Abortion should never be induced, however urgent the indication for it, without having a consultation, the result of which should be recorded in writing, signed by both practitioners and preserved by one of them.—*From Fothergills Rules of Obstetric Practice.*

Rupture of the Uterus.

Varnier (*Rev. de Gynéc. et de Chir. Abd.*, September-October, 1901) publishes twenty-three personal observations collected between 1885 and 1901. He divides them into two groups: (I) 1885 to 1897—eleven cases of rupture of the uterus treated from below, that is to say, delivery of the child and placenta by the natural passages, followed by plugging. The appalling result of ten deaths to one recovery is recorded. (II) 1897 to 1901—twelve cases, out of which six were treated from above by an exploratory and reparatory operation on the uterus; three recovered. In six remaining cases death supervened too early to allow of preparations for abdominal section. Varnier, on the above experience, insists that the extent of the rupture and its completeness or incompleteness can never be safely defined by palpation alone; an exploratory operation is, therefore, always needed. When the abdomen is opened, conservative treatment is to be rejected. The laceration of tissues interferes with repair, and, even when the uterine wound cicatrises well, there will be danger of rupture through the scar during a future labor. The scar in this kind of case is different from the scar of the clean-cut wound through healthy tissues after a successful normal Cesarean section. Either Porro's operation should be practised in a case of rupture, or else retroperitoneal hysterectomy with careful suturing of the torn peritoneum as well as of the flaps of the uterine stump. The scar should be kept against the abdominal wall and the vagina plugged. Pinard discussed Varnier's memoir, which was read at a Congress at Nantes in September, 1901. He considered that rupture of the uterus was always grave, whatever the subsequent treatment. In some cases the symptoms are ill-marked, the patient being a little restless and the pulse rapid. Even after rupture there may be no flooding, and the uterine contractions may continue and deliver the child and placenta spontaneously. The mildest-looking cases may end fatally if treated from below only or "expectantly." In short, Pinard insists that when once rupture of the uterus is diagnosed abdominal section is indicated.—*Brit. Amer. Jour.*

Missed Abortion.

Zalidès (*Rev. Mens. de Gynéc., Obstét., et Pédiat. de Bordeaux*, July, 1901) publishes full clinical notes of missed abortion.

The patient was a multipara aged 37. The fetus died through some undiscovered cause during the third month of pregnancy; it mummified, remaining six months in the amniotic fluid. The uterus tolerated the dead fetus, practically a foreign body, retaining it until exactly nine months after conception. Then flooding occurred, and a few days later delivery was effected artificially. The placenta had continued to develop after the death of the fetus, whilst the cord atrophied, and was at delivery as thin as a knitting-needle. After extraction of the fetus the placenta remained adherent for three days, notwithstanding various attempts to remove it. There was a slight flooding and then fever. Eight grains of quinine were given, and in a few hours the uterus expelled the placenta spontaneously. The patient did well afterwards. The placenta was as large as a man's hand, five inches in diameter, circular, not degenerate, but distinctly fetid.—*Brit. Med. Jour.*

Septicæmia.

Puerperal infection, like other wound infection, should be treated not by the administration of drugs, but by prompt surgical means. Loring considers proper surgical treatment, early and thoroughly applied, is most essential to save life and prevent chronic invalidism. By puerperal infection he understands that which occurs in the first four months after delivery. Infection following early abortion is least dangerous, the danger seeming to increase in direct ratio to the period of gestation. Probably in not more than twenty-five per cent. of the cases having rise of temperature after labor, is this due to puerperal infection. If this infection is early determined and has only affected the free surface of the decidua, simple intrauterine irrigation with normal salt solution or boracic acid, two per cent., may effect a cure. Since strong antiseptic solutions destroy the cellular elements and produce subsequent sloughing, they should never be used unless immediately followed by curettage. If, however, the infection has penetrated deeper and has involved the lymphatics, etc., curettage and opening of the cul-de-sac should be resorted to, and the widest possible field of drainage obtained. The technique which Loring deems best is fully described. In his opinion there are few cases of puerperal infection which will not in a few days be permanently cured by this method.—*Amer. Med.*

Eclampsia and the Thyroid Gland.—H. O. NICHOLSON, *Scottish Med. and Surg. Jour.*, June, 1901.

Changes in the Blood and Circulation in Pregnancy.—There is an increase in the volume and a deficiency in solids, thus leading to a lower specific gravity, i.e., decrease in red and

an increase in white corpuscles, water, and fibrin. The amount of toxic products is increased owing to absorption of fetal excretories, also hypertrophy of cardiac muscle, and of the muscular coat of the blood vessels giving rise to vascular tension due to the toxic condition of the blood. In chronic uremia arterio-sclerosis exists, and Dr. W. Russell has shown that the thickening of the arteries is due to an increase in the muscular coat and fibrous hyperplasia of the interna.

The toxemia of Pregnancy and its bearing upon Eclampsia and Coincident Anuria. In every pregnancy a certain amount of toxemia exists, increasing towards the end of pregnancy, though the toxic agent is not always the same, and alarming symptoms may not occur if the kidneys act freely.

Of the nature of the toxins we know nothing, but if, as is probable, the fetus is largely responsible for them, it is impossible to prevent their occurrence; we must look rather to securing elimination by the kidneys. In certain cases there is an intimate relationship between inadequate thyroid function and the current of renal secretion.

The State and Functions of the Thyroid Gland in Pregnancy.—The thyroid gland normally enlarges during pregnancy. Lange met albuminuria in 20 out of 25 cases in which the thyroid did not enlarge. Large doses of thyroïdin were given to pregnant women in whom the thyroid had enlarged, with the effect of reducing its size, and in pregnant women with albuminuria he found it to have distinct diuretic action.

Case of Puerperal Eclampsia Treated by Thyroid Extract.

W. L., aged 30, III.-para, 5 months. With the first pregnancy had swellings and convulsions; child dead. With the second, convulsions, but was treated by chloral and bromide; child living. In this pregnancy gave up butchers' meat; later on, however, swellings and convulsions occurred; under chloral and bromide sleep was obtained. She was then placed under thyroid treatment, taking a 5-gr. tablet twice daily. All other medication was stopped, but milk diet continued; gradual improvement followed, with reduction in amount of albumen. A full time live male child resulted.

The Relation of the Thyroid Gland to Eclampsia, as seen in its bearing upon the pre-Eclamptic Symptoms—Edema.—Frequently present in pregnancy without albuminuria, generally an early symptom. This edema is of a more solid character than that of ordinary dropsy, more of the myxomatous nature. If it is present to a great extent thyroid inadequacy is indicated, but in the absence of albuminuria and diminished quantity of urine, no symptoms may be present.

Albuminuria.—Allbutt's toxemic theory is a likely one. It accounts for the high-tension pulse, existing without other symptoms. As the toxemia increases albumen appears in the water; this is again followed by scantiness of the urine, convulsions following. Herman criticizes this theory, and says it is incompatible with the onset of eclampsia in a few hours in an apparently healthy subject, and also with the rapid disappearance of symptoms after pregnancy is completed. Diminution of urine, with a decrease in the amount of urea, is a prominent danger signal. High arterial tension, a radial pulse-tracing showing high tension, is an earlier indication of danger. In later pregnancy the higher the tension the less urine is secreted. Headache, restlessness, epigastric pain, vomiting, and unaccustomed diarrhea, all point to an unsafe degree of toxemia. Edmunds states that if the thyroid and parathyroid glands of a dog be removed, probably the first symptom observed is a "fibrillar twitching of the muscles." Similar twitchings are seen in the eclamptic patient.

