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Original Contributions.

RHEUMATISM.*

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[NOTE.—These experiments, begun in the laboratory of the medical clinic of Prof. Barker, of Johns Hopkins University, were completed in the Presbyterian Hospital, New York City.]

ONE feels rather appalled when he considers what the diagnosis of rheumatism may mean at the present time. The word has been applied to nearly every joint and muscular pain that is met with in the practice of medicine. We have acute rheumatism, chronic rheumatism, gonorrheal rheumatism, muscular rheumatism and so on until "rheumatism" seems but a bye-word in our medical nomenclature. The time is too short to deal with all these so-called rheumatic lesions; so at the present I shall confine myself entirely to that disease which was first called such, namely: Acute articular rheumatism, or rather acute rheumatic fever.

The latter is the better name, when we consider that it is not simply a joint affection, but involves many parts far distant from each other. We can only properly grasp the significance of its many manifestations when we consider it a systemic disease. We first hear of acute articular rheumatism as a distinct entity early in the 17th century, when it was differentiated from gout. The next step in the proper conception of this disease was the recognition of its close relation to chorea. Then, in the early part of the last century, several observers called attention to the frequency of cardiac complications, which were soon looked upon as manifestations of

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this disease. Since then the conception that acute rheumatic fever is a systemic disease has gradually found more acceptance, but this has been greatly hampered by the perpetuation of the nomenclature acute articular rheumatism, although we may have acute rheumatic fever without joint lesions.

The history of the etiology of acute rheumatic fever shows many different theories. First, it was thought that it was due to cold, dampness and changes of temperature. Then, in 1831, Dr. J. K. Mitchell advocated the theory that it was due to a lesion of the central nervous system, and this theory even advanced so far as to localize the site of disease in a hypothetical joint centre. Following this the chemical theory held sway, chiefly advanced by the English writers, in which lactic and uric acids were given pre-eminent places. Next the toxic theory was advanced, which ascribed the disease to intestinal putrefaction and the absorption of the toxins so formed. In 1888, however, a new conception of acute rheumatic fever was realized when Cheadle conclusively demonstrated that the arthritis was but one manifestation of a general disease. With the advance of bacteriology the closé resemblance between acute rheumatic fever and other infectious diseases was observed. Achalme[1] described a bacillus which he isolated from the joints of a case of acute arthritis. Singer[2], Sahli[3], Maragliano[4], and others reported Staphylococcus aureus as the cause.

Then Dana[5], Charrin[6], and Lubarsch[7] isolated a diplococcus or streptococcus from acute rheumatic fever cases. In 1899 Wassermann and Westphal[8] published an exhaustive experimental study of a streptococcus which they isolated from a case of chorea following acute rheumatic fever, and with which they produced polyarthritis in rabbits.

Since 1900 a most important and exhaustive study of acute rheumatic fever has been carried on by British investigators, chief among whom are Poynton and Paine[9], Beattie[10], and Shaw[11]. They have repeatedly isolated a diplococcus from the fluids and tissues of patients suffering from acute rheumatic fever, both antimortem and post-mortem. This organism they have named "Diplococcus Rheumaticus."

They have grown it from the blood, urine, and pleural exudate of acute rheumatic fever patients during life, and from the heart valves and the pericardial fluid after death. They have also demonstrated it in sections of the heart valves and pericardium, and of a rheumatic nodule in a fatal case of acute rheumatic fever.

It seems from the rapidly accumulating facts that acute rheumatic fever is a bacterial infection, and that the organism is a streptococcus. That it is a distinct variety of the streptococci has yet to be proven. Bacteriologists are not ready at the present time to classify streptococci as Streptococcus erysipelatis, pyogenes

and rheumaticus, or as Streptococcus brevis and longus. It is true that streptococci do cause at times well marked clinical pictures, and do vary in the length of the chain found, but are these essential differences on which to base a definite classification and to state a streptococcus which produces erysipelas will not also produce rheumatic lesions? The following case will illustrate the fallacy of such a contention.

R. E., aet 17, single, laborer, white, entered the Presbyterian Hospital under the service of Dr. Gilman Thompson, to whom I wish to express my thanks for permission to report the clinical history.

Family History:—One sister has chorea.

Personal History:—Frequent "sore throat," acute rheumatic fever, with cardiac disease, in 1905.

Present Illness:—In October, 1907, he began to have cough and dyspnoea, which became worse, and he had to stop work in the latter part of November, 1907. About December 25, 1907, he began to have epigastric pain, anorexia and vomiting, which continued until his entrance to the hospital, on December 30, 1907.

Physical Examination on Entrance:—Well developed young man, dyspnoeic, orthopnoeic and cyanotic, praecardium bulging, with a diffuse pulsation. Heart was enlarged to the left and right. There was a long murmur, occupying the entire systole, heard best at the apex and transmitted to the back. Second pulmonic sound was short and sharp. Faint presystole thrill was present. There was passive congestion of both lungs. Liver was tender and extended 6 cm. below the costal border. Some ascites was present. Slight oedema found over shins. Temp. 98°, pulse 108, respirations 30.

Jan. 4.—Jaundice present.

Jan. 6—Heart and liver slightly smaller. Temp. 101½°.

Jan. 11.—To and fro friction sound over the pericardium. Temperature 102°.

Jan. 12.—Signs of fluid in pericardium. Temp. 101½°.

Jan. 13.—Cardiac dulness steadily increasing, friction rub less apparent.

Jan. 14.—Paracentesis of pericardium unsuccessful.

Jan. 15.—Swelling of left arm and signs of consolidation of the apex of the lower lobe of the left lung.

Jan. 20.—Cardiac dulness had diminished and patient was improving; signs of consolidation in left lung much less, but there were signs of fluid over the left apex. Temp. 100° to 102½°.

Jan. 23.—Erysipelas of the face developed. Temp. 104°.

Jan. 25.—Condition remained about the same, and patient died suddenly. Temp. 103°.

An autopsy was performed 7 hours post mortem, and the anatomical diagnosis was as follows: 1, Facial Erysipelas; 2, Acute

vegetative aortic Endocarditis; 3, Acute vegetative mitral Endocarditis; 4, Acute vegetative tricuspid Endocarditis; 5, Chronic mitral Endocarditis; 6, Acute serofibrinous Pericarditis; 7, Acute fibrinous Pleuritis of right side; 8, Acute serous apical Pleuritis of left side; 9, Thrombosis of the left subclavian vein.

The bacteriological findings were as follows: Smears from: Aortic valves, Streptococci; Mitral valves, Streptococci; Tricuspid valves, Streptococci; Thrombosis of subclavian vein, Streptococci; Pericardium, Streptococci.

Cultures from: Spleen, B. Coli; Liver, Sterile; Heart blood, Sterile; Thrombus, Streptococci; Erysipelas, Streptococci and staphylococcus albus; Pericardium, Streptococci.

A comparative study of the three strains of streptococci isolated showed them to be identical as far as could be determined by staining and cultural methods. They failed to produce acid and precipitate bile salts in McConkey's bile salt lactose broth, to which reference will be made later.

There seems to be little doubt that the cardiac lesions in this case were of rheumatic origin, and that the erysipelas was caused by the same organism is also very likely, as there was no other erysipelas in the hospital at this time.

So, in this case, at least, we may conclude that erysipelas may be caused by the same organism that produces acute rheumatic fever.

The exhaustive studies carried out by Marmorek on different strains of streptococci have led him to believe that they are all identical, or, at least, cannot be differentiated. He bases this belief on the fact that after filtering broth in which one strain of streptococcus has been grown, no other streptococci will grow when this filtrate is used as a culture media. Recently Gordon[12] has advocated the use of a very elaborate series of culture media for their differentiation. The principle on which he bases his work is that there may be different chemical reactions with the growth of each class. Gordon and Houston examined about 800 different strains. Later, Andrews & Horter[13] made a very elaborate report of about 400 more colonies. They combine these with the results of Gordon and Houston and attempt a classification of 1,200 odd strains, according to the reactions obtained on Gordon's series of media. They make the following main classes: 1, Streptococcus equinus; 2, Streptococcus mitis; 3, Streptococcus pyogenes; 4, Streptococcus salivarius; 5, Streptococcus anginosus; 6, Streptococcus faecalis; 7, Pneumococcus.

Besides these they made numerous sub-divisions which depended upon differences of minor importance. They acknowledge that it is a most complicated classification, but hope that more study may simplify it and make it more practicable.

Among the 400 cases examined by Andrews and Horter there

were six which might be called Streptococcus rheumaticus, according to their source. They isolated four strains from cases of acute rheumatic fever at autopsy, while one was obtained from Payne and one from Beattie. These six strains were classified as follows: 1. Streptococcus pyogenes; 1, Streptococcus salivarius (Paine); 1, Streptococcus faecalis (Beattie); 3, Streptococcus anginosus.

In order to compare the streptococcus rheumaticus with other streptococci by this method I have examined nine strains from various sources, with the following results: 1, from chronic arthritis classified as anginosus; 1, from blood of acute rheumatic fever classified as anginosus; 1, from Tonsillar crypt classified as anginosus; 3, from Tonsillar crypt classified as faecalis; 1, from cellulitis classified as pyogenes. Streptococcus rheumaticus obtained from Dr. Cole, of Baltimore, being a transfer from one of Payne's original strains is classified as pyogenes: 1, from erysipelas in the case reported above classified as salivarius; 1, from pericardium in the case reported above classified as salivarius; 1, from the thrombus in the case reported above classified as salivarius.

The last three will be considered but as one strain, as no difference has been found.

Eight distinct strains of the so-called streptococcus rheumaticus have been examined by different workers according to the method of Gordon and the results are much at variance: 2 strains appear to be pyogenes; 2 strains appear to be salivarius; 1 strain appears to be faecalis; 3 strains appear to be anginosus.

According to this classification therefore, Streptococcus rheumaticus is not a distinct organism separate from other streptococci.

Dr. Beattie[14], of Edinburgh, who reports an extensive bacteriological study of the so called Streptococcus rheumaticus, states that the only differences that he was able to demonstrate between it and other strains of streptococci were the following:

1st. The acidulation and deposit of bile salts in McConkey's lactose broth.

2nd. The formation of a serous exudate in the synovial membranes, while other strains of streptococci produced a purulent exudate.

In order to test the value of these two points of differentiation I have performed the following experiments:

Twenty-five strains of streptococci from different individuals and different sources were examined as to their reaction with McConkey's bile salt lactose broth. They were the following: 1, from a chronic arthritis; 1, from the blood of acute rheumatic fever; 4 from tonsillar crypts; 14 from interior of tonsils after extirpation; 2 from cellulitis; 1 from empyaema sinus; 1 streptococcus rheumaticus from Dr. Payne; 1 rheumatic pericarditis.

Of these, eight produced an acid reaction and deposited bile salts after an incubation period of 72 hours. They were the following: 1 from chronic arthritis; 1 from the blood of acute rheumatic fever; 3 from interior of tonsils after extirpation; 2 from cellulitis and the streptococcus rheumaticus.

It may be well first to draw attention to the fact that two strains, perhaps three, of the so called streptococcus rheumaticus gave a positive reaction. But on the other hand five other strains also gave it. It is possible to contend that the three organisms obtained from the tonsils were also Streptococcus rheumaticus as these were all obtained from patients with acute rheumatic fever. But the other two organisms were both isolated from very severe cases of cellulitis in which no manifestations of acute rheumatic fever were at any time present. On the other hand the streptococcus from a case of rheumatic pericarditis did not give the reaction. Thus it cannot be said that this reaction is peculiar to one variety of streptococci.

That the so called streptococcus rheumaticus is the only streptococcus which produces a serous exudate in the serous cavities has repeatedly been shown to be false[17]. So the following experiments are but a repetition of many others already reported.

Thirteen rabbits were inoculated into the ear vein with streptococci suspended in a normal saline solution. Nine different strains were employed, obtained from the following sources: 1, Chronic arthritis; 2, Blood of acute rheumatic fever; 3, Interior of tonsil after operation from a case of acute rheumatic fever; 4, Interior of tonsil after operation from a case of acute rheumatic fever; 5, Interior of tonsil after operation from a case of acute rheumatic fever; 6, Cellulitis; 7, Abscess; 8, Empyaema; 9, streptococcus rheumaticus from Dr. Payne.

1. Rabbit—Growth from one agar slant of streptococcus "K." injected into the ear vein on Feb. 10, '07.

Feb. 11. Animal shows slight limping of right foreleg, examination negative. It is hyperaesthetic and has increased motor excitability.

Feb. 12. Fine fibrillary twitchings of the muscles which are aggravated on excitement. There are swelling and redness of the right wrist and elbow. At 5 p.m. the animal had general epileptiform convulsions and tetanic spasms lasting several hours. On the next day the right fore leg remained unchanged, but uses the hind legs with difficulty, and can walk but little.

Feb. 16. Animal normal.

Repeated injections as above produced a fugacious arthritis lasting a few days, but the animal always recovered.

2. Rabbit—Dec. 10, '06. Growth from 4 tubes of agar of streptococcus "G" in salt solution injected into the ear vein.

Dec. 11. Marked limping of the hind legs with swelling of both knees.

Dec. 24. The animal has had every joint in the extremities involved for a few days at a time, with swelling and redness of nearly all of them.

Dec. 31. Limbs all normal.

Repeated injections as above always produced a similar effect. On Jan. 25, '07, joints are all normal, but the animal seems very sick.

Jan. 26. Animal died. Autopsy negative. Cultures all sterile.

3. Rabbit—January 24, '07. Growth from 3 agar slants of streptococcus "H" injected intravenously.

Jan. 25. Arthritis of right fore leg with swelling and tenderness of right elbow.

Jan. 31. Extremities normal.

Animal was not again injected, but on March 28, '07, a slight limp of the right hind leg was noted. This continued, gradually becoming more marked. On April 15, '07, there was a definite fusiform enlargement of the joint with atrophy of the tissues above and below. On May 27 the swelling had increased. It seemed to be due to a bony and capsular change with no sign of effusion. Muscles were much atrophied. On May 30 a skiagraph was taken which showed distinct exostoses.

On June 20, '07, the animal died suddenly.

The cause of death was found to be due to torsion of the right cornu of a pregnant uterus. Other viscera were normal.

The right knee was distinctly larger than the left, with thickening of the periarticular tissue. On opening the joint a small quantity of thick, tenacious, non-purulent fluid escaped. There was some thickening of the villi and the cartilages had lost their lustre. There was slight erosion along the cartilaginous edges and also some hypertrophy. Cultures were negative.

One of the villi was incubated in bouillon, but the result was negative.

4. Rabbit—The growth of streptococcus "S" from one agar slant was injected into the ear vein on Nov. 21, '06. No arthritis developed. It was again injected on Nov. 24, '06, with the growth from two slants. There was still no effect. The growth from three tubes was injected on Dec. 3, '06, and on Dec. 9 marked lameness of the fore legs developed, with swelling and tenderness of the elbows and shoulders. This condition persisted until Dec. 14, and ten days later the growth from six agar slants was injected. Slight lameness of the left hind leg developed, but soon disappeared. For two days the animal appeared in normal condition, but on Dec. 30 it suddenly developed a complete paraplegia with semi-consciousness

supervening, and the next day it had numerous epileptiform convulsions followed by death.