The Evidence of the Defective Action of the Thyroid Gland may and does produce these Symptoms, culminating in Eclampsia.—Action of iodothyryn. Under its action the metabolic processes are greatly increased—*ergo*, bodily waste, chiefly of proteid tissue, is augmented; the quantity of urea excreted is increased; the thyroid gland stores up iodine in organic combination, but it is not to the iodine that its functions can be ascribed. Iodothyryn is manufactured continuously, and in certain conditions, as in pregnancy, is accompanied by a hypertrophy of the gland. Fresh thyroid juice has a diuretic effect. Urea is a powerful diuretic. In inadequate thyroid action the destruction of proteids is diminished, less urea is formed; therefore there is a diminished secretion of urine, as found in cases of eclampsia.

The Treatment of Eclampsia and the pre-Eclamptic State by Thyroid Extract.—In the early stage, with high pulse tension, diminished excretion of urine, and no albumen, 5-gr. tablets of thyroid extract may be given two or three times a day. Proteid foods should be forbidden at first, but can afterwards be given cautiously. Iodide of potash has been regarded as a specific for puerperal albuminuria; it probably acts by supplying iodine to the tissues, and is picked out by the thyroid gland and elaborated into iodothyryn.

In later stages, when fits are present, or imminent, administration of thyroid by the mouth is not rapid enough; frequent injections of thyroid juice must be used. For the convulsions, morphia is the best remedy, as during its action tissue metabolism is lessened, thus giving time for the thyroid to resume its function. The urea that is thus temporarily locked up in

the system has to be got rid of later on; its elimination can be greatly assisted by employing salicylate of soda. Large saline infusions assist by causing vascular dilatation and diuresis. Thus the special indications for treatment are all fulfilled, that is, lowering of pulse tension, promoting of diuresis, and supplying iodine to the tissues.—*Quarterly Med. Jour.*

PEDIATRICS.

IN CHARGE OF ALLEN BAINES, W. J. GREIG, AND W. B. THISTLE.

Means of Arresting Acute Endocarditis. By RICHARD CATON, M.D. (*Brit. Med. Jour.*, October 12th, 1901).

Summary.—Ordinary rheumatic treatment by the salicylates, and an occasional cholagogue and a light diet. Patient kept strictly in bed for several weeks, clothed in flannels. Any lingering pains dissipated by the use of blisters. Absolute physiological rest, physical and mental, for six weeks, is the first essential requirement. Through the nerve connection between the skin of the thorax and the cardiac ganglia, he attempts to influence a cardiac inflammation by means of a succession of small blisters, each the size of a florin, applied to the chest between the clavicle and the nipple, one blister at a time, and each followed by a small poultice. The third point is the administration of sodium iodide to absorb any exudation that had taken place into the substance of the valve.

Ninety-two cases of acute endocarditis had been treated by this method. Sixty-one of these had a murmur when they came under observation; whether recent or not was not known. Of these, sixty-one left the hospital with apparently sound hearts, while in twenty the signs of valvular disease persisted. In thirty-one cases the bruit and other signs of valvulitis developed during their stay in hospital, and of these twenty-eight left hospital with apparently sound hearts and three with permanent valvular disease.

The treatment must be begun early; the patients must refrain from anything that will put a strain on the heart for several months after recovery. If a second attack of rheumatism occurs the valvular mischief is apt to reappear and is more difficult to remove.

Professor Osler expressed the desirability of knowing the condition of the heart in these sixty-nine cases several years after they left the hospital.

Professor Clifford Allbutt stated that in his experience well-marked physical signs of "post-endocarditis" in a substantial

minority of cases wholly disappeared. This he had frequently verified in the examination of patients who had formerly had endocarditis, and in whom evidence of cardiac injury had disappeared. He emphasized the importance of reducing the blood pressure and also the mass of blood which had to be lifted at each stroke of the heart. This latter might be effected by reducing the amount of fluid taken *per orem*.

Sir William Gardiner spoke of the importance of rest, as complete as possible, as a prophylactic and curative agency in rheumatic endocarditis.

Sir William Broadbent thought that more benefit would follow the use of the salicylates if they were given more freely. To an adult he was in the habit of giving grs. xv every hour for six doses in two successive days. He believed that given in that way, it exercised an important preventive influence in endocarditis.

W. J. G.

Editorials.

FEDERATION OF TRINITY COLLEGE WITH THE UNIVERSITY OF TORONTO.

At a recent meeting held in the University of Trinity College, it was stated by the daily papers of Toronto that "Federation was in the air." We publish in this issue certain references to this question which we have extracted from the report which appeared in the *Daily Globe*, January 15th. The same paper, in commenting in a general way, speaks as follows: "Under the roof of the Trinity of to-day there gathered last night a brilliant, and, in some respects, unique assemblage, in its wide catholicity and hearty friendliness, a most impressive evidence of the healing power of time and the capacity of this country for dismissing into the limbo of the past outworn quarrels and controversies no longer vital. The Presbyterian, the Methodist, and the Baptist educational institutions of Toronto were the guests of the Anglican university; nay, the air was filled with the murmur of the approaching federation of Trinity with that university whose secularization drove the younger university's founders in wrath to their task. From antagonism to goodwill, from division to union; the occasion was symbolical of much."

We are especially pleased to be able to publish the views of the authorities of the University of Toronto, as enunciated by Sir William Meredith, the Chancellor. There was an impression in the minds of many that certain friends of Toronto University were opposed to federation. We think we can say without any doubt that the opponents of federation in University circles are very few. There exists, however, a feeling that the Government of Ontario is anything but generous, or even just, in its treatment of its Provincial University. As it becomes bigger and broader through various affiliations and federations the responsibilities of the Government become increased. The Premier and Minister of Education do much by their public utterances to promote the best interests of the University, but they generally fail sadly as to their duties when the "estimates" have to be considered.

MEMORIAL TO DR. LESSLIE SWEETNAM.

We are pleased to be able to announce that the late Dr. Sweetnam's most intimate friend, Dr. Howard Kelly, of Baltimore, has performed a very graceful act. He asked a representative of the Ontario Medical Library to look through Dr. Sweetnam's large collection of books, and choose all that were not already included in the Ontario list. Dr. N. A. Powell, who performed the pleasant task, found two hundred and seventy-five volumes. Mr. A. T. Watt, the well-known dealer in medical text-books, was asked to name their value. After a careful examination his valuation was something over eleven hundred dollars. Dr. Kelly has purchased these volumes at the price named, and presented them to the Ontario Medical Library, with the understanding that they shall constitute the Sweetnam memorial portion. The many friends of him who has gone will very highly appreciate this considerate and generous act. We may say, at the same time, that it has caused no great surprise among the host of Canadians who have received so much kindness at the hands of Dr. Howard Kelly since he became a member of the Johns Hopkins Hospital staff.

THE CASE OF DR. HARBOTTLE.

It has given much pleasure to notice the very kindly tone of the lay press of this Province in commenting on the case of Dr. Harbottle, who was recently sentenced to imprisonment in the Central Prison for one year for shooting a man named Stuart. So far as we know, every one at all cognizant with all the circumstances, excepting the learned judge, considers that the sentence was a harsh one. As to that we have little to say, as the judgment must be considered just in the eyes of the law, which will not justify such usage of a loaded revolver.