At post mortem all the viscera were normal except the central nervous system. There were extensive haemorrhages in the dorsal and cervical cord and meninges, and also in the meninges over the medulla, cerebellum and base of the brain. No areas of softening were found.

Cultures and smears from the central nervous system, cerebrospinal fluid, viscera, blood, joints and synovial membranes showed no organisms.

5. Rabbit—Animal was repeatedly injected with the streptococcus "G," but it was not until the growth from seven agar slants were given that the animal showed any ill effects. Then a fleeting arthritis of all the joints developed, lasting a few days only and then quickly disappearing.

6. Rabbit—On May 4, '07, animal was injected with the growth from two agar slants of streptococcus "cellulitis." On May 6 an arthritis of the left hind leg developed, which condition lasted three days and then completely disappeared.

7. Rabbit—On Dec. 6, '07, the growth from one agar slant of streptococcus "abscess" was injected intravenously. There was no effect. This was repeated on Dec. 17, and again on Dec. 25. Two days later a severe arthritis of the left knee joint developed with tenderness and swelling This persisted for five days and then quickly subsided.

8. Rabbit—The growth from one agar slant of streptococcus "empyaema" was injected on Dec. 6, '07. Two days later arthritis of the left fore leg developed, which quickly disappeared. On Dec. 26 the injection was repeated. Two days later the right fore leg was affected. This soon improved, but then the ankle of the right hind leg showed marked swelling and tenderness. By Jan. 7, '08, however, the animal was again normal.

9. Rabbit—This animal was repeatedly injected with streptococcus rheumaticus, but did not develop arthritis. It, however, became very ill and died two weeks after the last injection.

In all, it had received the growth from eighteen agar slants at different times.

The post mortem findings were as follows: Miliary abscesses of the kidneys. Acute vegetative mitral and aortic endocarditis. Joints normal.

Cultures—Peritoneum, sterile; Liver, B. Coli and streptococci; Spleen, streptococci; Heart blood, streptococci; Kidney abscesses, streptococci.

Smears from—Aortic valves, streptococci; Mitral valves, streptococci; Kidney abscesses, streptococci and pus.

10. Rabbit—This animal was repeatedly injected intravenously

with streptococcus rheumaticus after the organism had been passed through five mice. On one occasion it was given the growth from sixteen agar slants, but no untoward results followed.

11. Rabbit—The same result followed in this case as in the preceding one, even after very large doses of streptococcus rheumaticus.

12. Rabbit—The streptococcus rheumaticus isolated from the heart blood of No. 9 was injected in this case, but without effect.

13. Rabbit—This animal was treated exactly as in case No. 11 and with a similar result.

It will be seen from this short review of the animals used that streptococcus does not always cause arthritis or produce a purulent exudate into the joints. In seven animals, in which various strains were used, a fugacious non-purulent arthritis ensued. It is also just to point out that three of these also gave a positive reaction in McConkey's bile salt lactose broth. But in the other four, where this cultural reaction was absent, an acute arthritis also developed.

When we turn to examine the results obtained from the injection of streptococcus rheumaticus there is great disappointment. In the six animals with blood infection only one, No. 2, developed joint lesions. One, No. 9, however, died from the result of an acute endocarditis and general streptococcaemia. The areas in the kidneys might have been infarcts, but they had more the appearance of miliary abscesses. As no histological examinations were made we do not feel justified in absolutely diagnosing abscess formation. But yet it is suggestive, and this was the only organism which gave any appearance of a purulent process.

There are several points of interest in this series of animals which may here be noted In Rabbit 1, forty-eight hours after the original injections and synchronous with arthritic lesions very marked nervousness developed, with general convulsions which lasted several hours. After this the animal remained very nervous with marked twitchings of the extremities for several days, but eventually recovered.

In Rabbit No. 4, there was a somewhat similar clinical picture, but, however, the result was different.

At autopsy haemorrhages into the substance of the cervical and dorsal cord were found, with many haemorrhages in the meninges.

The analogy between these two cases is rather striking, but very problematical.

It is mentioned here, in passing, to draw attention to the cause of chorea and its possible relationship to acute rheumatic fever, as Poynton and Paine reported a doubtful case of choreiform movements in a rabbit after intravenous injections of streptococcus.

The results of these experiments seem to corroborate the findings of previous workers, namely, that acute rheumatic fever is a strepto-

coccus infection. But that there is a separate and distinct strain for this special disease has not been proven and the above results argue strongly to the contrary.

The power of agglutination of streptococci by patients' sera has been repeatedly investigated in order to determine some difference, but so far without tangible results. The opsonic power of the blood at first gave us hopes that we might here find a trustworthy means of separating the different groups if there be such. With this object in view I examined the blood of twenty patients suffering from acute rheumatic fever as to the opsonic index. A variety of organisms were used, including "streptococcus rheumaticus," streptococcus from the tonsils of each patient, gonococcus and staphylococcus aureus. The results were not at all satisfactory, in fact were very confusing. There was great variation at different times, and where constant, the difference were not worth considering.

After the etiology of an infectious disease one naturally turns to find the point of entry. That many cases of acute rheumatic fever occur without any prodromata cannot be doubted. But a point of entry there must be in each case. Of course this may not be always the same. For many years the close relationship between acute follicular tonsilitis, so-called angina and acute rheumatic fever has been recognized.

Lemoine[15] reported the finding of a pure culture of streptococcus in the interior of the tonsils in 165 cases of tonsilitis associated with acute rheumatic fever.

With the object of determining if possible the frequency of streptococci in the tonsils of rheumatic patients the following experiments were performed.

In thirteen cases of acute rheumatic fever in the wards of the Johns Hopkins Hospital the tonsils were enucleated and in every case removed without tearing. Cultures were immediately taken from the crypts or external surface and innoculated on slanted glycerine agar. The object of these cultures was to obtain a comparative estimation of the flora present in the pharynx. The tonsils were then opened with aseptic precautions and the cut surfaces seared with a hot iron. Then a stab opening was made into the substance and cultures obtained on slanted glycerine agar and agar plates. The entire tonsil was now washed in 1 to 1,000 bichloride of mercury solution for thirty seconds and then thoroughly rinsed in several dishes of sterile normal saline solution and the entire tonsil placed in flasks of bouillon or litmus milk. After incubation for 48 hours agar plates and smears were made from the growth in the flasks.

The external culture in every case showed a growth of a great variety of organisms, but in each case streptococci were found. The

internal cultures taken through the sterile surface revealed a great diminution in the number and variety of organisms. Of eleven cases so examined there was a pure culture of streptococci in eight, or 73 per cent. In the other three cases a few staphylococci were associated twice and an unknown bacillus once. The tonsils were incubated en masse in ten cases and in nine, or 90 per cent., a pure culture of streptococcus was obtained. In the other case it was associated with staphylococcus aureus. In eleven of the twelve cases examined, a pure culture of streptococcus was obtained by either of the last two methods of procedure.

In the interpretation of these results we are struck by the fact that both tonsils yield comparatively similar results in all the cases. Also the great variety of organisms obtained from the external cultures and the uniformity of the finding of streptococcus in the interior and autolysed cultures. A cultural study of these strains did not show any material difference. Three gave a positive reaction in McConkey's bile salt lactose broth, while the others were negative.

There is only one conclusion that can be drawn and that is that streptococci may be present in the interior of the tonsil without giving any external signs of disease.

The pharyngitis present in acute rheumatic fever with the enlargement of the lymphatics draining this area is a fairly constant observation. That there is a direct lymphatic drainage from the tonsils through the cervical glands to the thoracic duct is an established anatomical fact.

That streptococci may be dormant in the tonsils seems shown, and thus the reinfection, so common in acute rheumatic fever, may be accounted for.

The tonsils and pharynx, however, are not the only portals of infection. Even as tubercle bacilli may pass through an apparently normal intestinal mucosa, so it is not past belief that streptococci may do the same. Chvostek[16] believes the tonsil and the intestinal tract to be the portals of entry for the streptococcus in acute rheumatic fever.

But why after one attack of acute rheumatic fever with or without tonsilitis and removal of this apparent portal of entry do we have recurrences?

This question leads us to deal with the treatment of acute rheumatic fever.

For many years the administration of salicylic acid in some form has been used as a specific for this disease. That in the great majority of cases it acts with phenomenal rapidity in allaying the arthritic symptoms and reducing the fever there is no doubt. But so far as its ability to control the visceral manifestations of acute rheumatic fever is concerned there is great doubt. Indeed endo-

carditis may develop weeks after the disappearance of the acute symptoms even if the patients are still taking salicylates. It is no uncommon occurrence to observe cases of acute rheumatic fever extend over months with exacerbations and relapses, development of endocardial and pericardial inflammations and perhaps chorea, the patient all this time being the subject of a most heroic salicylate treatment. Indeed this course may often have a derogatory effect on the patient. The disease at its onset is a streptococcaemia, and with each new joint involved, or when the endocardium, pericardium, pleura, lung, etc., show evidences of disease this condition has returned. So our treatment must be similar to that of other general infectious diseases as typhoid, pneumonia and tuberculosis. All the protective forces of the patient should be fostered to the greatest degree and the powers of elimination increased.

Salicylates should be given a fair trial, but if the effect is not prompt and decisive they should be discarded altogether. Absolute rest to the parts affected, whether joints or heart, should be vigorously enforced. An easily digested and nutritious diet should be given with a liberal supply of fluids. Pain may be relieved by local applications and the fever reduced by suitable hydrotherapeutics.

The results of increasing the immunity of the patient by means of anti-streptococcus sera have up to the present been far from successful. On the other hand the careful administration of streptococcus vaccine may be more encouraging. This should not be administered during the acute period of the disease. But when these symptoms have subsided their administration may help to overcome the organism if it be latent in the tissues. It is preferable to use the organism isolated from the blood, joint or tonsil for the manufacture of the vaccine in each case.

If there has been tonsilitis during the course of the disease the tonsils should undoubtedly be removed, not by clipping off the top, but by complete enucleation. An infected tonsil is of little value as a protective agent, but on the other hand is a continual source of danger as a means of reinfection.

Conclusions.

1. Acute rheumatic fever is a streptococcus infection.
2. It is a streptococcaemia at some stage and not a local disease.
3. The streptococcus producing acute rheumatic fever is indistinguishable morphologically, culturally and biologically from other streptococci.
4. The tonsil is probably the main point of entry of the streptococcus in acute rheumatic fever.

I wish to express my thanks to Dr. Barker and Dr. Cole for their valuable advice and aid in this work, and to Dr. Rosenheim for the tonsils obtained by operation.

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SPLANCHNOPTOSIS.*

BY W. J. WILSON, M.D., TORONTO.

By splanchnoptosis we mean a general falling of the abdominal viscera. Enteroptosis is frequently used as a general term, but has the more definite meaning of falling of the intestines.

In entering on a discussion of this condition it may be profitable briefly to review some of the anatomical relations of the organs involved.

The kidneys are situated close to the spine on either side, in front of the last two ribs. The upper end of the right kidney reaches to the lower border of the eleventh rib, while the left rises to its upper border. They are imbedded in subperitoneal connective tissue. This tissue becomes loaded with fat, and thus the kidney lies in a bed of fat. An important connection exists through this subperitoneal tissue and the hepatic flexure of the colon, and also with the second portion of the duodenum. The upper half of the right kidney is covered by peritoneum and is in relation anteriorly with the liver. The greater part of the lower half is devoid of peritoneum and is in direct contact with the ascending colon and duodenum. The upper end of the left kidney is covered by peritoneum and is in relation to the stomach. The centre has no peritoneal covering and is attached to the pancreas through the subperitoneal connective tissue. A small portion of its lower and outer margin, also without peritoneum, is in contact with the descending colon. At the lower part of both organs is a small area covered by peritoneum and in relation to the colic vessels. Thus we see a direct connection between the portions of kidney devoid of peritoneum and the ascending colon and the duodenum on the right side, and the pancreas and descending colon on the left, through the connective tissue in which the kidneys are embedded.

The stomach, when empty, is situated behind the left lobe of the liver and in front of the pancreas.

The cardia is behind the seventh costal cartilage and about one inch to the left of the sternum.

The pylorus is three inches below the junction of ziphoid and body of the sternum and at the inner end of the eighth costal cartilage on the right.

The position of the stomach varies a good deal, according to whether it be full or empty, and also many stomachs are much more vertical in position, with the pylorus down and to the left.

* Read before the Clinical Society of the Toronto Western Hospital, Dec. 10th, 1908.

The ascending and descending colon are almost vertical, the ascending running upwards to the liver and external to the gall bladder. The descending colon is connected to the diaphragm at the level of the tenth and eleventh ribs. The ascending has a mesentery in 26 per cent., and the descending in 36 per cent., otherwise the posterior surfaces of the bowel are attached to the abdominal wall by the subperitoneal connective tissue. The transverse colon runs between the right and left, forming a curve forwards and slightly downwards, and mostly above a line between the highest points of the iliac crests.

The lower border of the liver practically corresponds with the lower costal margin.

Under normal conditions there is a well-marked intra-abdominal tension, due to the healthy tonic condition of the abdominal walls.

Ptosis is found at all ages and in both sexes. During adolescence there is not much difference between the sexes, but after this the number of cases found in the female is much greater than that in the male. This difference goes on increasing up to old age, so that as women arrive at seventy or eighty ptosis is the rule. This difference may be attributed to habits of life, to a naturally less powerful muscular system in the female, as well as to less stable nervous system and the after effects of pregnancy and parturition, tight bands, corsets, the weight of clothing dragging on the abdomen, and often a life where the abdominal muscles do not receive the necessary exercise for their full development. Perhaps the most potent factor is a lack of development and deficient stamina, either hereditary or acquired during the developmental period.

For the development of splanchnoptosis either the abdominal tension must become relaxed or the visceral attachments give way, or both. The tension, owing to the constant variations in the contents of the hollow organs and the stress of work and straining, requires the constant adjustment of a healthy and vigorous nervous system, and where this is not adequate we have the worst forms of the condition. The other variety, where the abdominal muscles become weakened and elongated by pregnancy or abdominal tumors, and with good enervation but some temporary general debility, is not so difficult a problem to deal with.

The symptoms of splanchnoptosis are rather vague and uncertain. Sometimes there will be a great deal of pain, aching and discomfort where there is very slight descent of an organ, while in numerous other cases no distress is complained of and no symptoms are noted. In these cases the ptosis is accidentally discovered during a general examination.

In a prolapsed kidney there is occasionally severe pain,

"Dietels Crisis" which has been variously accounted for. It was thought due to tension and consequent uretral obstruction, and to the effects of gout. Gastric symptoms are occasionally referable to pressure of a kidney on the duodenum.

The diagnosis must depend on objective findings. The thorax and abdomen should be well exposed to view, in a good light, with the patient on the back and the knees flexed to relax the abdomen. The breathing should be carefully watched. The position of the greater curvature of the stomach may be seen on deep respiration, and incidentally any peristalsis should be noted. This latter observation may be valuable in confirming, or otherwise, obstruction from pressure of a kidney on the duodenum or a kink in the bowel incident to descensus.

In a well-marked case we notice a flattening or actual sinking backwards below the ensiform cartilage, with a protrusion of the lower abdomen. The abdominal wall is flaccid and thin and the recti muscles may be abnormally separated. On inflation with gas, or preferably air through the stomach tube, we may see the outline of the stomach, and possibly be able to locate the lesser curvature, as represented by a line between the cardia and pylorus, lower than normal. We at the same time note the size of the organ and decide whether it be dilated simply, or prolapsed, or both.