To those who knew Dr. Harbottle in his student days, and have watched his career since he graduated, there is something inexpressibly sad about the whole miserable business. If there ever was an honest, kindly, worthy, inoffensive, and peaceable man, his name was Robert Harbottle. He was always to some extent peculiar or eccentric. His views were not usually

exactly orthodox, but he was never aggressive in asserting them. In fact he was, as a rule, so thoroughly good-natured that his associates seldom or never had cause to quarrel with him. He was well known in Toronto University circles during his undergraduate days. He graduated B.A. in 1864, M.A. in 1865, and M.B. in 1867, with a high standing at all his examinations.

As is well known, the evidence at the trial showed that for years he had been subjected to a contemptible sort of persecution, which was a disgrace to even a community such as that which inhabits Burford. We quite agree with the *Toronto Globe* when it says: "The sentence is, no doubt, just; yet we are inclined to think the circumstances of the crime are so singular, so pitiable almost, that it is a case in which justice may well be tempered with mercy, even more liberally than has been already done." We are glad to know that a petition for clemency towards Dr. Harbottle is now being circulated.

PROVISION FOR THE TREATMENT OF INEBRIATES.

In an interview with the Provincial Secretary on the 5th inst., the Prisoners' Aid Association, accompanied by an influential delegation, asked that the proposed bill for the treatment of inebriates be introduced this session if at all possible, but if not possible they were there to ask that at least some steps be taken by the Government without further delay in promoting the treatment of inebriates either in cottage hospital or in the wards of public hospitals where such accommodation is available. To this end the deputation asked that the sum of \$3,000 be set apart by the Government to be used in this manner, tentatively or experimentally, until the next meeting of the Legislature. The Provincial Secretary replied in effect that as this is the last session of the Legislature before the general elections, the Government could not see its way to the introduction of the proposed bill. The Government, he declared, was in sympathy with the movement, and although the bill would not be brought down this session, he would be glad to recommend to his colleagues that an appropriation be made

this session to be used to a certain extent experimentally during the next twelve months. He said, moreover, that he was very favorably impressed with what he had learned of the work along this line already accomplished by the Prisoners' Aid Association, and that whatever grant would be made for the purpose would doubtless be made in such a manner as to enable this society to continue and extend the work already begun.

Although this falls far short of what was asked for and what was expected, it is at least a step in the right direction, and will in all probability lead to the adoption of the proposed bill in the near future. As this movement has been inaugurated by the Prisoners' Aid Society, the Government could not do better than to entrust the working out of this important problem, at least in its initial stage, to this enterprising and energetic association.

Six or eight months ago the Prisoners' Aid Association commenced the treatment of inebriates in connection with the Working Men's Home on Frederick Street, Toronto, both for the benefit of discharged prisoners and other indigent and homeless men. Up to December 31st last medical treatment was given to sixty-one. Of these, twenty-one are known to be doing well. No permanent improvement resulted in sixteen cases. In sixteen cases some benefit was derived from the treatment, while in seven cases the result was doubtful or not known. During treatment the inmates of the Home are brought under moral and Christian influences and a helping hand is extended in finding employment. In most cases the patients were either single men or married men separated from wife and family through drink, and consequently without home restraining influences. Considering the class of men dealt with and all of the attending circumstances, the Prisoners' Aid Association believe they have reasons for being more than satisfied with the result. We say most decidedly so, and we wish the Association every success in the further prosecution in this new department of work.

That admirable monthly—the *Brooklyn Medical Journal* began its sixteenth volume in a new dress. We regret that its managers should have changed a form so handsome into one so ugly.

TRINITY AND FEDERATION.

At a very interesting function in Trinity College, January 15th, when Mr. Christopher Robinson became Chancellor in the place of Hon. G. W. Allan, deceased, the following references were made to Federation. The new Chancellor said :

It will not be expected of me now, I think, on my entrance to office and on an occasion like this, that I shall speak of the affairs of Trinity. I can only say I believe we have done good work in the last half century, and I see no reason to doubt and every reason for confidence that in the years to come we shall do perhaps even better. Whether we should go on as we have been or whether we should enter into closer relations with our Provincial University, is a matter for the future. That I cannot tell. One thing is quite certain. Trinity must always remember the object for which she was brought into existence, the combination of religious instruction according to the doctrines of the Church of England with secular learning, and, next to that, she shall adhere to the residential system, both in connection with the teaching and for other reasons. These two primary objects must always be safeguarded, and her ability to carry out these purposes must never be interfered with or prejudiced. Subject to these two requirements, I believe myself, speaking now as a general subject entirely, that confederation is desirable. I say so for these reasons: I believe no one, if higher education was now for the first time to be provided in this Province, would advocate our present system. I believe, in the next place, that it is the result not so much of the differences which now prevail as of old controversies, which have long since been settled, and for reasons which I trust and believe have entirely passed away. I think I am beyond a doubt the only person now living who is a graduate of both universities, and I am glad to be able to add to that, that among many of my very best friends, both of those who have gone and those who now remain, I count some of the most distinguished members of the University of Toronto. If in this capacity as being a graduate, interested in both, it may be my lot to do anything to draw them closer together and enable them to go forward in the great work they both have at heart, the advancement of higher education, I can only say it will be to me the greatest possible gratification. I believe that confederation, if it can be brought about, and only if it can be brought about by some arrangement which will be satisfactory and permanent, is a most desirable thing, and will be a gain to both parties.

Mr. E. B. Osler, M.P., said a university existed for two things, to educate and to form character; and he was disposed to regard the latter as the more important. He entered into an exposi-

tion of his ideal of a university, as a great centre which would provide ample means for the teaching of the sciences, with highly-paid professors, the best men that could be got, and around it affiliated colleges, whose especial function, he intimated, would be the moulding of character. Such an institution—which he observed, he thought, should be independent of the Government—would attract the gifts of rich men, without distinction of creed. Continuing, Mr. Osler said that Trinity would not go into any federation unless she went in on equal terms for all. If these terms could be obtained it would be a great advantage to Trinity and to the central university.

Hon. Richard Harcourt, the Minister of Education, said: References had been made to the universities ploughing a lonely furrow. He asked if they could not accomplish more working a double harness, ploughing two furrows at a time and reaping a grander harvest. He asked if they did not feel a sense of loneliness coming over them in the west end of the city. Would it not be well to transplant their lovely building to an equally lovely situation in the Queen's Park? Would it not be possible to maintain every distinctive principle for which they had pleaded there that night, the residence principle, and the principle of religious instruction? In conclusion, he promised on behalf of the authorities of the Provincial University that if Trinity would come in on as fair an agreement as the new Chancellor could draft, she would be received gladly.