On inspection we may be able to outline the colon, especially when distended with either air or water. This method will aid us to distinguish between the stomach and transverse colon.

Occasionally a kidney or spleen, especially if enlarged, may be noticed.

On palpation, with the patient still in the recumbent position, we may with the hand flat on the stomach detect a co-existent gastritis by the feeling of stiffness, and on inflation of either stomach or colon make out their position.

We feel the kidney through the loin with one hand behind and the other in front while the patient takes deep breaths. The kidney will descend with inspiration and rise again with expiration. Its size and form may often be made out to some extent in a thin subject. Some prefer the patient standing and leaning forward; others slightly turned on the side.

By palpation we may feel the enlarged or prolapsed spleen and also more or less of the liver below the costal margin.

By percussion, either with the tip of the finger alone or combined with auscultation, we may outline the stomach and colon, and where difficulty presents itself use the methods of inflation before mentioned. The percussion should consist in a very light tapping with the point of the finger. It may be combined with auscultation. Instead of percussing, stroking either across or

parallel to the stomach border is a useful method, combined, of course, with auscultation.

The colon may generally be outlined and followed in its course as well as the stomach.

To confirm our previous findings we should percuss for the kidneys, liver and spleen. The gastro-diaphane has occasionally proved of use in our hands. Once the light passed down until it rested behind a truss supporting a left inguinal hernia where by percussion the stomach colon line was hard to locate.

In some of those difficul cases where a kink in the bowel or pressure is suspected, bismuth with the food and the X-ray will prove of benefit.

Splashing in a thin-walled abdomen is often very serviceable, both for stomach and parts of the colon, particularly the cecum.

While the prospects are not good for a prolapsed organ returning to its normal position, we may do a good deal to alleviate the symptoms and make our patient more comfortable, and where the prolapse has been slight, cures have been reported.

The treatment of splanchnoptosis may be divided into prophylactic, medicinal, mechanical and surgical. The prophylactic consists in the proper care of the child, including everything pertaining to the best physical development, including diet, hygiene, out-of-door life, and clothing that will not unduly constrict the waist. In the adult the avoidance of constipation, keeping the health at the highest standard possible for the individual, and in women the immediate repair of perineal tears and careful support of the abdomen after labor till the abdominal muscles have regained their normal tone.

The mechanical treatment includes mechanical supports and bandages applied so as to lift the lower abdomen.

What we have found most convenient in our practice is an elastic band sewed to the lower border of a short corset. It has eyelets behind and is laced with the same lace as the corset. In front it is fastened by broad hooks and so adjusted as to come below the crest of the ileum, and when fastened it will lift the lower abdomen. The credit for this appliance is due, I believe, to Dr. Morris Longstreth, of Philadelphia. We have used it for years with very great satisfaction.

The surgical treatment finds its greatest field in the anchoring of the kidney, but stomach, liver or a loop of bowel have been raised and fixed by the surgeon with more or less success.

Medical treatment, of course, cannot do much toward restoring or replacing an organ, but yet may do a great deal of good. Rest in bed and measures calculated to increase the metabolism and deposit fat in the abdomen are of considerable service. Rest from

work, with good food, attention to the usually constipated bowel, and a good tonic, will sometimes work wonders.

One example of this kind may be given. M. P., aet. 31, mother of one child, complained of pain in right side of lower abdomen. Was treated for nine months for uterine and ovarian disease. On examination both kidneys were found prolapsed; right was at brim of true pelvis, and left near crest of ileum. The right kidney was excessively tender and had caused most of the trouble and the mistaken diagnosis of pelvic disease.

This patient was given a good tonic and a rest in the country for a month, and came home free from all pain. She was under observation for five or six years after this, but had no return of her old pain.

Of course, we know that frequently the prolapsed organ will cause pain and distress in one part of its course and not in another, but this will not explain the many cases like the above that get better promptly on well-directed tonic treatment.

DIFFERENTIAL DIAGNOSIS OF FUNCTIONAL ORGANIC PALSIES.

THE October number of *Archives of Diagnosis* contains a splendid short article on the above subject by T. A. Williams. He describes a new sign recently published by Hoover. This consists in the pressure exerted by the heel of the sound limb upon the floor or bed when the patient tries to lift the opposite leg or to sit up. A normal person synergically presses both heels against the floor when trying to get up from the recumbent position. In a true hemiplegic, full pressure is exerted only by the sound limb, the pressure of the paralyzed limb being diminished proportionally to the defect of the motor neurones, however hard the patient is trying to rise, or to lift the opposite leg, as the case may be; a simulator or hysteric, on the other hand, cannot lift the sound leg without exerting synergic pressure with the heel of the paralyzed leg; and when he is asked to lift the paralyzed leg his feigned attempt is unaccompanied by synergic downward pressure of the contralateral limb, this proving that no real attempt is being made to lift the leg.

A further modification of this sign has been described by Zenner. This consists in estimating the downward pressure of the thigh instead of that of the heel as employed by Hoover. Both these signs are easy of application.

Hysterics sometimes simulate facial palsy, as well as ptosis with or without orbicular spasm or contracture. In them, however, there is always synergic response of the palsied side when the well one contracts; for it is not possible to contract the muscles of involuntary expression homolaterally without long practice. The fact that the frontalis or orbicularis are spared does not, however, negative a lesion; for these are innervated by a separate portion of the facial nucleus (Page May and Marinesco) in the medulla, and have also a separate cortical centre: accordingly they may escape palsy derived either from the high or lower neurone, as well as in hysteria.

Organic ptosis must therefore be diagnosed by distinguishing the positive signs, such as the constant contraction of the corresponding corrugator supercilii to compensate the loss of the levator palpebræ; though even this may be simulated by a forcible con-

traction of the orbicularis at the same time, which will give rise to a clinical picture resembling true blephero-spasm with or without palsy. It is distinguished by the twittering and explosive volleying of the true spasm, while the hysterical is like a voluntary contraction, and does not so invariably begin in the orbicularis. A true palsy of the orbicularis is revealed by the sign of Cestan and Dupuy du Temps, which consists of the raising of the eyelid when the patient attempts to close the eyes while looking down. The palsied eyelid will perceptibly ascend before the eye closes.

It cannot be too widely known that a mere interruption of the pyramidal tract by edema, anemia or perhaps even toxin may give rise to a temporary Babinski sign, which will disappear with its cause. Therefore one should not prognose in a case where such a possibility is not excluded. It is not uncommon that dyscrasic states, such as diabetes and uremia, injure predominantly only one side of the nervous system. Even the causal factor of polyneuritis may act only unilaterally, as shown by the striking case of ascending paralysis cited by Camp, and found post mortem to be solely a unilateral peripheral neuritis without implication either of cord or brain. Nor must its unilateral commencement allow the spasticity of paralysis agitans to be confounded with that of frank pyramidal disease. Here a slight weakness of the achilles jerk sometimes occurs, as Risien Russell points out. Hysteria, however, cannot be excluded in some Parkinsonian cases; for even the trembling is much influenced by the will, and the spasticity becomes relaxed as the limb is used. A test I have often used is to suddenly clutch and raise the arm or leg while the patient is engrossed: flaccidity excludes paralysis agitans, and renders probable a diagnosis of psychic affection. The therapeutic test may then clinch the diagnosis. This test is, of course, not applicable to permanent hysterical contracture, but the general characters of these contractures are not likely to be confounded with the spasticity of paralysis agitans.

A special kind of incapacity for movement is that found in occupation cramp. Here the muscles can quite easily perform any movement called for, except the particular ones required by a specific act. It is not difficult to see from this very definition that its pathogenesis is psychic. It is indeed in mechanism a tic, only differing from one in being excited by a particular specific stimulus, viz., the desired automatic act, whereas a tic, in the strict sense, is excited by all and sundry stimulus, indeed independently of any.

It is thus a great error of practice to treat scrivener's palsy by local applications, massage, electricity, or strengthening exercises.

The muscle "cramp" is caused by the idea of the need to write, and is relieved at once by the replacement of that idea by another, such as the idea to perform some other act even by the same muscles; as, for instance, in the case of the girl who could not write with a pen but could do so quite well with a pencil. Is it not puerile to suppose that incapacity due to a weak muscle could extend to a pen without doing so to a pencil?

The whole matter of the ties cannot be entered into here save to mention one form, torticollis. This is a palsy in the sense that the head cannot be voluntarily straightened whether contracted constantly (tonic) or intermittently (clonic). The agonists of the desired act are overcome by their antagonists. Functionally speaking, the muscles are rarely groupable in terms of a particular peripheral nerve, but are always so in terms of physiological acts. They therefore correspond to cortical, not neural groupings.

THE SENSE OF WEIGHT IN THE AFFECTED SIDE.—ITS VALUE IN THE DIAGNOSIS OF LOBAR PNEUMONIA.

BY THOMAS F. REILLY,

Professor of Applied Therapeutics, Fordham University, New York.

THE diagnosis of a fully developed pneumonia is generally very easy, yet all of us know that cases of well-marked pneumonia occur which present great diagnostic difficulties during their entire course, and for the first two or three days we are in doubt as to what condition is confronting us. This is especially marked when in the absence of characteristic sputa we are dealing with a so-called central pneumonia. In such a case an absolute diagnosis is impossible: yet with the concomitant signs of irritative cough, chill, temperature and disturbed respirative ratio, we may often feel safe in our diagnosis.

It is my intention to recall to the attention of the profession one other of these concomitant signs which may be of some corroborative evidence in such cases. No one who ever saw a lung in the condition of red hepatization can doubt that it weighs heavier than the normal lung.

Aufrecht, quoting Eichhorst, mentions a case in which a left pneumonia lung weighed four pounds more than the right lung, which was normal. Taking the statistics of Bollinger, Eichhorst and Kussmaul, there is an average increase in weight of two pounds and three ounces in the affected lung. In the stage of engorgement, of course, the increase in weight is somewhat less.

It seems scarcely credible that a patient could carry an added

weight of over two pounds on one side of the chest without being conscious of a feeling of heaviness or weight on the affected side. On careful questioning I find that as soon as the sensation of acute pain due to the accompanying pleural affection has passed off most patients suffering from croupous pneumonia in any form state that they feel a sense of weight or load on the affected side. Frequently it is only on sitting upright or lying partly on the sound side that the feeling of weight will be a prominent symptom. An intelligent patient is, of course, more apt to give us a satisfactory answer; yet in young children I have often been able to elicit the symptom.

The following instances are typical of some of the cases wherein the symptom was of value from a diagnostic standpoint.

Case 1.—Mrs. E., aged 32, mother of four children, seen by me on October 1, 1906. She has been complaining of malaise and shivering, with slight irritative cough, for two days; pulse, 96; respiration, 26; temperature, 102; examination failed to reveal any physical sign of disease. There was a flushing of right cheek and occasionally some catching respirations. However, on raising the patient to the sitting position she complained of a feeling of marked heaviness on the right side. There were no physical signs apparent until forty-eight hours later, when all the signs characteristic of lobar pneumonia of the right, middle and lower lobes were noticeable. It ran a course of seven days and terminated by crisis and recovery. The feeling of heaviness was of distinct value in arriving at a diagnosis two days before the physical signs.

Case 2.—John B., aged 7, seen by me March 1, 1908. The previous night he had a chill and some slight irritative cough. He complains of severe headache; pulse, 100; respiration, 32; temperature, 103. When raised up and turned quickly on sound side he says it feels as though a big log was thrown from his left side on his right side. There was, however, no sharp pain on the side. Physical examination revealed nothing. Thirty hours later physical signs could be made out over the left, upper and lower lobes. With the exception of a moderate amount of delirium, the case showed no unusual symptoms. It ran a course of nine days and terminated in crisis and recovery.

In thirty cases I have succeeded in eliciting this symptom, in twenty-one instances before the fourth day of the disease. Perhaps more care on my part and intelligence on the part of the patient would have furnished a larger proportion. In five cases it was of decided value in arriving at a diagnosis.

Doubtless many thousand clinicians have observed the phenomenon of an increased weight of the diseased lung in lobar pneumonia as a subjective symptom on the part of the patient, but

so far as I can ascertain no one has recorded it as a symptom of distinct diagnostic value. It is not featured as such in any text-book or work on physical diagnosis from Grissolle to Aufrecht and Müller. That it exists in most cases no one will question.

It is, no doubt, a valuable sign in the early diagnosis of lobar pneumonia, and it will often prove of distinct help in pointing to the seat of an acute affection when the symptoms are still vague and indistinct.—*Archives of Diagnosis.*

A Method of Demonstration of Parasite Eggs in the Feces.—Telemann, in *Deutsch Med. Woch.*, 1908, No. 35, suggests shaking a small quantity of feces with ether and hydrochloric acid C.P., equal parts, until as much matter as possible is dissolved. On standing three strata are seen. First the ether holding fats in solution, second the acid solution with bacteria and fecal masses, while in the lowest stratum is insoluble matter such as cellulose, muscle fibres and parasite eggs.

How Frequently do Gastric Ulcers become Carcinomata?—In *Surgery, Gynecology and Obstetrics* for June, Rodman reports nine cases of gastric carcinomata during the past two years; of these seven were at the pylorus, giving history of previous ulcer. Cruveilhier, in 1839, drew attention to the danger of malignant disease following gastric ulcer. Dietrich, in 1848, reported eight cases in which carcinoma developed. In 276 autopsies for carcinoma of stomach at Kiel from 1873-1900 the reports of Sennichsen and Klausa show that 54, or 20 per cent., grow either from ulcers or cicatrices. W. J. Mayo reports that 54 per cent. of his cases of gastric cancer in 1905-06 showed the origin to be gastric ulcer; Moynihan found that 16 of 22 gave history of gastric ulcer. Mayo Robson in his Bradshaw Lecture stated that 59.3 per cent. of the cases operated upon by him gave history of chronic ulcer.

Volkmann's Ischemic Paralysis.—In 1880 Volkmann first described ischemic paralysis. The characteristic features are rapid and simultaneous onset of loss of function, flexor contracture, and rigid resistance to passive extension. In paralysis due to nerve injury the muscles are flaccid and permit of free passive motion; contracture, if it appears, develops slowly and occurs late. Taylor, *Annals of Surgery*, Sept., 1908, reports a case, and refers to 58 cases previously reported. The forearm was involved in all but two of the 59 cases, the other two occurring in the flexors of leg and foot. The majority were in children from three

to twelve years of age. The ischemia which is responsible for this flexor paralysis may be caused by direct compression of the vessels and muscles through tight dressings, by contusion, laceration, thrombosis or embolism of the vessels, or by combination of these factors. If complete ischemia persists for six hours or more, serious contracture is sure to follow. At least 80 per cent. of the cases were due to tight dressings.

Recurrent Rheumatoid Ovulation Fever.—Riebold, *Deutches Archiv. fur klin. Med.*, XCIII., p. 15, reports six cases of febrile phenomena in young girls at time of menstruation, accompanied by rheumatic symptoms. The leucocytes were diminished, there were signs in the endocardium, the serous membranes and the parotid gland, with exanthemata. The bacteriologic findings were negative, but the condition appears to Riebold to be an infection. The height of the affection appeared to correspond with the height of ovulation (rupture of Graafian follicle).

J. H. E.

Selected Articles.

THE QUARANTINE OF SMALLPOX

BY H. M. BRACKEN, M.D., MINNEAPOLIS.
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WHILE all intelligent and unprejudiced thinkers who have had any experience in dealing with smallpox recognize the protective value of vaccination, the general tendency is to insist on quarantine as an additional safeguard against this disease. It is for us to consider:

1. What does quarantine accomplish?
2. Is it necessary?

Quarantine is an evidence of ignorance. As soon as the true cause of any disease is recognized attention is directed to its prevention in the first instance rather than to its suppression after the disease has appeared. For example, with tuberculosis we direct our attention to destroying the infectious agent rather than to quarantining the patient. Again, before the means of transmission of yellow fever was known the quarantine methods used in the attempt to control its spread were most rigid, but when the world came to know that only a mosquito could transfer yellow fever from an infected to a healthy person, quarantine was practically abandoned and attention directed to keeping mosquitoes away from the patients, to keeping them away from healthy individuals, and to the destruction of the mosquitoes capable of carrying the infection.

Consistency would suggest that we follow a similar course with all preventable diseases when we have learned how to control them. So far smallpox has been an exception to this rule. We have known for more than a hundred years how to prevent this disease, and yet quarantine of all those exposed to or associated with a smallpox patient, as well as the patient, is still the general custom. Public sentiment demands this, and too often the medical profession supports the public in this unjust demand.

To control any disease by means of quarantine we must restrain all infectious individuals during their entire period of infection. With smallpox this may be possible if the disease appears at the outset in virulent form, and if municipalities are willing to bear

the necessary expense of restraining all such individuals. But if the virulent form of the disease becomes epidemic, or if the disease prevails in mild type from the outset, practically nothing is accomplished through quarantine, for there will always be mild unrecognized or concealed cases at large during part, if not the entire, time of their illness. Under such circumstances, while the quarantine is a failure, it entails great expense on the public and on individuals. It also favors a continuance rather than a control of the disease, for it is conveying to the public a sense of safety that does not exist, and thus encourages delay in vaccination in countries where compulsory vaccination is not enforced.

There is no objection to the isolation of smallpox patients, for we do not want the disreputable-looking creatures about. Those who are not protected by vaccination deserve no sympathy if they have reached mature years, and they, too, should be isolated or kept under rigid observation after an exposure to smallpox until it can be determined whether or not they are to develop the disease. To restrain or quarantine the immune, however, is an injustice which should not be tolerated.

Anyone who will study without prejudice the course of smallpox must admit the protective value of vaccination. Why, then, is not everyone protected? First, because people will not adopt such protective measures unless compelled by law so to do. Compulsory vaccination laws properly enforced will eradicate smallpox from any country.

Vaccination has been brought into disrepute by poor vaccine, by careless methods in vaccinating, and by the exaggerations and misstatements of the so-called anti-vaccinationists. It must be admitted that in some instances sore arms and even death follow vaccination, but when this happens the vaccinator is at fault rather than the vaccine, assuming that the vaccine is of good quality, as it should be in this country at the present time under government inspection. The production of all vaccine should be under some responsible governmental control. The punishment cannot be too severe for placing on the market a vaccine that is not safe.

The vaccine may be ever so satisfactory, but if the vaccinator is careless or the vaccinated is not properly cared for, infection at the point of vaccination may follow. Such conditions are far more apt to occur in a country without compulsory vaccination laws than in one where such laws exist. Under compulsory vaccination laws the exact amount of vaccine needed can be determined in advance. If it is known that 40,000 births occur annually in a state, then that state should have an annual market for at least 40,000 vaccination points or tubes. The producer, knowing this fact, can plan for producing this amount under the most favorable conditions. Without compulsory vaccination laws the vaccine producer

has nothing to guide him in the amount of vaccine to be produced. He must, therefore, try to keep a safe quantity on hand. If a smallpox scare arises there is at once a call for a large amount of vaccine. The producers' supplies will be exhausted, and they will hasten to replenish, although the conditions for so doing may be most unfavorable.

Careless methods of vaccinating should never be tolerated. They will exist, however, where there are no compulsory vaccination laws. A necessary accompaniment of compulsory vaccination is the public vaccinator, through whom the possibility of careless vaccination is reduced to a minimum.

Vaccination should be performed during infancy—by preference during the first six months of life. At this time the danger of infection at the point of vaccination is very slight indeed, for the child is living under ideal conditions. Still further, with compulsory vaccination laws the public vaccinator should choose his season for vaccinating. It is a well-recognized fact that vaccination should, if possible, be avoided during the hot summer months, both on account of the quality of the vaccine at that time and the condition of the individual to be vaccinated. In countries without compulsory vaccination laws vaccination is practised only when the alarm signal is sounded. Children of school age are often vaccinated just before the opening of schools in the fall—the most undesirable season of the year from every point of view. The methods of vaccination in vogue in this country at the present time are such as to make us wonder that we do not have more infection following vaccination.

The anti-vaccinationists say that physicians are in favor of vaccination because of the fees they derive from it. This is absurd. A physician cannot afford to vaccinate for the ordinary fee if he does it properly. He can make money on vaccinations only when he undertakes to vaccinate a great many people in a very short time—a kind of vaccination that should never be tolerated. Lady Mary Wortley Montague, in 1717, speaking of inoculation, said:

"I should not fail to write to some of our doctors (in England) very particularly about it if I knew anyone of them that I thought had virtue enough to destroy such a considerable branch of their revenue for the good of mankind. But that distemper (smallpox) is too beneficial to them not to expose to all their resentment the hardy wight that should undertake to put an end to it."

The anti-vaccinationists do not look on protection against smallpox (vaccination) as did Lady Mary Wortley Montague on inoculation. Lady Mary said that the doctors would not inoculate for fear of reducing their business; the anti-vaccinationists say that doctors vaccinate to make money.

Vaccination should be free. The public vaccinators should be trained in their special work, and should be careful and conscientious. Individuals should have the privilege, however, of choosing their own physicians as vaccinators if they wish, but such a private physician should vaccinate with as great care as he would do surgical work, and should be paid a reasonable fee for his services.

Physicians have placed themselves under criticism by urging compulsory vaccination laws on legislators. The enemies of vaccination charge physicians with mercenary motives in giving such advice, and the legislators too often listen to the ignorant ranters rather than to the scientifically trained physicians in such matters. Why should physicians place themselves in such an unenviable position? They should be satisfied with acting as educators, throwing the responsibility of legislation on the people themselves. As educators their influence should be against any attempt to control smallpox by means of quarantine.

In 1904, in the conference of state and provincial boards of health, held in Washington, a committee was appointed to report on the advisability of the abandonment of isolation in the attempt to control smallpox. The argument of this committee was to be based on the following propositions:

"Whereas, in many parts of this country (at the present time) a mild variety of smallpox is prevailing, and first cases are quite generally unrecognized, thus making their complete isolation impossible, and tending to spread the disease among the unvaccinated; and

"Whereas, the isolation of the many cases causes excessive expenditures in a fruitless attempt to restrict the spread of the disease; and

"Whereas, isolation of smallpox patients is practised chiefly for the protection of those indifferent or opposed to the only scientific means of preventing the spread of this disease, viz., vaccination; therefore,

"Resolved, That a committee be appointed by this conference to consider this subject in all of its bearings, and report next year as to whether in states where the above described conditions exist the effort to control smallpox should not be confined chiefly to vaccination and revaccination, rather than to depend in part or in whole upon quarantine."

At the conference meeting of 1905 these propositions were thoroughly discussed, and, while the majority of the state sanitary representatives were in sympathy with some radical action in favor of vaccination rather than quarantine as a means of controlling smallpox, no definite action was taken.

The Minnesota State Board of Health has taken a position

favorable to vaccination and against any false teaching relative to the protective value of quarantine. It did this only after carefully considering the subject. It preceded the publication of its new regulations relating to smallpox by the publication of the following resolution:

"It having been established that smallpox will not occur in a well vaccinated community, and that all attempts to restrain this disease in a community not protected by vaccination by means of quarantine will fail; that quarantine in a well vaccinated community is unnecessary; that attempts to control the spread of smallpox by means of quarantine are unscientific, irrational, expensive, and misleading; that in laying down strict rules for the quarantine of smallpox sanitary authorities are favoring unscientific and illogical methods for its control, and are conveying false ideas as to the safety of the public, the Minnesota State Board of Health advises that after January 1, 1908, further attempts to control smallpox by means of quarantine shall be abandoned. Meeting of the board, October 9, 1906."

The reason for postponing action on this recommendation until January 1, 1908, was that time might be given those who wished to do so to provide for their own and others' protection through vaccination before adopting a change in regulations.

This action of the board greatly disturbed the anti-vaccinationists, who sent their agents through the state decrying the proposed action of the board months before the new regulations were made public. These regulations are as follows:

11. The local health officer, having knowledge of, or having reason to suspect, the existence of smallpox, shall investigate, and at once place on the house where smallpox exists a sign setting forth the facts. This sign is to serve only as a warning to those who may wish to avoid the house, and not as an indication of quarantine. When the attending physician considers a smallpox patient as having recovered (no longer a source of danger) he shall report the fact in writing to the local health officer, who shall thereupon remove the warning card from the house. *The patient must not leave the house until after the removal of the warning card.*

"12. The apartments occupied by a smallpox patient shall be deemed infected, and when vacated by death, removal or recovery of the patient shall, together with their contents, be thoroughly disinfected under the supervision of the local health officer.

"13. Every physician shall immediately report to the local health officer in writing, the name of every smallpox patient under his care, the state of his or her disease, and his or her place of residence. A report must be made for each case as it occurs in a family or household.

"14. Every physician shall report, in writing, to the local health officer the death of any smallpox patient under his care within twelve hours thereafter.

"15. The local health officer of any city, village, or township must report within twenty-four hours to the secretary of the Minnesota State Board of Health all cases of smallpox occurring within his jurisdiction and the date of removal of the warning card."

When these resolutions were passed it was supposed that an old law was still in force which provided for the exclusion from school of unvaccinated children when smallpox prevailed in a community. It was thought that this would protect the young. It was found, however, that this law had been displaced by later legislation. The State Board of Health, at its regular meeting in April, 1908, passed the following regulations for the benefit of the unvaccinated:

"17. Following an exposure to smallpox, every individual who cannot show evidence of a recent successful vaccination or a recent attack of smallpox must be vaccinated within three days of the first exposure or placed under the same isolation restrictions as smallpox patients.

"If smallpox prevails in a community, or if the disease appears in a school, all unvaccinated teachers and pupils must be excluded from school for a period of three weeks unless vaccinated within three days of first exposure. Failing to comply with this requirement, the school must be closed for a period of three weeks.

"If smallpox appears in any class in any college in Minnesota, all unvaccinated teachers and students in the class must be excluded from recitations for a period of three weeks unless vaccinated within three days of first exposure. Failing to comply with this requirement, the classes attended by such teachers or students must be discontinued for a period of three weeks."

The board expected criticism from the laity for making such a radical change in its smallpox regulations, but it expected the support of the medical profession on apparently such a logical procedure. Strange to say, there were not only prominent physicians, but certain sanitarians, who criticized the board's action. The board still thinks it was right, and trusts that other state boards will follow its example.

Abstract of Discussion.

Dr. George W. Webster, Chicago: If a smallpox patient is isolated, but the nurse and family come in contact with the patient, and are allowed to come and go as they please, are they not as great a menace to the public as the patient, after he has partly convalesced?

Dr. G. B. Lake, Wolcottville, Ind.: I am a member from a country district where this smallpox matter has been agitated. We have had several smallpox epidemics, and this question has been largely talked over among us. In towns where the quarantine has been enforced very strictly it has been a decided burden, because when a family, no matter in how good circumstances it may be, is quarantined for smallpox, and the bread-winner compelled to refrain from his necessary labor, the general understanding is that that family must be supported, not simply with the necessities of life, but also with any luxuries to which its members may feel themselves entitled. A person of mature years who refuses to be vaccinated absolutely deserves no sympathy, and I believe that the cutting off of the quarantine laws with regard to smallpox will be the quickest and surest way of educating the people in the necessity of vaccination.

Dr. J. N. Hurty, Indianapolis: I endorse every word Dr. Bracken has said. There is not the slightest need of having smallpox. It is an indictment of the intelligence of a community for it to have the disease. There is only one prophylaxis for smallpox. Quarantine does not amount to a hill of beans. If a single patient comes into a community where smallpox has not been prevailing, isolation of that patient will probably stop the spread of the disease. If the disease gets started, as it did in Indiana, quarantine amounts to nothing. I am only sorry that we have a statute, which the board of health cannot change, which requires that smallpox be quarantined. That is a useless expense. Down in our mining regions they love to be quarantined. If told that vaccination will protect them, the people will reply that they would rather have the disease than be vaccinated. The reason is that they will have a chance to lie around at home, with support furnished, for a while. They will run the risk of death, for they see that smallpox causes very few deaths. They care little for the inconvenience. It is in vain to tell them that we, being vaccinated, are not afraid of it, cannot be attacked by it, can live with it—eat it, if we want to—or do as Dr. Brayton did, who inoculated himself with it over and over again, and carried the sore on his arm three months by inoculation to demonstrate that he could not have it. All this has no effect. What is the use of quarantine to control epidemic smallpox? Let those that want it have it. I regret that the Indiana statute which compels us to quarantine smallpox is repealable only by legislative act. On the Monon Road to Indianapolis, in Carroll County, are about two hundred cases along Wild Cat Creek, some very severe. We just let them alone. They will never have it again. The health officer of Sullivan County took his thoroughly vaccinated child with him when he went to see cases, to demonstrate to the people

of Sullivan County how to go free from smallpox. Of course, neither father nor son contracted the disease, because they were successfully vaccinated. Even such demonstrations do little good. I endorse Dr. Bracken's contentions.

Dr. Heman Spalding, Chicago: It is immoral to advise that everyone be allowed to get smallpox who wants it. One might as well let a man commit suicide because he wants to do so. Quarantine, of course, is secondary. Vaccination is an absolute preventive; if everybody can be induced to believe that and act on it, there will be no more smallpox. In Oskaloosa, Iowa, I made such a statement before the City Council. A member of the Council said: "Let's go right out and get them all vaccinated." I said he might start out and try it; it would take one thousand to vaccinate another thousand. It is necessary to quarantine and isolate. Right out of Dr. Bracken's and Dr. Hurty's back doors smallpox patients are coming to Chicago all the time. It cost us $100 to take care of patients that Dr. Bracken has failed to quarantine in Minnesota, and the same is true of Dr. Hurty's state. We have four cases of smallpox in Chicago now, one from Montana, another from Tennessee, all four from outside of the city. Nearly all our cases are imported. We have this city so well vaccinated that smallpox patients can enter a car or hotel or any place here, and, out of 500 people they meet, only one or two will be infected. Vaccination stands first, quarantine second. Quarantine cannot be dropped under the present condition of affairs. I do not approve the method of Minnesota. It has made me turn gray this winter. We have had more trouble with that state than any other. Dakota is doing the same thing, and we have three or four cases from there. I am absolutely opposed to Dr. Bracken's paper as it stands.