Chief Justice Sir William Meredith spoke for Toronto University. He joined in congratulations to Trinity, alike in the completion of her half century and in the election of her Chancellor, to whom he paid a particularly warm tribute. He went on to touch upon the federation question. In some quarters it had been thought that there existed on the part of some persons connected with the University of Toronto a feeling of hostility to federation. He took this opportunity of saying that such an idea was absolutely without foundation; all those in authority in Toronto University were desirous of meeting Trinity if an arrangement could be got satisfactory to both parties, to bring about a federation which would enable the two bodies to unite in promoting the great cause of the higher education of the Province. There were difficulties which must be overcome, but he believed that Trinity's choice of a Chancellor would assist in the solution of those difficulties, which he did not regard as insuperable. He believed an arrangement could be arrived at by which the particular views and the autonomy of Trinity might be preserved. He also referred to an anonymous pamphlet which had been published on the question, saying that its author was not a true friend to either Trinity or Toronto. He alluded to the difficulties in the way, and said

that he would give Trinity one word of advice, to insist upon the Government of Ontario placing the university on a sound financial footing. Upon this point Sir William spoke for a moment, and he concluded by assuring his hearers that whether Trinity went forward alone or came into federation, there would be no rivalry so far as Toronto was concerned, except as to which would turn out men with the highest culture.

Unnecessary Operations.

It cannot be denied that at the present time there is a tendency to perform operations upon cases where, to say the least of it, operative interference is unnecessary. In this way a veritable *cacoethes operandi* grows apace. In no department of surgery is this so prevalent as in that of the nose and throat. A distinguished laryngologist has lately drawn attention to the subject in a lecture on the principles of local treatment in diseases of the upper air passages. He points out that the craze for operation is conspicuous in the case of adenoid vegetations, which came before the notice of the profession only about twenty years ago. Suddenly operation for adenoids became the rage, and every lymphatic nodule in the pharynx was promptly removed. It must be admitted that in a severe case causing obstruction to nasal respiration, operation is not only justifiable but distinctly indicated; but many non-obstructive cases do not necessitate operation, and the adenoids often disappear spontaneously. In the case of adenoids, the fault lies partly with the public, for parents ask each other if their children have been "done," as if it were a matter as necessary as vaccination. With regard to the danger of this excessive operating, in 1896 statistics were published showing that in two years and a quarter eleven deaths were reported after operation for adenoids, most of which were consequent upon the practice of obliging the anesthetist to perform his duties with the patient in the sitting posture. Next to adenoids, perhaps operations on the nose come into the question. No one can object to a nasal spur, or other material obstacle which causes serious obstruction to breathing being removed, but every slight deviation or spur of the nasal septum does not require the saw, nor every puffiness of the turbinate bones the cauterization.—*Medical Press and Circular*.

Personals.

Dr. Harry W. Spence, at last accounts, had returned from India and China to London, England.

Dr. Fred. A. Young, of Toronto, and Dr. George McLaren, of Hamilton, are in London, England.

Dr. G. Gow, commenced practice in Windsor, February 1st, in partnership with Dr. P. A. Dewar.

Dr. J. D. Balfour has resigned his position as Superintendent of the Victoria Hospital, London, Ontario.

Dr. Angus McKinnon, formerly of Alvinston, County of Lambton, is now living in Los Angeles, California.

Dr. Frederick P. Drake, of London, Ontario, was married to Miss Daisy Wright, of Port Huron, January 15th.

Dr. Angus McKay, M.P.P., of Ingersoll, is residing in Toronto temporarily, having taken a house on Hayden street for the session.

Dr. A. J. G. Macdougall, of Toronto, and Dr. R. D. Sproat, of Milton, have gone to Bermuda, to act as civil medical attachés to the regiment in charge of the Boer prisoners.

Miss Campbell, masseuse, of College Street, whose extensive practice is rapidly increasing, has returned from Philadelphia, where she has been further perfecting herself in her profession.

Mr. J. W. Flavell has been elected a trustee to the Toronto General Hospital, to fill the vacancy caused by the death of the late Mr. Walter S. Lee. This election gives general satisfaction.

Dr. A. T. Hobbs, formerly of the London Asylum for Insane, has been appointed Superintendent of the "Homewood Retreat," Guelph, in the place of Dr. Stephen Lett, incapacitated through serious illness.

Dr. W. T. Stuart was the victim of an accident in the chemical laboratory of Trinity Medical College on Monday evening, January 13th, when the explosion of a chemical mixture caused an injury to his eye. We are glad to know that no serious results followed.

Dr. W. H. Drummond, of Montreal, has been again delighting Toronto audiences with his charming habitant sketches. While in Toronto recently he gave one of his lectures in the University of Toronto. He was entertained by the Canadian Club, President Loudon, Professor Mavor, and Dr. N. A. Powell.

We are pleased to announce that Dr. James Thorburn, of Toronto, who was seriously ill for some weeks, is recovering.

Dr. G. H. Burnham has leased the residence of the late Dr. J. E. Graham, 134 Bloor Street East, for a term of five years, and will move about the first of May.

A number of the friends of Sir William Hingston, of Montreal, celebrated his professional jubilee by presenting him with a portrait of himself in oil. He graduated from McGill University in 1851.

Dr. Goldwin Holland (Tor. '99), House Physician, Toronto General Hospital, 1900-1), has recently passed the examination of the Royal College of Physicians, London, England, and is now a Licentiate of that body.

Dr. George McDonagh and J. Milton Cotton, of Toronto, spent the first half of the month of February in New York. Dr. McDonagh was prevented from taking his trip to California on account of an accident (fracture of leg) to his brother Mr. Jno. McDonagh.

Sir James Grant, of Ottawa, delivered a lecture on the "Secret of Long Life," in the chapel of Victoria University, Toronto, under the auspices of the Victoria Women's Residence Association. Dr. W. W. Ogden acted as chairman. Sir James referred chiefly to the prevention of disease, and the maintenance of the body in health by careful sanitation and the exercise of care in the treatment of the physical system.

Obituary.

TERENCE SPARHAM, M.D.

Dr. Sparham, of Brockville, died suddenly January 11th, aged 89. He graduated M.D. in McGill in 1841. He had been in poor health for a long time, and had not been engaged in active practice for some years.

DR. FORTIER.

Dr. Fortier, physician to St. Vincent de Paul Penitentiary, Province of Quebec, died January 10th, aged 69.

Correspondence.

To the Editor of the CANADIAN PRACTITIONER AND REVIEW :

DEAR SIR,—The suggestions, or rather deficiencies, on account of which Toronto now suffers, and which Dr. Oille, of this city, has pointed out in the *Mail and Empire*, and which you have commented on in your December number, are indeed timely. The question is one on which the medical teachers should unite, and incidentally Dr. Oille should be commended for his patriotic desire to retain in their own country medical men who, desiring to improve their knowledge, and forced to avail themselves of the privileges and advantages to be found in a foreign country and not in their own. It is a generally recognized fact, and one in which all Canadians should feel the deepest pride, that the facilities afforded to undergraduates here are rapidly approaching the position of second to none, and there would be peculiar reasons which would drive a young man to the States to take his undergraduate course in medicine; and may the day soon come when it will be an unusual and unnecessary thing for a Canadian graduate to seek foreign fields for more advanced study. It was objected some months ago that the material was fully used during the regular winter session, and at present there was little available for summer or other work. This may be true to a certain extent, but there must always be plenty of bacteriological material, which is probably the most desired, and most urgent need of the older graduates to-day. The combined hospitals of Toronto surely afford material for medical and surgical instruction during the off months if it cannot be obtained in any one alone. I feel satisfied that if the teachers in Toronto felt that the work of a post graduate course in Toronto would be appreciated and backed up by the Ontario graduates, they would find a way out of any difficulty which may seem to be present now. I trust, therefore, that the profession will take up the question raised by Dr. Oille, and let our teachers know the want is felt and their efforts in the direction of filling the want would be appreciated. In conclusion, I feel that Dr. Oille should not be blamed for taking such a question to the lay press, for it is one which the laity themselves might very well urge, from the standpoint of patriotism and the public good of Toronto, nor did Dr. Oille write as a graduate of Toronto University. His only desire was to arouse the attention of Toronto teachers as well as the outside profession, to the question, and show that a combination of teaching faculties would be necessary at first; he thus wrote as a graduate, knowing the need and hoping to overcome that need. My belief is that it will be if the outside profession will endorse Dr. Oille in his disinterested endeavor as they should.