Dr. C. F. Williams, Columbia, S.C.: I think that Dr. Bracken is on the right line. I do not think, however, that exposed individuals should be allowed to run at large unless vaccinated. I agree with him that the shotgun quarantine does harm instead of good, for when such a measure is instituted, cases are going to be concealed which otherwise would be reported. When the breadearner is shut up it becomes necessary to feed his family, and in a very widespread epidemic it is not long until the city or county treasury is so depleted that a howl goes up from this quarter, resulting, as a rule, in antagonism against those trying to control the disease. In South Carolina we have a compulsory vaccination law. As soon as one develops the disease, patient and attendant are isolated, and all the occupants of the house and those exposed vaccinated. The occupants are then allowed to go in and out, just as though nothing had happened. The public is warned by a sign, bearing the words, "Contagious Disease Here," which is

placed by the entrance to the house. When the case is dismissed by the attending physician the house is thoroughly disinfected. By this means we have been able to control the disease, and in very few instances has a second case occurred.

Dr. H. M. Bracken, Minneapolis: In answer to Dr. Webster's question, we allow the vaccinated to go to and from placarded houses. That is exactly in line with the teaching of Dr. Chapin's paper this morning, and with the position taken by Dr. White yesterday. Dr. Gorgas says that the sick man is the great transmitter of disease. It is not the healthy individual who spreads smallpox; it is the sick, and we want to impress this fact, not only on the laity, but also on members of the medical profession. I admit that there is a possibility of transmission by a second to a third party, but that possibility is so slight that we can ignore it, and not do any great harm in the community. We certainly can do more good by advising people that they must protect themselves by vaccination than by giving them the idea that we are going to protect them by quarantine. Dr. Spaulding says that smallpox is coming into this city from Minnesota. If that is so, the Chicago Department of Health is not doing its duty. Dr. Evans was in Minnesota a short time ago, and took the position that if Minnesota wanted to have smallpox it ought to have the privilege, but that it was a question if outsiders should not quarantine against the state. I wrote to Dr. Evans, at that time, urging him to advise me of every case of smallpox found in Chicago from Minnesota. At that time he advised me of one case. We sent an inspector at once to the place in Minnesota from which this patient went, and found smallpox patients not properly looked after. These patients were at once placed under proper control We have not had notice of a single case of smallpox in Chicago from Minnesota since that time.—*Journal of the A.M.A.*

RUPTURE OF THE UTERUS, WITH A REPORT OF THREE CASES*

BY FRANK C. HAMMOND, M.D.

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One of the most dangerous complications of labor is rupture of the uterus. The fetal mortality varies from 90 to 95 per cent., and the maternal mortality is very high, the latter, according to Ivanoff,[1] 79 per cent. at the Moscow Maternity (covering a period of twenty-five years). The statistics of Merz give a maternal mortality of 62 per cent., which is based on a study of 230 cases from the literature.

In a general way rupture of the uterus may be said to occur once in every 1,500 to 2,000 labors. It occurs more frequently in multiparæ than in primiparæ—according to Bandl, 88 to 120. Jolly in 573 cases states that in 376 the rupture was spontaneous, while in 196 cases it was traumatic.

The etiological factors in causing rupture of the uterus are usually divided into maternal, fetal, and those incident to intervention, as version, forceps, etc. Among the causes may be mentioned multiparity; the uterine muscle may lack resistance; there may be strong uterine contractions, but the cervix is unable to dilate properly; there may be sufficient obstacle to delivery, and the cervix is caught by the ascending part so that it cannot ascend, and thus tears through; atrophy of the uterine musculature, either congenital or acquired; edema of the lower segment of the uterus from compression by the presenting part; alteration in the elastic tissue; fatty degeneration; cicatrices; malformations; attrition; neglected shoulder presentation; hydrocephalus; the improper use of ergot; version, and the application of forceps.

The treatment of rupture of the uterus may be either conservative or operative, the former consisting of the uterine gauze pack, and the latter simple suture, supravaginal hysterectomy, and panhysterectomy.

Dorland[2] quotes Klein, who gives 56 per cent. recovery by operative methods, and Kolomenkin, who gives 53 per cent. recovery by operation (but excluding cases of laparotomy and suture, 64 per cent.). Schmidt[3] reports 83 cases treated by packing, with a mortality of 43 per cent., and 32 by laparotomy, with a mortality of 75 per cent. In Klein's statistics the mortality in non-

* Read before the Obstetrical Society of Philadelphia, June, 1908.

operative cases was 39 per cent., while in those operated upon it was 44 per cent. Varnier[4] states that out of 11 cases in his experience treated by packing 10 died, whereas 3 out of 6 operated on died; 6 others dying before operative methods could be instituted. In rupture of the uterus through the Cesarian cicatrix, in a study of 20 cases, Brodhead[6] gives the mortality as 15 per cent., which is astonishing when compared with the mortality of ruptures of the uterus in general. In 12 of these cases hysterectomy was done, in 7 simple suture, and in one case death occurred within a few minutes after the abdominal incision was made.

If rupture has occurred and the fetus is still in the uterus, it is deemed best to deliver promptly by the vagina; but if the child has already escaped into the abdominal cavity, a laparotomy should be done immediately, and followed after removal of the fetus and placenta either by suture of the tear, supravaginal hysterectomy, or panhysterectomy. The same surgical principles are applicable in those cases which are not seen until after the delivery has occurred per vaginam, and the rupture not recognized until subsequent to birth.

Owing to the difficulty of determining the extent of the tear, the amount of hemorrhage, and the impossibility to predict whether or not packing will control the hemorrhage, or, if it does, whether it will be permanent, a study of the literature leads me to believe that the best results will be obtained by abdominal section.

If the rupture is recent and clean-cut, preference should be given to suture. If there is necrosis, the wound jagged, or infection present, then hysterectomy would be the operation of choice. Border-line cases will, of course, present the greatest difficulties in determining whether to suture or resort to a radical procedure. The condition of the patient, the skill of the operator, and the surroundings of the patient are factors which are to be considered. When one is not an expert in abdominal surgery, and the patient's condition is not good, preference should be give to suture.

Dorland quotes ten cases of rupture of the uterus in which suture was done, with one death; five of the nine women who recovered after suture subsequently became pregnant. "These figures, which indicate a mortality of only 10 per cent. after suture, and the successful termination of pregnancy in five cases, certainly indicate that the plan of treatment by suture is eminently successful, and therefore should as a rule be advocated."

In the three cases below reported, two were multiparas; one was treated by packing and died before operative methods could be instituted; in the second, supravaginal hysterectomy was done; and in the third case simple suture was employed. In two instances the rupture was caused by hydrocephalus, and in the

remaining case by delivery of the after-coming head incident to version. Two of the patients died.

Case 1.—A. R., colored, married, about forty years of age, IV-para. About ten years ago I was sent for by Dr. I. R. Landis, to see this patient with him. I was at Oak Lane at the time, and when I arrived at the patient's house two hours had elapsed. Fearing that I would be detained longer, he called in Dr. W. Wayne Babcock, who preceded me by a few minutes. We found that the child had been delivered, with the exception of the after-coming head. The patient was in deep shock, and her mental condition flighty. A diagnosis was made of hydrocephalus, the fetal skull perforated, a quantity of fluid evacuated, and the head delivered. The placenta was then expressed by Credé's method, but it did not appear in the vagina, although the placenta was distinctly felt to leave the uterus. A hand was then passed into the uterus, fearing that rupture had occurred, and the right lateral wall from the cervix nearly to the fundus was found torn through. The examining hand was then passed partly through the rent, when the margin of the placenta was detected, the placenta being well up towards the liver. The placenta was seized and very easily removed. Peterson[6] states: "After delivery of the fetus the placenta should be expressed immediately to allow the uterus to contract and control hemorrhage. Rarely the placenta will escape into the abdominal cavity, where nothing but laparotomy can effect its delivery." Although the placenta in this case was partly under the liver, absolutely no difficulty was experienced in its removal. The pulse rapidly increased in rate, and progressively lost in volume. The uterus was packed with gauze, as firmly as possible with such a large rent, and preparations made for suture, but death supervened before this could be accomplished.

Case 2.—I am indebted to Dr. Wilmer Krusen for the privilege of reporting this case. On April 13, 1907, Dr. Krusen was sent for to see this patient in consultation with the family physician, but as he was detained at the Samaritan Hospital at the time, he very kindly asked me to go in his stead. The patient was a II-para, thirty-five years of age, who had been in active labor about three days. The head had refused to engage during this period, and from what I could ascertain at the time the os had been fully dilated for a number of hours. On the day I saw her she had collapsed on two occasions, from each of which she reacted under stimulation. These attacks of syncope had been attributed to simple exhaustion incident to a prolonged labor. The pulse was rapid and weak, and the patient's condition one of shock. A diagnosis of hydrocephalus was made. The fetal head was perforated through the anterior fontanel and a quantity of fluid evacuated. As the bones of the head collapsed a hand

was passed into the uterine cavity to ascertain if rupture had occurred, because the history strongly pointed to concealed hemorrhage. A rupture of the uterus was detected on the left side extending from the cervix to midway between the internal os and the fundus of the uterus; there was in addition a lateral tear extending from the above tear posteriorly following the attachment of the vagina possibly half-way round. The woman was hurried to the Samaritan Hospital, where Dr. Krusen immediately opened the abdomen, delivered the fetus and placenta, and did a rapid supravaginal hysterectomy. The fetus had partly pushed through the opening in the uterus, and thus had apparently controlled the hemorrhage throughout the greater part of the vertical tear. The abdomen was found filled with free blood and clots. The operation was done about six in the evening, and the patient died about 11 o'clock the next morning. The temperature did not go above 97 deg. F. at any time, and during the last twelve hours it was impossible to count the pulse-rate. Eight hours previous to death she began vomiting a black fluid, which continued to the end.

Case. 3.—B.T., twenty years of age, married one year; the last menstrual period occurred February 28, 1907. Confinement was expected about December 25, 1907. I was called to see her by the attending physician, Dr. Mervyn Ross Taylor, December 6, 1907. Premonitory pains began about one week previously. When I saw her she was in active labor, the os being fully dilated, but the head would not engage. Maternal pelvic measurements normal. Ether was given, and after a faithful trial with forceps Dr. Taylor found that the head could only be partially engaged. I suggested version, which he asked me to do. This was accomplished within the usual time one would expect in a primipara. The body was easily delivered, but the greatest amount of difficulty was experienced in the delivery of the after-coming head, which could only be brought down in the left oblique diameter, occipitoanterior. In "sweeping" the head out of the pelvis the suboccipitobregmatic diameter appeared to be unusually long. The fetus was dead before version was attempted. Following the delivery of the head there was more bleeding than one would usually expect, and the mother's pulse increased in rapidity and decreased in volume. The placenta was immediately expressed by Credé's method, and although the uterus felt normally contracted the bleeding continued. Upon investigation to find the cause of the hemorrhage, a rupture was found in the left lateral wall of the uterus, extending about one-third of the way to the fundus of the contracted uterus. There was also a complete laceration of the pelvic floor. The ambulance was called and the patient hurried to the Samaritan Hospital. While waiting for

the ambulance, and not having sufficient gauze to pack the uterus, this organ was held tightly compressed by the bimanual method, which procedure apparently controlled the hemorrhage for the time being. I opened the abdomen immediately upon her arrival at the hospital, and closed the rent with interrupted sutures of chromic catgut No. 1. She was on the operating table less than half an hour and required a great deal of stimulation. The lacerated sphincter ani muscle was quickly brought together with a few sutures, and the patient returned to bed with a pulse of 160, temperature 97.4 deg., and respiration 36. She made a slow convalescence, complicated with a phlebitis in the left leg. This patient left the hospital on the thirty-fifth day, with a very slight lameness in the left leg, full control of the bowel, and her physical condition good. In this case I feel confident the rupture did not occur during the performance of version, but in the delivery of an abnormally large after-coming head, about which the lower uterine segment held very closely and apparently would not sufficiently relax to allow the head to glide out.

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—*The Therapeutic Gazette.*

THE SPHERE OF THE TRAINED NURSE

BY W. A. NEWMAN DORLAND, M.D.

THERE is one matter on which I desire to speak a few words. I refer to the recent movement for the State registration of nurses. Let me state at the outstart that I do not think the time is ripe yet for such a movement on the part of the nursing fraternity. He would be a bold man who would venture to assert what might be twenty, ten, or even five years from now; but to-day it remains true that the finger of public opinion points unequivocally away from such a procedure as this. It is a wise policy on the part of any individual or body of individuals to keep a finger on the public pulse and be guided by it. Foolish, indeed, is he who blindly or perversely moves contrary to the popular mind. Sound the views of the level-headed in the community, if you will, and

you will find, if I mistake not, a strong feeling permeating all the social strata antagonistic to anything which savors of trade-unionism among the learned professions, including the nursing fraternity. The medical profession as a whole is opposed to State registration of nurses in any form. The feeling, however, is not confined to the medical men by any means.

The Honorable William N. Ashman, president judge of the Orphans' Court of this city, who six years ago delivered the address before this school, while speaking on this subject has said: "It has been urged by some of the friends of the proposed law" (the State law for licensing and registering nurses) "that to meet the demand of people of moderate income for skilled nursing will lower the rate of compensation, since the average citizen and the poor have not deep purses. This seems to indicate that the real reason for appealing to the legislature is not a question of the welfare of humanity, but a matter of dollars and cents. The public good cannot be held in abeyance for the sake of private gain. Civilization has advanced too far to admit of the capitalization of the sufferings of humanity. The interests of the sick man were safeguarded when the State licensed and appointed the physician as the absolute authority in the sick-room. When two generals with equal authority attempt to manipulate the same army, the battle is generally lost." Such is the opinion of an eminent jurist of the land.

The distinguished professor of medicine in Cornell University, Dr. W. Gilman Thompson, for whom I entertain the profoundest respect and admiration, has recently said (*New York Medical Journal*, April 28th, 1906): We are in the hands to-day in this State (the State of New York) of a nurses' trust. There is no more real need of State examination and registration of nurses than for the examination and registration of a group of persons employed in any one of the liberal arts." He then proceeds to add, as a further protest against the injustice of the whole matter, that the "unfortunate patient is compelled to pay the same rate for the poorest nurse that is demanded for the best, and that patients of moderate means must pay the high price for a nurse or do without."

It will not be necessary for me to quote further from the views of men of distinction in their chosen professions. I have read the criticisms of many of the medical men of this State upon the proposed act. They all sounded no uncertain note. Many of them were most amusing, and some were more positive than polite. As I have intimated throughout this address, I am heartily in favor of fair play for every one, including the nurse. I believe, therefore, that such an act as that which has been contemplated in various States of the Union, authorizing the State registration of

nurses is unfair to every one, including the nurse; that it is unwise at the present time and in view of the recognized trend of public opinion; that it is contrary to the humane spirit which is supposed to actuate those engaged in alleviating the sufferings of mankind, and that it is uncalled for from whatever point of view it may be regarded. Thus do I publicly place myself on record, and I appeal to you all to give the matter careful and judicious consideration before you endorse a movement that, should it be carried, will, I fear, work a lasting injury to the noble profession of nursing.—*The Therapeutic Gazette.*

THE EDUCATION OF THE MEDICAL STUDENT.

THE scientific and technical education of the medical student is a subject of perennial interest not only to teachers but also to practitioners, who for a good many years past have bitterly complained that the newly-admitted man, though legally qualified, is imperfectly trained for the actual every-day work of the profession. The course of the discussion in the Section of Physiology at Sheffield was naturally influenced by the recent issue of new regulations for the medical curriculum by the University of London. These regulations were given in the *Journal* of July 25, when some of the considerations raised were discussed, but in the speeches of Professor Starling and Sir Felix Semon the reasons and motives of those who have brought about the change are given with some fulness. The problem, however, is not in any way peculiar to the University of London, and the solution which it has proposed is therefore of general interest.

Professor Starling's main proposition is that the whole of the student's science studies, preliminary or intermediate, should "be built up with his clinical training into one compact scientific fabric —the science of man and his diseases." The student must have a grasp of the principles of chemistry and physics, and to comprehend these principles he must be made acquainted with certain classes of facts which illustrate their nature; the facts are so many that a selection must be made, and there is no good reason why the illustrative facts should not have a direct physiological bearing. There is no special sanctity about the chemistry of the metals, nor any such deep gulf between the chemistry of the compounds of carbon and the compounds of other elements as the chemical Tories have digged. So with physics; its principles cannot be taught perhaps as a part of physiology, but they can be taught with reference to the problems presented by the body of man; if this is to be done, however, the unintelligent domination of the pedantic mathematician must be overthrown.

Again, with regard to biology, Professor Starling would have the teaching of botany and zoölogy, from the morphological side, as ends in themselves, frankly abandoned; it is indeed extraordinary that such a conception of the place of these subjects in the medical curriculum should be entertained or defended The instruction given to medical students in them should bear on general biological problems, so that the time allotted to biology may serve as an elementary introduction to the science of life which is the true study of the aspirant in medicine. The medical student should be taken quickly to the point where man himself can be used to illustrate the principles of biology. The intentions of the teachers of zoölogy and botany have been excellent, but the detail has been overdone. They have taught and have required at examination too many facts, whereas they ought to have been content with the very honorable office of introducing the student to general principles, remembering that the whole curriculum is really a carefully adjusted course in biology, and that the study of zoölogy is of value to one entering on such a course only because its problems and methods are simpler, and therefore a useful means of breaking in the mind to the biological way of thinking.

With regard to physics and chemistry, at least, there remains the question whether the kind of elementary knowledge contemplated ought not to be obtained before entering a medical school. Dr. Buist urged that not only these two subjects but biology also should be entirely preliminary to the recognized medical course. To many who take the general view expressed by Professor Starling it will seem that the objections to letting the future medical student get his elementary biology at school are stronger than those which can be brought against the application of a like method to the other two subjects.

It is justly complained that not only the preliminary but the intermediate subjects are being taught in water-tight compartments, and the extreme significance of the new move of the University of London is that it makes a courageous attempt to remedy an evil which has been growing for a generation, to the dismay of those engaged in the actual practice of medicine and anxious for its advance as a science and as an art.

The system upon which human anatomy is commonly taught is a survival, with many aggravations, of a condition of medical science which came into existence generations ago when the present extent and complexity of the other branches of the institutes of medicine were undreamed of. Professor Sherrington said, in the course of his interesting contribution to the discussion, that the teaching of anatomy in a lecture theatre was a relic of the middle ages, and the statement is literally true. Yet it is only now that we see any serious effort made to reform it; the Uni-

versity of London has indeed reformed it altogether by allowing demonstrations wholly to replace systematic lectures. The lecture theatre course is wasteful of time, not only directly, but indirectly, for it has encouraged a kind of anatomical pedantry which has been a serious stumbling-block to the more eager and intelligent type of student, destroying his spirit by the immense calls made upon his memory. The tedious old-fashioned anatomy which exacts a minute knowledge of the markings on bones, so that the student shall be able to recognize and place a wrist bone with his eyes shut; which insists on a name for every little arterial branch, which, as Professor Starling said, the surgeon is satisfied to pick up and tie when it bleeds; which demands a minute acquaintance with the connections of many of the ganglia and the cranial and spinal nerves, the meaning of which neurologists have not yet discovered, while slurring the anatomy and relations of the great viscera and habitually ignoring function, must give way to a more enlightened and scientific spirit. Physiology also must be taught with a more intelligent appreciation of its supreme importance in the outfit of the practitioner of medicine. The subject is so immense, the accumulation of facts so huge, that selection is necessary, and it is surely reasonable to ask with Professor Starling that "knowledge shall be imparted in direct proportion as it bears on the treatment of disease in man."

Sir Felix Semon's speech was to some extent complementary to Professor Starling's, for he dwelt on the fact that the University of London, in the reformed regulations for the medical curriculum adopted last month, had endeavored to apply the new principles, and he pointed with pardonable pride to the circumstance that these principles had been very fully stated by him in his address at Manchester last October. These principles are, reduction of the length of the period devoted to the preliminary and intermediate subjects, greater consideration in the teaching and examination at these stages for the practical needs of the future medical man, and an extension of the time devoted to clinical subjects. Theoretically, these ends might have been attained without adding to the prescribed facts, but the bolder and wiser course has been taken of recognizing the fact that the mean length of the medical curriculum is already in practice about seven years. The prescribed curriculum for the university's medical degree has been made five and a half years, and, as Sir Felix Semon justly contended, it is reasonable to hope that the reform in the method of teaching the preliminary and intermediate subjects may result in a shortening of the actual as contrasted with the theoretical length of the curriculum. We are, therefore, not prepared to support the appeal made by Dr. Leonard Hill, in a letter published this week (p. 439), that the decision to extend the length of the

final part of the curriculum should be rescinded. On the showing of the statistics he himself quotes, 84 per cent. of those who graduate M.B. already spend thirty-three or thirty-four months or more in their final stage, and it is very difficult to accept the view that the extension of this period to thirty-six months can really be so serious a blow to the London medical schools as he would have us believe.

Professor Starling, while claiming, as we venture to think most justly, that the remodelled course of the University of London is a move in the right direction, laments that, being the result of a compromise, or a series of compromises, it is not ideal, and sees very clearly that its success will depend on the good-will of the achers of the preliminary and intermediate subjects. This is no doubt true, but Sir Felix Semon made the important addition that the examiners also must generously enter into the spirit of the new regulations. From the context we may gather that he has a reasonable hope that they will, and it may be that the creation of boards of examiners will tend to diminish the more glaring eccentricities for which so many of the examiners employed by the university have earned an unenviable reputation in the past.—*Editorial in the British Medical Journal.*

LONDON LETTER.

BY J. CHARLTON BRISCOE, M.D.

THE autumn session, the beginning of the medical year, is now in full swing, and the new students, for whom "Boyhood's a dream of the past for me," are getting acclimated to their new surroundings. It is a great change for the young man, throwing off the shackles of school life and becoming his own master. Left to his own devices the student in his first year, as a general rule, does not work particularly hard, but spends a considerable time in learning to smoke and in attending theatres, thus gaining a certain amount of useful experience. The town-bred boy has possibly passed through this stage during the school holiday times, but they are novelties to his country cousin. London as a medical school differs from the older universities of Oxford and Cambridge, in that the undergraduates are not so much under the control of the authorities. It is quite exceptional in London to see a young man in cap and gown, and if one should be seen probably he is a member of some faculty other than the medical, whereas in the older universities cap and gown are the rule during certain

hours of the day and evening. This absence of academic dress confers the greatest possible freedom on the student after college hours. He has also to learn the pleasures of living "in digs," and his experiences of landladies and fellow-lodgers are varied and instructive. The London landlady is not so bad as she has been painted, and although there are some distinctly unpleasant persons among them, the average is much above the type depicted in the time of Bob Sawyer. Many have been domestic servants or people who have descended in the social scale, and having settled down to housekeeping, make their lodgers very comfortable, and in some cases even take a motherly interest in their welfare and success. Happy is the man who happens to light on an experienced cook. There is one vice which is common to all—logorrhea—and it is the hardest thing in the world to get the landlady out of the room in a reasonable time, without being actually rude. No doubt the student who lives at home is the best off as regards his material comforts, but home-life is not conducive to work, or compatible with the more intimate friendships which are formed among fellow resident collegiates. It is a matter for regret that, in London, there is not sufficient college accommodation to house all the students.

There is always a considerable degree of rivalry between the various London medical schools, of which there are four large and six smaller ones, and especially is this so as regards the relative entries of new students. The examinations for scholarships and exhibitions are held by common consent late in September or quite early in October, and the days are so arranged that the examinations are held simultaneously. Formerly a competitor might go round the different schools trying his luck, and in some cases one man might obtain awards at several schools and would then accept the most valuable. This state of affairs was obviously very undesirable and delayed the announcement of success or otherwise to the candidates; and it was to meet this difficulty that the above-mentioned arrangement was made. It rather spoils the young man's last school summer holiday to have to spend several hours a day reading, or as he would call it, "swotting for an exam.," especially as he has probably had to work harder than usual in the last term in order to pass some of the higher educational examinations.

The athletic side of the young medico is not neglected in London, and not long after the commencement of the winter session the captains of the football teams will be looking out for likely recruits, and the new man will be asked to play in a trial game or to take the place of an absentee. Mr. A. N. Other, whose name so frequently figures in the list of a team, is the common pseudonym adopted by some sporting student who hap-

pens to be afflicted with stern and unreasonable or nervous parents, and who has been forbidden to play, or who ought to have been at a lecture and has determined to "cut" it. During the first three years the athletic man can get a game twice a week, on Wednesdays and Saturdays, and matches are arranged against various teams. Of these, the fixtures most sought after are those against the Asylums on the Asylum ground. The game is always keen, for the attendants are frequently selected for prowess in some special department, be it music or sports, an excellent repast is provided, as well as the luxury of an after-football hot bath, and somehow or other it usually happens that the chief medical officer is himself a keen sportsman and takes infinite trouble to see that his guests have a good time. What matter if the return journey is somewhat lively! At the end of the third year, when regular hospital work has replaced college lectures and demonstrations, the surgical dresser or the physician's clerk is unable to get away, except on very special occasions, such as an inter-hospital cup tie, unless he is able to persuade some one else to do his work. On this account Saturday afternoon appointments are not particularly sought after. Athletics take a prominent position in student life. At each medical school the autumn session is the occasion for the reading of an inaugural address, followed by the distribution of prizes obtained in the preceding year. One of the senior members of the profession, or some other person of note in the educational world, delivers the address and presents the prizes, and in the evening is the principal guest at the Old Students' dinner. This is also an annual function, and is attended by former collegiates from far and near. For many it is the only occasion on which London is revisited, and affords an opportunity for renewing old friendships and for retailing old yarns. Speeches are usually few in number and characterized by brevity. Unless the speaker is possessed of a penetrating voice he is not likely to be heard, for by general consent the evening is given up to conversation.

October 31st saw the close of the Franco-British Exhibition. It has undoubtedly been a great success, and everywhere in London groups of French people were to be met, especially during the months of August and September. The Tube railways have been crowded with them, and it is almost a standing joke that there are more French than English direction placards posted ir the subways. Apparently most of these visitors do not stay more than twelve hours, spend most of that time at the Exhibition, and do not benefit the large shop-keeping class at all. There was only some slight attempt at a disturbance on the last evening, which as usual was attributed to the medical student, but this accusation

was refuted by Mr. Sydney Holland, the chairman of the London Hospital, in a letter to some of the daily papers.

A short time ago some letters appeared in one of the lay papers decrying the statues which have been placed on the new buildings of the British Medical Association. The offices of the Association, which are situated in the Strand at the corner of Agar Street, not far from Charing Cross Station, have been rebuilt in a light gray stone, and on the level of the second story some eight or ten statues, in half relief, have been placed. They are meant to represent various phases of the medical art, and are mostly nude or semi-nude figures. It is these which have excited the comments of some of the writers. The figures are well done and are by a well-known artist, though on account, perhaps, of the height at which they are placed it is somewhat difficult to recognize the precise meaning. They are, however, not obtrusive, and the agitation has died down, and there is no sign of any preparation for their removal, so we must conclude that they will remain with us.

We have to regret the loss of a distinguished medical man in the person of Mr. Treves. The prosperity of Margate, *mainly* owing to its reputation for the successful treatment of early tuberculous lesions, was largely due to him. During the latter part of his career Mr. Treves chiefly confined himself to the practice of surgery, and had a great reputation for success in such conditions as tuberculous glands and bone disease. The London Hospital has also felt the loss of one of our most promising young surgeons, Mr. Harold Barnard, who died early in August. He was a most energetic surgeon, a keen sportsman, and was getting well known through his excellent scientific writings. He was, conjointly with Dr. Leonard Hill, the inventor of the well-known instrument for estimating blood-pressure.—*Therapeutic Gazette.*

The Canadian Journal of Medicine and Surgery

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Editorials.

THOUGHTS ABOUT THE REVISION OF THE UNITED STATES PHARMACOPEIA.

The existence of legal standards for medicinal agents in the United States is of immense importance to pharmacy in that country. It is satisfactory to know that, by the passage of the Food and Drugs Act, June 30, 1906, the Congress of the United

States provided that the pharmacopeial committee of revision should give their final acceptance and establishment of a standard for any drug or drug product included in the pharmacopeia. Any article, therefore, recognized by the United States pharmacopeia which deviates from the standard set by this authority is improper, unsafe, and dangerous for medicinal purposes, except in respect to drug products which are used in the manufacture of articles subsequently standardized, or for the manufacture of certain definite principles, such as strychnine, which is extracted from nux vomica. A drug product which is forbidden to be sold, or the sale of which is restricted in the country in which it is manufactured, or from which it is exported, will also be refused admission into the United States.

Since the enactment of this law the standards and methods of the United States pharmacopeia have been critically examined and tested, and, as an outcome of the work done by the committee of revision, many important changes have been made in the book. The close criticism of skilled pharmacists has resulted, and will certainly result, in the elimination of articles used in drug manufacture which are imperfect or impure, so that in future only articles of tried and approved quality will be admitted as crude material for drug manufacture by the United States pharmacopeia. To physicians it is clear that if a preparation made from a crude drug of fine quality possesses definite therapeutic qualities, one made from a crude drug of inferior quality cannot be expected to possess equal therapeutic powers. For instance, the leaves of digitalis purpurea, collected from plants of the second year's growth, possess therapeutic powers which do not reside in leaves of the first year's growth, and in the making of pharmaceutical preparations of digitalis, drug manufacturers in the United States will be restricted to the use of digitalis leaves collected from plants of the second year's growth. A physician in the United States who prescribes a digitalis preparation does so on the basis of a therapeutically efficient drug, and it is the business of the United States pharmacopeia to see that he gets what he prescribes.

In the small scope of an editorial little can be advanced except a summary of impressions regarding the pharmacopeia such as naturally present themselves to the mind of a practitioner. Primarily, a pharmacopeia should be a book containing

a list of medicines and compounds and the manner of preparing them, together with the weights and measures by which they are to be prepared and mixed, and such other matter and things as relate thereto. What drugs and preparations of drugs shall be included in the pharmacopeia and what shall be excluded must cause much debate. Should room be found between its covers for all the drugs or preparations used by all the physicians of the country, or should the preferences of medical authorities be chiefly consulted? Though clinicians are by no means infallible, and some of them may even have been convicted of grave errors in the use of remedies, we think that only drugs of tried and proved therapeutic properties should be admitted into the pharmacopeia. If the regular physicians of the United States would agree among themselves to prescribe only drugs producing definite physiologic effects and to exclude all other preparations except as vehicles or for corrective purposes, the United States pharmacopeia would speedily respond to the innovation. The pharmacopeia would then become a small, readable volume, containing descriptions of the properties, doses, etc., of selected drugs or preparations; drugs having similar properties to the selected ones would be omitted, and a working knowledge of the pharmacopeia would not be a difficult accomplishment for students of medicine. A more accurate knowledge of pharmacy would obtain among pharmacists; a genuine knowledge of drug therapeutics would be more widely diffused among physicians. The prescribing of pharmacopeial preparations would be more generally done, and, incidentally, more thoughtful clinical work would precede and follow the prescribing of drugs intended to meet special indications.