W. H. MERRITT.

ST. CATHARINES, January, 1902.

Book Reviews.

Bacteriology and Surgical Technique for Nurses. By the late EMILY M. A. STONEY, Superintendent of Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. 190 pages. Illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Price, \$1.25 net. Toronto: J. A. Carveth & Co., Canadian Agents.

This is an admirable little book for the purpose for which it was written. The first sixty pages are devoted to a general statement of a history of bacteriology, bacteria as the cause of disease; the theory of antitoxins, antiseptics and disinfectants and deodorants. Then follows the practical portion of the work, which deals with such topics as the care of the operating room, the methods of sterilization, and the care of instruments. There is a special chapter on gynecological examinations and operations, and there is an excellent one on operations in private practice. The directions regarding anesthesia are excellent, and nothing is to be desired in the description of surgical dressings. The preparation of the patient is carefully given.

A Manual of Syphilis and the Venereal Diseases. By JAMES NEVINS HYDE, A.M., M.D., of Chicago, and FRANK HUGH MONTGOMERY, M.D., of Chicago. Second edition, revised and enlarged, with fifty-eight illustrations in the text and nineteen full-page lithographic plates. Philadelphia and London: W. B. Saunders & Co., 1901. Price, \$4 net. Toronto: J. A. Carveth & Co., Canadian Agents.

We believe that no more important work on the subject than the one under consideration has been issued from the medical press during the current year. This is the second edition of the work, and a large proportion of the profession are already cognizant of its practical value. It is a plain, practical and up-to-date manual, containing just the kind of information that physicians need to successfully cope with a troublesome class of diseases.

A chapter on Syphilis in Relation to the Family and Society is full of sound, conservative counsel. The same may be said of the remarks on Hypochondriasis, portions of which at least should be published in parallel columns with the quack advertisements found in nearly every city newspaper and cross-roads weekly. Acute and chronic Urethritis, with their complications and effects, are all admirably presented.

Like most American and English writers, the authors believe that prophylactic measures in connection with gonorrhoea are quite untrustworthy—that the only successful prophylaxis is clean living. Abortive medicines are usually either failures or positively harmful. The value of the work has been increased by the introduction of a number of tables on differential diagnosis.

A Practical Treatise on Materia Medica and Therapeutics, with Especial Reference to the Clinical Application of Drugs. By JOHN V. SHOEMAKER, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital; Member of the American Medical Association, of the Pennsylvania and Minnesota State Medical Societies, the American Academy of Medicine, the British Medical Association; Fellow of the Medical Society of London, etc., etc. Fifth edition, thoroughly revised. Pages viii-1143. Size 9¼ x 6½ inches. Extra cloth, \$5 net; sheep, \$5.75 net, delivered. Philadelphia, Pa.: F. A. Davis Co., Publishers, 1914-16 Cherry Street.

For a long time this work has been a favorite, and the fact that a fifth edition has been called for shows that it has not lost any friends. It stands right up amongst the best of the books on its subjects—complete, concise and to the point. It is based on the latest B. P. and U. S. P., and each purchaser should look up the drugs used most often, as there are some important changes, notably in Nux Vomica and similar drugs, increased exactness of content and greater strength with smaller dosage. We are sorry that the author has not said more about the glycerophosphates and one or two more of the newer and better preparations. The section on treatment other than by drugs and some remarks on general considerations, are alone worth buying the book for, and on the whole we like it very much. Students, especially, should find it very useful.

The Principles and Practice of Medicine: designed for the Use of Practitioners and Students of Medicine. By WILLIAM OSLER, M.D., Professor of Medicine in the Johns-Hopkins University, and Physician-in-Chief to the Johns-Hopkins Hospital, Baltimore. Fourth edition. New York: D. Appleton & Co., 1901.

Osler's Practice has become, by force of merit, the standard work on the practice of medicine on this continent. To review it is unnecessary, but to give an idea of the changes made for this fourth edition it is only necessary to quote in part from the author's preface. The article on typhoid has been in great part rewritten, yet we cannot agree with his ideas in the matter of "the bath," which in practice we find distressing to the patient and rarely necessary in the treatment of this disease. The subject of malaria has been revised, with important new matter on etiology added. Concerning pneumonia, many new paragraphs have been added. On smallpox, cerebro-spinal fever, rheumatic fever and many others of the acute infectious, new points are added on diagnoses and treatment. Much new matter has been incorporated on gout and diabetes. The sections on obesity and arthritis deformans have been changed. Practically new articles, in whole or in part, are those on acute tuberculosis, diseases of the pancreas, splenic anemia, arsenical poisoning, herpes zoster, adiposis dolorosa, fibrinous bronchitis,

albumenuria, oxaluria, Ménière's disease, aphasia, combined sclerosis of the cord, neurasthenia gravis, congenital aneurism, surgical treatment of aneurism, and scurvy. New work by Councilman has been added on diphtheria, also by author on dysentery, yellow fever, the plague, pernicious anemia, and leukemia.

A Manual of the Practice of Medicine. By GEORGE ROE LOCKWOOD, M. D., Professor of Practice in the Woman's Medical College of the New York Infirmary. Second edition, revised and enlarged. Octavo volume of 847 pages, with 79 illustrations and 20 full-page plates. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$4 net. Toronto: J. A. Carveth & Co., Canadian Agents.

This work presents the essential facts and principles of the practice of medicine in a concise and available form. The entire book has been subjected to a thorough revision. Among the new sections may be mentioned Bubonic Plague, Gastrop-tosis, and Reichmann's Disease. The sections on Malaria and Diseases of the Digestive System have been largely rewritten. The descriptions of diseases and the treatment given are terse and clear, and the work gives in a most concise manner the points essential to treatment usually enumerated in the most elaborate works. In the arrangement of the subject matter the classification of Osler has been adopted with but a few unimportant modifications. The book is well suited for the needs of both the medical student and the general practitioner.

Studies in the Psychology of Sex. Sexual Inversion. By HAVELOCK ELLIS, L.S.A. (England); Fellow of the Medico-legal Society of New York and the Anthropological Society of Berlin; Honorary Fellow of the Chicago Academy of Medicine, etc.; general editor of the Contemporary Science series since 1899. The "Studies in the Psychology of Sex" will probably be completed in five volumes. "Sexual Inversion" is second volume in the series. Pages xi-272. Size, 8½ x 5½ inches. Extra cloth, \$2 net, delivered. Sold only to physicians, lawyers, advanced teachers, and scientists. Philadelphia, Pa.: F. A. Davis Co., Publishers, 1914 16 Cherry Street.