If, on the other hand, the pharmaceutic preferences of all the physicians in the United States are to be included in the book, the pharmacopeia will contain descriptions of drugs which are of little interest except to such persons as are employed in marketing them or handling them for purposes of trade or manufacture.

We think that physicians in the United States, while placing a merited reliance on present-day pharmaceutical preparations, will leave the pharmacopeia to the pharmacist. Some physicians, like the pharmacists, may study therapeutics in the dispensatory—a conglomerate of pharmacy and therapeutics. For what they should know about the appearance, taste, and odor of drugs, the

most effective methods of disguising preparations, dosage, the best methods of administration, frequency of repetition of dose, etc., physicians will probably continue to consult works on materia *medica and therapeutics.* J. J. C.

IS THE NON-HOSPITAL DOCTOR UNFAIRLY DEALT WITH BY THE TORONTO HOSPITALS?

Practitioners of medicine in Toronto, for the purpose of this editorial, may be placed in two categories—the hospital class and the non-hospital class; or, in other words, the visiting staffs of hospitals and those who are not members of hospital staffs. The latter contend that they are unfairly dealt with, the principal complaints being that patients belonging to them, who pay only 70 cents a day (city order or otherwise), are transferred to the staff physicians; that their other patients, paying over 70 cents a day (private and semi-private patients), are obliged to pay consultation fees to the hospital surgeons.

Patients paying 70 cents a day ($4.90 per week), or who enter the Toronto General Hospital on a city order, are not required to pay any fee for attendance to any member of the hospital staff. It is altogether unlikely, therefore, that such patients would be willing to pay an outside physician for medical services rendered them during their stay in the hospital, or that they would be able to do so; and, as it is not to be supposed that the non-hospital physician would attend to such cases gratuitously, he is not treated unfairly when the 70 cents patient is taken from him and handed over to a member of the hospital staff. A similar method of dealing with poor patients is followed in St. Michael's Hospital, Grace Hospital, and the Western Hospital.

The Toronto General Hospital has four sets of wards—private, semi-private, semi-public, and public. The rule regulating public ward patients has been already mentioned. Patients in private or semi-private wards in the Toronto General Hospital may have their own physicians. In the semi-public wards of the Toronto General Hospital patients are charged $1 a day. They are allowed to have their own physician, and may receive friends at any hour during the day. If a patient is admitted to

a private, semi-private, or semi-public ward and is placed under the care of one of the members of the hospital staff, instead of his own outside physician, he is liable to a fee for medical attendance. Similar rules are observed in the other three city hospitals. In reference to surgical cases the following rule is to be observed at the Toronto General Hospital: "Surgeons of recognized ability, not members of the staff, desiring to perform operations, may do so on private, semi-private, and semi-public patients, with the consent of the superintendent and the approval of the head, or of one of the heads, of the department concerned." Presumably a consultation fee should be paid to the hospital surgeon, just as a fee should be paid to a consultant if an operation were done in private practice. It is certainly right and proper that a consultation should be held prior to the performance of any important operation, and the fact that the head, or one of the heads, of the hospital department concerned must be consulted cannot be considered a grievance by the non-hospital surgeon. Similar rules obtain in the other city hospitals in regard to surgical operations. Replying, therefore, to the question at the head of this editorial, it would seem that, in reference to the complaints referred to, the non-hospital doctor is not unfairly treated by the Toronto hospitals. There are, however, other aspects of the case which deserve consideration.

It is quite true that hospital men have become a distinct class, enjoying better opportunities to get patients and earn fees than outsiders. It is also true, on the other hand, that, as specialists and teachers, their knowledge of the work to be done is more exact than that possessed by outsiders, and they possess higher claims to public patronage.

Apart, however, from the merits of hospital physicians, the Toronto people, for purely domestic or other non-medical reasons, prefer to send their sick to the hospitals instead of having them attended to at home. A generation ago, or even less, it was quite the other way; then even necessitous persons were with difficulty induced to enter the public wards of the Toronto General Hospital, and the private wards of that institution were often untenanted for considerable periods of time. Very few empty private, semi-private, or semi-public wards are to be found in any of the Toronto hospitals to-day; in fact, so enamored are the Toronto

people of hospitals that they have just voted a grant of $50,000 apiece to St. Michael's Hospital, the Western Hospital, Grace Hospital, and the Home for Incurables. The non-hospital practitioner in Toronto has fallen upon evil days; but his misfortunes are largely traceable to a public preference for hospitals, instead of private dwellings, in the treatment of the sick.

Perhaps if the practice of medicine were regarded by all physicians as a stewardship, instead of as a living, or, in some instances, a source of wealth and emolument, the sense of deprivation and loss felt by the non-hospital men in Toronto would be less acute. Whether this assumption be well founded or not, 'tis a working-day world, my masters, and the battle for medical superiority should be to the strong; the race, whether by *concours* or otherwise, to the swift. The University of Toronto is the people's university, and neither "pull," sect, nor affiliation should push any physician into a chair to teach medicine to university students or place him on a hospital staff to exercise privileges in Toronto hospitals. J. J. C.

EDITORIAL NOTES.

The Causation of Pneumonia.—That epidemics of pneumonia may occur in solitary buildings (barracks, tenement houses, institutions, etc.) cannot be successfully denied, and we may attribute these outbreaks to defects in the local sanitary conditions. It has also been observed that house epidemics of pneumonia occur. Dr. Anders reports that, in the winter of 1894 he saw three cases in rapid succession in one family. A sister of charity, after nursing two of the patients for a period of ten days, was also attacked, and died of the disease. An instructive epidemic is reported by W. B. Rodman, who states that "118 cases of pneumonia, with 25 deaths, occurred in a prison population of 735." Under the heading "Meteorologic Conditions in the Causation of Lobar Pneumonia, *Amer. Med.*, Sept. 1, 1904, Dr. Anders says: "My own analysis of the monthly mortality list, covering the decade from 1894 to 1903, inclusive, for Philadelphia, gave the following numerical order: January, 4,210; February, 3,717; March, 3,496; April, 3,039; December, 2,860; May, 2,238; November, 1,936; October, 1,269; June, 1,165; July, 913; September, 826.

August, 800." The Chicago Health Department (Dec. 5, 1908) reports that "pneumonia has finally taken first place in order of highest mortality, a position it will probably hold until well into the spring months. . . . Between Dec. 5 and the middle of April it is quite probable that upwards of 2,000 Chicagoans will succumb to this preventable disease. . . . We expect fewer pneumonia deaths this winter because the people now understand what they must do to avoid this disease. They know that the best way to prevent pneumonia is to avoid impure air. Improvement in the practice of ventilation is very noticeable." A desire for better air may also account for the fact that a good many men and boys ride on the street car platforms. They are wise, for the air in a full car is malodorous, and may provoke the inhalation of the micrococcus lanceolatus.

The Danger of Shoddy Clothing.—Shoddy is a very inferior material, made of the fibre of old, used woollen goods, mixed with the fresh wool, with which it is woven. The manufacturers do not introduce any more fresh wool than is absolutely necessary. Large quantities of shoddy woollens are exported from England to Canada, and these goods are in considerable demand, owing to their cheapness and smooth appearance. So successfully do these goods appeal to the eye and the pocket of the Canadian purchaser that he prefers them to the more expensive Canadian woollens, which are made of clean, new wool. Even in England, however, there is a fear that the use of garments made from shoddy is injurious to the health of the wearers, and a special article on that aspect of the shoddy industry appeared in *The Medical Press and Circular*, Nov. 18, 1908. One has only to consider the nature of the material from which shoddy is manufactured and the process by which it is made to see that there is some justification for the belief that shoddy goods are infected with disease. Disused garments of various kinds and other articles, wholly or in part composed of wool, are disintegrated by machinery, after which the resultant fibres are mixed with a certain proportion of new wool, from which fresh material is woven. The worn garments, etc., are subjected to certain cleansing operations, but to no process of disinfection. Hence, there is always the possibility that the recreated garments made from them may harbor the germs of tuberculosis and other diseases, with possible injury to their

wearers. It should also be remembered that not outer garments only, but woollen materials in general, are used in the manufacture of shoddy, so that the danger is thereby considerably increased. If this matter is deemed to be of sufficient moment, English manufacturers exporting shoddy to Canada should be obliged to furnish a guarantee that the used materials from which their product is made, prior to its manufacture into shoddy, had been submitted to a process of disinfection satisfactory to the English Home Office.

The Mortality in Ontario for 1906.—The Registrar-General's report shows that the deaths in Ontario for 1906 (estimated population 2,214,116) were 32,782, which gives a rate of 14.8 per thousand. The infant mortality under 5 years of age was almost one-third of this, the figures being: Total mortality, 32,782; infant mortality, under 5 years of age, 10,085. By far the greater part of this infant mortality occurred in infants under 1 year, viz., 8,403 deaths. Two large factors in this infant mortality under 1 year were: Congenital debility and malformations, 2,774; still-births, 1,538. Infantile diarrhea and gastro-enteritis caused 1,570 deaths at this age period; convulsions, 313 deaths; pneumonia, 292 deaths; broncho-pneumonia, 118 deaths; tuberculosis and scrofula, 251 deaths; meningitis, 166 deaths; whooping cough, 155 deaths; acute bronchitis, 153 deaths. At the other end of the line of life, from 60-69, 3,381 persons died; from 70-79, 4,323 persons died; from 80 and over, 3,706 persons died; in all, 11,410 aged persons died. If we add together the mortality rates of the extremes of life in Ontario in 1906, we find: Under 1 year, 8,405 deaths; from 60 to 80 and over, 11,410; total, 19,815—over 60 per cent. of the total mortality of the province for the year 1906—a reassuring prospect, indeed! True it is, that no loss of life should be minimized; sound health in parents should ensure vitality in their offspring; isolation of the contagiously sick should prevent communicable diseases; careful dieting should do away with the holocaust of gastro-enteritis. But, even should these and other conditions and practices become ideal, a large mortality among infants under 1 year of age may be accepted as usual and inevitable. Is it worth while striving to live to be an octogenarian? When a man or woman has reached 60 years of age and over, life's work is done; death needs no

apology. The great number of deaths at advanced ages in Ontario in 1906 showed that many of the inhabitants belonged to long-lived families. In Ontario a good climate, enforced sanitary laws, and a wide diffusion of prosperity among the people help to foster longevity.

Dysbasia Angiosclerotica (intermittent limp, from induration of the walls of the vessels), caused by excessive smoking.—Erb, in 1904, showed that of 38 men who suffered from dysbasia angiosclerotica (intermittent limp) 10 were heavy smokers and 15 were enormously heavy smokers; so that 25 smoked to excess out of a total of 38. In 14 of these cases excessive smoking was the sole etiological factor; all other causes, such as syphilis, alcohol, diabetes, etc., being excluded. Simon records a case of dysbasia angiosclerotica in a man aged 64, who had not had any severe strain, had not been unduly exposed to the weather, had led a quiet life, had not had syphilis nor any serious illness except cecitis eight years previously, but who had smoked thirty strong cigarettes daily since the age of 19; he had inhaled and swallowed the smoke. The patient complained of heaviness and weakness in the legs, headache and cardiac disturbances. The radial arteries were hard, tortuous, and sclerosed, and the pulse was of high tension. The heart was not dilated; the second aortic sound was accentuated; pulsation in both arteries of the left foot was entirely absent, and was absent in the posterior tibial, and only feebly present in the dorsalis pedis of the right foot. Evidence of this nature shows that the excessive use of tobacco excites arterio-sclerosis in the arteries of the legs, and thus causes intermittent limp. It is true that many heavy smokers are not affected in this way, but their escape from arterio-sclerosis does not prove that other heavy smokers will be equally fortunate. Some families display a tendency to arterial sclerosis. If such a tendency exists, it is undoubtedly developed by the abuse of tobacco.

The Treatment of Acute Appendicitis, as it Comes Under the Care of the General Practitioner.—In an article published in the December number of the *Medical Review*, London, James Phillips, F.R.C.S., Edin., from the viewpoint of treatment, divides cases of appendicitis into three classes: (1) Mild cases, in which there is tenderness over McBurney's point, but neither a "lump" nor the muscular rigidity characteristic of acute peritonitis; (2)

more severe cases, characterized by a firm, definite, more or less irregular lump; and (3) cases in which there is evidence of acute peritonitis, without the "lump," which indicates that the inflammation is well localized. In two or three days the typical mild case will clear up under "rest, starvation, and morphine," and removal in the quiescent period will have to be considered. More serious cases, characterized by the presence of a firm, definite more or less irregular "lump" in the right iliac fossa are not to be regarded too gravely; in fact, the presence of the "lump" indicates that there is firm matting of the intestines around the inflamed appendix, and that, even if pus is present, there is no immediate danger of its bursting into the general peritoneal cavity. In cases of this class immediate operation is not necessary; operation may be done when the "lump" has disappeared. In the third class of cases, in which there is diffused purulent appendicitis, the general aspect of the patient helps the diagnostician; the patient always has a distressed and "poisoned" appearance. Mr. Phillips describes a condition of the abdomen, which is pathognomonic of diffused purulent peri-appendicitis, and which, if allowed to go on, will result in generalized peritonitis. After describing the signs of a general peritonitis, he says: "If, however, the pus is confined to the region of the appendix, and is only threatening to generalize, observation will show slight movement, at any rate, in the epigastric region, and sometimes also in the left half of the abdomen. If the surgeon's warmed hand is placed on the epigastrium, care being taken not to exert any pressure, the rectus abdominis will be found to give slightly with each respiration. Carry the hand down over the left rectus to the pubes, and the same slight movement will be observed. Now glide the hand back to the epigastrium (it should not be raised from the abdominal wall) and down the right side of the abdomen. When the appendix region is reached, if pus is present the segment (not the whole muscle) of the rectus abdominis over the appendix will be found to be firmly contracted and boardlike." Gentleness should be exercised in seeking for this sign; if found, immediate operation should be done. With regard to the details of the operation, no advice is given, unless it be, to quote Murphy's phrase, "Get in quick and get out quicker." Mr. Phillips is opposed to the washing out of appendiceal abscess, and mentions

English operators (Dudgeon and Shattock) who have furnished experimental proof of its harmfulness, while Morton, of Bristol, and others have published series of cases successfully treated by swab-cleansing only. J. J. C.

PERSONAL.

Dr. Wishart, who has been lately appointed Chief of the Ear, Nose and Throat Department of the Toronto General Hospital, has on that account resigned his position as Chief of that Department in the Hospital for Sick Children, which has devolved upon his junior in the service, Dr. Geoffrey Boyd. Dr. Wishart has been elected a member of the Royal Society of Medicine, England.

ITEMS OF INTEREST.