This may seem to some a nasty topic. Someone has to take it up, however, and the author is to be praised for his fearless work. It is a something not often recognized, understood, or sympathized with by the practitioner. This is due, we think, to the fact that there is a true congenital invert type is lost sight of, and only the class in which the habit is acquired thought of. It is commoner in this country than most believe, but less so than on the continent; but unless the subject is discussed more than it has been and the discussion leads to methods of prevention, we will soon be no better than anybody else as far as having our attention forced on these things goes. We are surprised that the author does not lay more stress on teaching the young properly regarding sexual matters. One

true invert can corrupt and ruin for life many who could never be even approached if they understood these things as they should. While we do not agree entirely with all the author says, we advise our readers to get the series and see for themselves what he has to say on a subject which, unless something is done, will soon take its stand in the public view alongside of that other, and seemingly growing, social evil.

A Practical Treatise on Diseases of the Skin. By JOHN V. SHOEMAKER, M.D., LL.D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital of Philadelphia, etc., etc. Fourth edition, revised and enlarged, with chromogravure plates and other illustrations. New York: D. Appleton & Co., 1901.

The fourth edition of this popular and accurate work is now issued by Appleton & Co., of New York. This edition has been revised and modified in correspondence to the advances of the last few years in the sphere of dermatology. Special attention has been given to the influence of parasites in exciting cutaneous disorders. This work is well divided according to the latest nomenclature, and is in all respects a standard and up-to-date volume. The author knows whereof he speaks, and he speaks as one having authority. We know of no better work on "skin diseases."

On the Cure of the Morphia Habit without Suffering. By OSCAR JENNINGS, M.D. (Paris), M.R.C.S. (Eng.); Fellow of the Royal Medico-Chirurgical Society. Second edition, revised and enlarged. London: Ballière, Tynndal & Cox, 8 Henrietta Street, Strand, 1901. Pages xii-210. Price 3s. 6d.

Those who have the first edition will have all that this one contains, except his defence of his claim to priority of discovery and application of this method of treating the habit. Those who have not the first edition may learn something of value by securing this monograph. Leaving out his defence, which, by the way, is a strong one, the book contains many points which are very useful and practical. One thing we like is his honesty in saying that there are incurable cases, and others in which it would be certain death to withdraw the drug where it is being used in certain painful affections.

The Journal of Obstetrics and Gynecology of the British Empire. Edited by Mr. ALBAN DORAN, with the aid in special departments of Drs. BERRY HART, F. W. KIDD and W. J. SINCLAIR, with whom are associated an editorial committee of the Obstetricians and Gynecologists of England, Scotland and Ireland. London: Ballière, Tynndal & Cox, 8 Henrietta Street, Covent Garden, W.C. Price, 2s. 6d. net. Annual subscription, 25s., post free.

The aim of the promoters of this new medical journal, as stated in the introductory chapter of the first issue, is to make the publication a complete and impartial record of British

obstetrical and gynecological practice, and a summary of contemporary thought and achievement in obstetrics and gynecology throughout the world. Special prominence will be given to original essays by experienced workers in the United Kingdom and in the British Dominions beyond the seas. In addition to such original matter, a considerable portion of each number will be set aside for abstracts of the writings of American and foreign authorities.

This number contains original communications by Drs. Cullingworth, Horrocks, Berry Hart, Sinclair, Murdoch Cameron and Arnold Lea, on the following subjects: Uterine Fibromyomata, Contraction and Retraction, Obstetrics of the Twentieth Century, Tubal Pregnancy, Fetation in a Bicornute Uterus, Anesthesia by Subarachnoid Injections of Cocaine; Review of Current Literature on Obstetrics and Gynecology; Transactions of Obstetrical and Gynecological Societies of London and Glasgow; and Reviews of Recent Books. There are altogether 128 full-sized pages. In a whole year the volume, or volumes, would contain nearly two and a half times as much material as Playfair's *Midwifery*, or about twice as much as in Jewet's *Obstetrics by American Authors*. The following are the Canadian collaborators: Drs. Chalmers Cameron, William Gardner and F. A. L. Lockhart, of Montreal; Dr. Adolphe Lamarche, of Quebec; and Drs. Jas. F. W. Ross, Algernon Temple and Adam Wright, of Toronto. We are much pleased with the January number. If it is a fair specimen of what will follow, we can assure our readers that the editors and publishers are going to produce a great journal—the best of its kind, we think, in the world.

Nervous and Mental Diseases. By ARCHIBALD CHURCH, M.D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and FREDERICK PETERSON, M.D., Chief of Clinic, Department of Nervous and Mental Diseases, and Clinical Lecturer on Psychiatry, College of Physicians and Surgeons, New York. *Third Edition, Revised and enlarged.* Handsome octavo volume of 870 pages, with 322 illustrations. Philadelphia and London: W. B. SAUNDERS & Co., 1901. Cloth, \$5.00 net. Toronto: J. A. Carveth & Co.

This work has met with a most favorable reception from the profession at large, two editions having been exhausted in as many years. It fills a distinct want in medical literature, and is unique in that it furnishes in one volume practical treatises on the two great subjects of Neurology and Psychiatry.

In this edition the book has been thoroughly revised in every part, both by additions to the subject matter and by rearrangement wherever necessary, to make it more acceptable to the practitioner and the student. Several sections have been

entirely rewritten, and there have been added a number of new illustrations, an increased amount of tabular matter, and a series of diagrams that have proved of assistance in the solution of diagnostic problems.

It would be impossible to review *in extenso* so large and complete a work. The sections dealing with the diagnosis of nervous diseases are very well written. It covers both nervous and mental diseases. Under the latter, a very valuable section is the one dealing with etiology. The illustrations and type are good. The authors and publishers are to be congratulated upon the efforts of their labors.

A Brief Manual of Prescription-Writing in Latin or English, for the use of Physicians, Pharmacists, and Medical and Pharmacal Students. By M. L. NEFF, A.M., M.D., Cedar Rapids, Ia. Pages v-152. Size, 8 x 5 $\frac{1}{2}$ inches. Extra cloth, 75 cents, net, delivered. Philadelphia, Pa.: F. A. Davis Co., Publishers, 1914-16 Cherry Street.

The notes for this little booklet are the outgrowth of the author's experience in teaching medical students. The author wisely disclaims any attempt to teach the latin language. The notes given are purely experience, and adapted to the fragmentary use of the language that is made use of in writing prescriptions.

Atlas of the Nervous System, Including an Epitome of the Anatomy, Pathology and Treatment.—By DR. CHRISTFIED JAKOF, with a preface by PROF. AD. V. STRUMPELL. Edited by Edward D. Fisher, M.D., 112 colored lithographic Figures, and 139 other illustrations. Philadelphia and London: W. B. Saunders & Co. Toronto: J. A. Carveth & Co. Price \$3.50.

This volume is one of the series of Medical Hand-Atlases, published by Messrs. Saunders & Co. It is a very handsome book. The illustrations are well done. There is an excellent, though condensed, resume of the anatomy, pathology and treatment of the nervous system. A number of the illustrations are on the superposition method, and afford a very clear idea of the arrangement of the parts. We can recommend the volume to those who desire to avail themselves of the means of acquiring an accurate knowledge of the nervous system.

An International System of Electro-Therapeutics for Students, General Practitioners and Specialists, by numerous associated authors. Edited by HORATIO R. BIGELOW, M.D., etc., etc. Second edition. Thoroughly revised and brought up-to-date with several entirely new departments, embodying the most recent developments of the science. Edited by G. Belton Massey, M.D., etc.

The above announcement on the front page of this work shows clearly what is to be found in its contents. The work is clearly divided into many headings, beginning with an

elaborate article on the "History of the Rise of Electricity as a Therapeutic Agent," and on electricity itself, from the pen of the well-known laryngologist, Dr. J. Mount Bleyer, of New York. "Electro-Physiology," by H. P. Brubacker, O.M., M.D., of Jefferson College, Philadelphia. "The Galvanic Current," by G. Belton Massey, Philadelphia, and other kindred articles by many authors. Section C takes in Gynecology and Obstetrics from the electro-therapeutic view, and many well-known gynecologists have contributed exhaustive articles on this interesting and somewhat new addenda to our armamentarium therapeutics. Section D deals with the Nervous System. Section E, Disorders of the Abdominal and Thoracic Viscera. Section F, Diseases of Childhood. Section G, Electro Surgery, including Ophthalmology, diseases of Nose and Throat, Aneurism, Strictures, Cancer, Facial Blemishes, Diseases of the Skin.

The compilation of this work shows a great amount of care and a vast amount of labor. It is put in a clear, convincing manner, and by men all of whom are well and favorably known to the medical world. Any medical man purchasing the work will be well repaid for the outlay. The book itself is well got up, the illustrations being excellent, and a great aid to the reader. The names of the various authors is a sufficient guarantee for the value of the work. The work is published by F. A. Davis Company, Philadelphia, and reflects the greatest credit on that well-known firm.

A Text-Book of the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Fifth edition, thoroughly revised. One handsome octavo volume of 1297 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$5.50 net. Canadian Agents: J. A. Carveth & Co., Parliament Street, Toronto, Ont.

The success of this work as a text-book and as a practical guide for physicians has been truly phenomenal. Five large editions have been called for in less than four years. The rapid exhaustion of each edition has made it possible to keep the book absolutely abreast of the times, so that Dr. Anders' book has become justly celebrated as a thoroughly up-to-date work on the practice of medicine. In this edition the most thorough and extensive changes have been made in connection with the large group of infectious diseases. No pains have been spared to present modern views, derived from clinical experience and critical bedside observation, as well as newly-discovered scientific facts. Especial care has been bestowed upon the etiology, including bacteriology, inductive diagnosis, and the details of treatment, in the belief that these phases of the subjects treated form the ground-work for an intelligent

and successful pursuit of the science and art of medicine. The etiology and mode of transmission of malaria and of yellow fever have been almost entirely rewritten. Certain affections of growing importance, as diphtheretic dysentery and parasitic hemoptysis, have been recast and more fully discussed. A few new articles have been introduced; for example, fatty infiltration of the heart, streptococcus pneumonia, and acute diffuse interstitial nephritis. Among leading infections that have received careful and thorough revision are typhoid fever, malaria, cerebro-spinal meningitis, lobar pneumonia, influenza, variola, chronic tuberculosis and hydrophobia. The entire work, moreover, has been carefully scrutinized and brought into harmony with the most recent developments in practical medicine.

The American Illustrated Medical Dictionary. For Practitioners and Students. A complete dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry, and the kindred branches, including much collateral information of an encyclopedic character, together with new and elaborate tables of arteries, muscles, nerves, veins, etc.; of bacilli bacteria, micrococci, streptococci; eponymic tables of diseases, operations, signs and symptoms, stains, tests, methods of treatment, etc., etc. By W. A. NEWMAN DORLAND, A.M., M.D., editor of the "American Pocket Medical Dictionary." Second edition, revised. Handsome large octavo, nearly 800 pages, bound in full flexible leather. Philadelphia and London: W. B. Saunders & Co., 1901. Price, \$4.50 net. Canadian Agents: J. A. Carveth & Co., Toronto, Ont.

The object of the author has been to furnish in a volume of convenient size an up-to-date dictionary, sufficiently full for the requirements of all classes of medical men, or, in other words, to give a maximum of matter in a minimum of space and at the lowest possible cost. This object has been secured by the use of a large page, thin Bible paper, and a flexible leather binding. A large first edition was issued in October, 1900. In the second edition the book has been carefully revised. The author has also added upward of one hundred important new terms that have appeared in medical literature during the past few months. Among them appear "Anopheles," "Cryoscopy," "Johimbin," "Hemolysin," "Hedonal," "Sacrectomy," etc., words that have recently come prominently before the profession, and which of course are not to be found in any other dictionary. Other valuable features of the book are to be found in the complete and satisfactory definitions, the etymological references in the original languages, and the clear method of indicating the pronunciation. There are over one hundred new tables, and the illustrations add greatly to the usefulness of the book. In the preface the author avows his intention of making the work represent as fully as possible the live literature of the medical sciences by keeping it in

all respects thoroughly up to date. We are glad to express a decided opinion that this is in all respects an admirable dictionary.

Atlas and Epitome of Gynecology. By DR. OSKAR SCHEFFER, Privatdocent of Obstetrics and Gynecology in the University of Heidelberg. Authorized translation from the second revised and enlarged German Edition. Edited by Richard C. Norris, A.M., M.D. With 207 colored illustrations in 90 plates and 62 illustrations in the text. Philadelphia: W. B. Saunders & Co. Toronto: J. A. Carveth & Co., Canadian agents.

The illustrations in this book are superior to any we have seen in any other work on gynecology of moderate size (*i.e.*, excluding such books as Howard Kelly's), and add very materially to its value as an aid to students and practitioners. In other respects the book is an excellent one, occupying a position midway between the *quiz compend* and the large works on gynecology. We notice with pleasure the author's conservatism, although it may be considered rather slow by some of our ardent and progressive modern gynecologists.

Jonathan Hutchinson, F.R.S., General Secretary of the New Sydenham Society, has requested Messrs. P. Blakiston's Son & Co., of Philadelphia, the American agents of the Society, to announce the publication of "An Atlas of Clinical Medicine, Surgery and Pathology," selected and arranged with the design to afford, in as complete a manner as possible, aids to diagnosis in all departments of practice. It is proposed to complete the work in five years, in fasciculi form, eight to ten plates issued every three months in connection with the regular publications of the Society. The New Sydenham Society was established in 1858, with the object of publishing essays, monographs and translations of works which could not be otherwise issued. The list of publications numbers upwards of one hundred and seventy volumes of the greatest scientific value. An effort is now being made to increase the membership, in order to extend its work.

Heredity of Chronic Nephritis.

Pel (*Zeitschrift f. klin. Med.*) describes a family in which during three generations eighteen cases of chronic nephritis were observed. Nine of these cases were males and nine females. The males inherited the disease from the father, the females from the mother. It is possible that in all these cases there was a diminished resistance of the kidneys to all injurious conditions. One of the cases, a child, contracted an acute parenchymatous nephritis following a very mild attack of varicella, thereby showing a marked susceptibility.—*Maryland Med. Journal.*

Selections.

SURGICAL HINTS.

In cold weather, when making use of chloride of ethyl for local anesthesia, it is well to warm the part beforehand. This will secure better evaporation and more complete anesthesia. It also prevents waste, as a much smaller amount of the chloride of ethyl will produce the required degree of anesthesia.

Never use sutures larger than are necessary to properly maintain approximation, or ligatures larger than will suffice to hold safely the vessels or pedicles they are to constrict. Even when absorbable they are foreign bodies.

In a wound occurring in some place where no aseptic dressings can be procured, it is better to leave it exposed to the external air than cover it with probably infected substances. A protective crust or scab will thus rapidly be formed.

A surgeon who keeps on breaking small ligatures when tying minor blood vessels gives evidence of the fact that he is using an altogether unnecessary amount of force, at least ninety-nine times out of one hundred.

In a case of a wound of the skull in which there is evidence of depression, even to the slightest extent, and if the means of doing aseptic surgery are at hand, conservative surgery is out of place. It is now a cardinal rule that depressed bone in the skull must be elevated or removed.

In erysipelas of the face of uncertain origin, always examine the nasal cavity. The starting-point of the infection is sometimes to be found in small purulent collections confined beneath crusts, or in pustules situated around the hairs at the meatus. —*International Journal of Surgery.*

In very bad cases of intestinal obstruction, in which for any reason operation has been very long delayed, we may feel like giving the patient the benefit of the only chance that remains to him. These patients are practically unable to feel pain, and the administration of a general anesthetic to them is exceedingly dangerous. Use local anesthesia, rapidly open the abdomen, draw out the nearest coil of distended intestine, stitch it rapidly to the external wound, and open into the gut at once. Use hot saline injections by the rectum and intra-venously. If we can thus tide the patient over a couple of days we may later on deal with the obstruction itself —*International Journal of Surgery.*

The Use of Old Antitoxin.

As is well known, the various manufacturers of antidiphtheritic serum are accustomed to have it returned to them by the retail druggist or physician after it has been in their possession for several months in order that the stock may be replenished with freshly made material. This is done because it is a well known fact that the serum is apt to diminish in its antitoxic power with the passing of time, and in order that the full antitoxic value may always be received by the patient. With the approved methods which have been introduced for the manufacture and preservation of this product, it has been found that deterioration takes place less rapidly than in the serums which were first prepared. The most careful manufacturers see to it that the hermetically sealed tubes in which the serum is placed contain a greater number of antitoxic units than is put upon the label, allowing, in this way, for a slight deterioration to take place without in any way decreasing the value of the product; or, in other words, it is possible for the serum to lose somewhat in its antitoxic power, and yet be as strong as the label states it to be.

While therefore it is advisable for physicians to employ fresh serum whenever possible, it is extremely inadvisable for a physician to fail to give the antitoxin which may be in his possession simply because it does not bear a recent date. On the contrary, such serums are very frequently possessed of a great deal of power, and should always be used at least until a fresh supply can be obtained. This fact is not only recognized in this country by those who have had the most experience in the matter, but it is interesting to note that the French Minister of the Interior has given directions that physicians shall not wait for the receipt of a fresh supply, but shall immediately begin the administration of that which they have on hand rather than lose precious time; for as we all know, the value of antitoxic serum is in direct ratio to the promptness of its employment after the disease is recognized. Even if the serum has been kept for as long a period as a year, and a slight sediment is formed, this does not in any way indicate that there has been any material alteration in its value. When it is considered that the administration of full doses of antitoxin on the first day the false membrane appears, decreases the mortality to as low a point as two per cent., and on the second day to six per cent., the importance of administering whatever may be at hand is emphasized. This is the more important when we recall that the death-rate is thirty per cent. when the injection is made as late as the third day, and fifty per cent. when it is made as late as the fourth day.—*Therapeutic Gazette.*

The Viability of the Bacillus Pestis.

Rosenau (*Bull. of Hyg. Lab. Marine Hospital Service, 1901*), as a result of an elaborate series of experiments, concludes, first, that the bacillus pestis is not a frail organism, but possesses considerable viability. It remains alive in the cold under 19° C. for a long time, but dies quickly, especially when dried, at the body temperature. Moisture favors the life of the bacillus, and it usually dies in a few days when dried, even in the presence of albuminous matter, provided the temperature is above 30° C. It may remain alive and virulent when dry for months when the temperature is under 19° C. Direct sunlight associated with a temperature over 30° C., kills the organism within a few hours, but the action is not very penetrative. The virulence of the organism is often lost before its destruction. It is unlikely that new, dry merchandise, or clothing or bedding can harbor the infection for a long time, and the bacillus lives for months even, dry, when in an albuminous medium at temperatures below 20° C. It lives for a long time in milk, cheese and butter, but generally dies quickly on the surface of fruits and prepared foods. Although plague is not a water-borne disease, the organism may live a long time in water. As the bacillus does not live long on paper, first-class mail is not apt to carry the infection. The cooler the climate, the greater the danger of conveying the infection on fomites, and so, more extensive disinfection is required in temperate than in tropical regions. Surface disinfection is secured by sulphur fumigation and formaldehyd gas in the usual strengths—the former being preferred in places infected with vermin, is formaldehyd g as may fail to kill the higher forms of animal life. The temperature of 70° C. continued for a short time is invariably fatal to the plague bacillus. The ordinary antiseptics are all efficacious in their usual strength for non-spore-bearing organisms.—*International Medical Magazine.*

How to Make a Diagnosis.

The ability to make a correct diagnosis is not entirely the result of native genius. As Cicero said about the making of a poet, the natural ability is of great importance, but the man of surpassing merit is he who joins to his native talent the power that comes from education. The man of quick perception, of logical mind, and with acute special senses, may make a rapid and apparently intuitive diagnosis. But in its ultimate analysis such a diagnosis is the result of study of books, and of experience at the bedside and in the laboratory; it implies weighing of probabilities and close logical reasoning; it is far from intuitive. This is the hard lesson to teach the young man

who becomes discouraged as he ploddingly works over his case and still is unable to name malady, or grows careless through his effort to work as rapidly as his preceptor or his superior. But practice in this line brings improvement as it does to the pianist, who soon reads and plays at sight music that was at first entirely beyond his grasp.

Many diagnoses are made with positiveness. When technique is faultless, one may at times be able to pronounce a case tuberculous, or to declare the nature of a fragment of tumor, or the presence of fluid is proven by aspiration, or a fracture recognized by crepitus, etc. Yet, while the learned and trained physician is the most positive in his diagnosis when he is sure of his ground, no one is more cautious and guarded when positive signs are lacking, and no one more candid in saying, "I do not know." It takes some men many years before they attain that mental attitude commanding the wide horizon, and giving them the clear vision so that they can look about and declare openly, "I do not know." Some men never reach this high plane; others lack the courage to confess what seems to be ignorance. But the intelligent layman, who has tried his physician and not found him wanting, is willing to accept this confession of limitation of human power; he recognizes the feebleness of human insight into the workings of Nature, and he waits patiently until the physician is ready to announce his decision. The physician who is honest in his diagnosis has nothing to retract; he is not obliged to "hedge."

The physician who has had impressed upon him early the importance of diagnosis, who realizes that diagnostic ability is not a gift, but an acquirement, and who gives his opinion not prematurely and guessingly, but conscientiously and after full deliberation, may not be brilliant, and may add little to the world's store of knowledge, but he goes about doing good; he commands the respect of his patients and his colleagues, and is free from the stings of conscience that come through mistakes committed through haste and carelessness.—*Indian Med. Record.*

Senile Pruritus.

In this condition—not at all infrequent, and very troublesome—the skin is usually dry and atrophic. Under such circumstances small doses of pilocarpine, one-twentieth of a grain two or three times daily, will be found beneficial. Very often nothing else will be required, sufficient comfort being afforded by this remedy alone. It is often well, however, to employ a liniment of a solution of menthol and salicylic acid in lanolin and olive oil, varying the proportions according to the demands of the case.—*The Clinical Review.*