A Gift from Sir William MacDonald.—Sir William MacDonald of Montreal has done some great things, of which the greatest, of course, is the creation of the Macdonald College at Ste. Anne de Bellevue. His latest benefaction is characteristic of the man, showing his far-sighted determination to do what will have great results, even if the act itself seems comparatively modest. He is sending a copy of "The Letters of Queen Victoria," just published in popular form by the King's command, to nearly 1,000 rural schools in the Province of Quebec. He rightly considers that the inspiration and information contained in that extraordinary work will act like seed of the finest quality, sown first in the teacher's mind, passed on by the teacher in a form which children can receive.

The Canadian Medical Exchange for the purchase and sale of medical practices and property, conducted by Dr. Hamill, medical broker, wishes to remind physicians who desire to make a change that the present season is a good time to list their offers with him, as probably more medical sales are made during January and February than any other months in the year. Prospective medical purchasers can secure the list of practices for sale simply by agreeing to treating everything as confidential and acting honorably. For the past fourteen years a large percentage of all the medical sales made in Canada have been conducted through this exchange, and we believe it offers a short-cut for either vendor or vendee to secure the goal desired.

The Physician's Library.

BOOK REVIEWS.

Surgery: Its Principles and Practice. In five volumes. By 66 eminent surgeons. Edited by W. W. KEEN, M.D., LL.D., Hon. F.R.C.S., Eng. and Edin., emeritus professor of the principles of surgery and of clinical surgery, Jefferson Medical College, Philadelphia. Volume IV. Octavo of 1,194 pages, with 562 text illustrations and 9 colored plates. Philadelphia and London: W. B. Saunders Company, 1908. Agents for Canada: J. A. Carveth & Co., Limited, Toronto. Per volume: Cloth, $7 net; half morocco, $8 net.

The contents of Volume IV. are: Hernia, Chapter LIII., by William B. Coley, M.D.; Surgery of the Rectum and Anus, Chapter LIV., by Robert Abbe, M.D.; Examination of the Urine in Relation to Surgical Measures, Chapter LV., by David L. Edsall, M.D.; Surgery of the Kidney, the Ureter, and the Suprarenal Gland, Chapter LVI., by Joseph Ransohoff, M.D., F.R.C.S., Eng.; Surgery of the Bladder, Chapter LVII., by Bransford Lewis, M.D.; Stone in the Bladder, Chapter LVII., by Arthur Tracy Cabot, M.D.; Surgery of the Prostate, Chapter LIX., by Hugh H. Young, M.D.; Surgery of the Penis and Urethra, Chapter LX., by Orville Horwitz, M.D.; Surgery of the Scrotum, Testicle, Spermatic Cord, and Seminal Vesicles, Chapter LXI., by Arthur Dean Bevan, M.D.; Surgery of the Intestines, but Excluding the Appendix, the Rectum and the Anus; Surgery of the Omentum and Mesentery, Chapter LXII., by Wilbur Van Hook, M.D., and Allan B. Kanavel, M.D.; Surgery of the Appendix Vermiformis, Chapter LXIII., by John B. Murphy, M.D.; Surgery of the Ear, Chapter LXIV., by Edward Bradford Dench, M.D.; Surgery of the Eye, Chapter LXV., by George E. de Schweinitz, M.D.; Military Surgery, Chapter LXVI., by General Robert M. O'Reilly, M.D.; Naval Surgery, Chapter LXVI., by Surgeon-General P. M. Rixey, U. S. Navy; Tropical Surgery, Chapter LXVIII., by Walter D. McCaw, M.D.; The Influence of Race, Sex, and Age in Surgical Affections, Chapter LXIX., by William M. Rodman, M.D.; and the Index. Each of these monographs is, of itself, worthy of close study. No general review can give an adequate exposition of the labor expended or the talent

shown in the composition of these chapters; the bibliography at the end of each chapter tells part of the tale. The text is carefully constructed, showing, with the opinions of the writer, the best and newest work of other authors and operators of renown, home and foreign. Numerous lifelike illustrations are scattered through the volume. Although the writers are many, yet in passing from one chapter to another one is scarcely conscious of the fact. Dr. Keen has good reason to be gratified at the success of his collaborators in helping to produce this monumental work. J. J. C.

Diseases of the Heart. Nothnagel's Encyclopedia of Practical Medicine. By Prof. Th. v. Jurgension, of Tubingen, Prof. L. v. Schrotter, of Vienna, and Prof. L. Krehl, of Greifswald. Edited with additions by George Dock, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine, University of Michigan, Ann Arbor. Authorized Translation from the German, under the Editorial Supervision of Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia and London: W. B. Saunders Company. 1908.

This is the last of the twelve volumes of this system. As a whole the work is excellent and quite the equal of any of the preceding volumes. To the English reader it gives a clear account of the status of German work on diseases of the heart, which none could present better than the authors of this volume.

The work is too large for it to be possible to present anything like a critical review of its contents. The translation has been very well done, and the additions by the editor are valuable. The work will prove of great value to all desiring the fullest information on cardiac pathology and treatment. The work is presented in a manner creditable to the publishers. A. M'P.

The Doctor in Art. Twenty-five reproductions of world-famous masterpieces. Edited with Authentic Text by Charles Wells Moulton. Buffalo: The Douglas Publishing Co.

It has afforded us a good deal of pleasure to look carefully over this work. It is indeed a credit to both the editor and the publishers. It consists of a number of beautiful reproductions of some well-known masterpieces, the whole making an album worthy of a prominent place in any physician's library. Amongst the pictures are "The Doctor," by Luke Fildes; "The Village Doctor," by David Teniers; "The Doctor's Visit," by Jan Steen; "La Malada Imaginaire," by Abraham Solomon, "The Anxious Moment," by B. Vantier; "The Village Doctor," by Heywood

Hardy; "A Bribe," by A. Burrington; "Worn Out," by Thomas Faed; "A Prayer for Health," by J. T. Peele; "Attending the Doctor," by J. G. Vibert; "The Quack Doctor," by T. W. Wood; "An Accident," by P. A. J. Dagnan-Bouveret; "The Visit to the Hospital," by Jean Geoffrou; "A Visit to the Hospital," by Luis Jiminez; "Spoonful Every Hour," by Ph. Fleischer; "Playing at Doctors," by F. D. Hardy; "Vaccinating the Baby," by Ed. Hamman; "Mamma's Head Nurse," by James Hayllar; "The Sisters," by L. Alma-Tadema; "Convalescent," by Julia B. Folkard; "The Coming of Spring," by Eichstaedt; "A Serious Case," by H. Roseland; "A High-Toned Patient," by F. Hall; "The Amateur Surgeon," by A. Graves; "The Doctor," by A. Marie. W. A. Y.

Diseases of the Skin and the Eruptive Fevers.—By Jay Frank Schamberg. M.D. Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College for Graduates in Medicine. Octavo of 534 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1908. Cloth, $3.00 net. Canadian agents: J. A. Carveth & Co., Limited. Toronto.

This is a most excellent work for students and busy practitioners as the various diseases are arranged in such a way that they can be readily referred to. The book is especially strong in treatment. the author giving many valuable formulae for prescriptions. The chapter on X-ray and light treatment is very instructive, and the writer's experience with serum treatment is interesting.

A new feature of this book is the thorough way in whic' the Infectious Eruptive Diseases have been presented, which must prove of great benefit to all physicians. D. K. S.

Scientific Laboratory Help in Diagnosis. A little book for the guidance of the general practitioner and the specialist, showing the usefulness and advantage of the laboratory report. The Abbott Alkaloidal Company, Chicago, Ill., 1908.

We have read this booklet with a good deal of pleasure, and feel that the publishers will find a considerable demand for it on the part of the profession, as also on the part of the fourth-year student. During the last few years the importance of the work done in the clinical laboratory has been discovered, and to-day it is almost impossible to attempt to make a correct diagnosis without using the facilities of the laboratory. Bacteriology and microscopy have so advanced during the past decade that a student need hardly attempt to graduate without having made a minute study

of the human body in health and disease. This booklet will be found to be filled with the most accurate information, and any practitioner who does not receive a copy should address the publishers and, we have no doubt, will receive one by return mail.

A Manual of Surgery for Students and Practitioners. By WILLIAM ROSE, F.R.C.S., Emeritus Professor of Surgery, King's College, London, and ALBERT CARLESS, F.R.C.S., Professor of Surgery, King's College, and Surgeon to King's College Hospital, London. Seventh edition. 1908. London: Balliere, Tindall & Cox. Toronto: J. A. Carveth & Co.

When within the limits of a single decade seven large editions of a work on surgery are called for, such an endorsation raises it clear above the level of ordinary review. Recognition of the value of this book came promptly when its first edition was issued. With each subsequent revision it has been kept in touch with the progress of surgical science and art, and to-day it is accepted as the best one-volume exponent of surgery as practised in Greater Britain. Its authors have the happy faculty of saying a great deal that is important in the fewest possible words consistent with clearness of expression.

To an eminent lawyer across the line the question of preventing accidents at level crossings was once submitted. His advice was condensed into three words and his fee expanded to $3,000. It read, "Stop! Look! Listen." To-day we read these words from car windows and have to admit that the fee was well earned. In similar fashion we credit Rose and Carless with having deserved all the success that has come to them for the production of the best manual of surgery which a student or physician can obtain, and which is not too large to be read and re-read. N. A. P.

A Manual of Clinical Diagnosis. By JAMES CAMPBELL TODD, M.D., Associate Professor of Pathology, Denver and Gross College of Medicine, Denver. 12mo of 319 pages, with 131 text illustrations and 10 colored plates. Philadelphia and London: W. B. Saunders Company. 1908. Flexible leather, $2.00 net. Canadian agents: J. A. Carveth & Co., Limited, Toronto.

This is a volume of 280 pages, containing a most useful mass of information regarding methods of laboratory diagnosis. The methods described are simple, and the apparatus described includes only two instruments that are at all costly or complicated—the hemocytometer and the microscope. Besides the usual sections on blood, urine, sputum and gastric contents, there are chapters on the feces and animal parasites, as well as a miscellaneous section dealing with the examination of pus, peritoneal, pleural, pericardial and

cerebro-spinal fluids, syphilitic material and milk. An appendix describing the apparatus and giving formulae of the reagents used is completed by a well-arranged index. The illustrations are sufficient in number and are all good, but they have the fault common to nearly all works of this kind—the degree of magnification is not mentioned, excepting in a few instances, when plates of microscopical findings are shown. The discussions are nowhere so full as in Emerson, Simon or Sahli, but perhaps for that very reason the manual will be found more useful in the every-day clinical work of the general practitioner. The book can be honestly recommended to students of the senior years, as the teaching is up-to-date and the style is simple and direct. The only objection particularly noticed was the direction to secure blood for examination from the pulp of the finger. There seems to be no reason for selecting this part for the needle puncture, when equally vascular and much less sensitive areas are available. M. H. V. C.

The Red Year. A story of the Indian Mutiny. By Louis Tracy, author of "The Wings of the Morning," "The Pillar of Light," "The Captain of the Kansas," etc. Toronto: McLeod & Allen, publishers, 1908.

This is beyond question Tracy's most important story—a story of the horrors of the Indian Mutiny, with its many fanatic tragedies and heart-rending cruelties. The author has interwoven a love story, which is most interesting, and cannot but add another tribute to his already great reputation as a writer.

An Index of Treatment.—By various writers. Edited by Robert Hutchison, M.D., F.R.C.P. Physician to the London Hospital, and Assistant Physician to the Hospital for Silk Children, Great Ormond St.; and H. Stansfield Collier, F.R.C.S., Surgeon to St. Mary's Hospital, Joint Lecturer on Surgery in St. Mary's Hospital Medical School, Surgeon to the Hospital for Sick Children, Great Ormond St. Bristol: John Wright & Co. London: Simpkin, Marshall. Hamilton: Kent & Co., Limited. New York: William Wood & Co. 1908.

The editors of this book are certainly not puffed up with the idea that they have covered every possible ailment; they seem even to think that they may have omitted something of importance, but after carefully reading the book one is forced to say that practically nothing has been omitted.

This book is what its title implies, and it provides the practitioner with a guide to treatment up-to-date and in such a concise form that it is of much value. Very properly, space has not been wasted by giving to the reader a great variety of forms of treat-

ment; the treatment laid down here is the best treatment in the opinion of the writer of the article on any particular subject, and this is what the busy practitioner wants. He does not consult a book of this kind for the purpose of learning all the forms of treatment that have been used in the last hundred years for the cure of a certain malady; he wants particularly to see if there is anything recommended by a good authority that he does not already know.

Treatment of disease is a matter which in the present day seems to engage so little attention from a large number of the more modern highly scientific practitioners that it is a relief to find that improvements in medical treatment are still going on.

As a book of reference and as a book which contains the best of all that has been written on this subject up to the present day this book holds first place. The list of contributors contains the names of many of the best men that the world knows, names which of themselves give one an idea of what the book must be.

Ophthalmic Surgery. A Handbook of the Surgical Operations on the Eyeball and Its Appendages. By DR. JOSEF MELLER, First Assistant University Eye Clinic, Vienna. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1908.

To Dr. Walter L. Pyle, himself an opthalmologist of repute, we owe this translation. The methods described are those followed in the clinic of Fuchs by Meller himself. From personal experience, we can say that it is by all odds the most satisfactory method we have yet tried. The cataract operation is described with the operator sitting to the right of the patient. It is a question whether this is as satisfactory as the English method of standing behind the patient. Aside from such points as these, this is a most satisfactory book. The illustrations are good, the text is not only well printed but also well written; every detail of the operations described is thoroughly gone into. The limitation to the practice of the Vienna School keeps the work within reasonable size. J. M.

By Their Fruits. A novel, by MRS. CAMPBELL PRAED, author of "Christina Chard," "The Other Mrs. Jacobs," "Myria," "My Australian Girlhood," "Nadine," etc., with a frontispiece by Charles Pears. London, Paris, New York, Toronto, and Melbourne: Cassell & Co., Limited, 1908.

Are all women what their husbands make them? This is a question which has often been asked, and more often answered in the affirmative; but heredity is a great factor in influencing life. "By their fruits shall ye know them." This is the story of an erring wife, whose pathetic appeal is very touching when she says: "Oh! I have been wicked, I know; but how can I condemn one who has been born without a soul? And for our mothers' sake I

plead—in our mothers' arms. Give me back the protection of my husband. I need it. Was it my fault that my mother gave me too much of her own nature that I have suffered so much?" A good story; read it.

Tuberculosis in Infancy and Childhood. By various writers. Edited by T. N. KELYNACK, M.D., M.R.C.P., Hon. Physician to the Infants' Hospital, Westminster, and the Mount Vernon Hospital for Consumption and Diseases of the Chest, etc. Demy 8vo; illustrations 27; pages xiii.-376. London: Baillière, Tindall & Cox. Canadian Agents, J. A. Carveth & Co., Limited, Toronto. Price, $3.75. 1908.

This work is not an ordinary treatise upon the subject, but is rather a collection of studies, written by many well-known men co-operating with the editor of the *British Journal of Tuberculosis.* The number of this journal for July, 1907, was devoted to a consideration of tuberculosis in infancy and childhood. The widespread interest and attention aroused has resulted in the volume we are now considering. We cannot give the list of forty-one contributors, representing English, Continental, American and Canadian opinion, including such names as Calmette, Emmet Holt, Nietner, Squire, A. H. Tubby, R. W. Philip, W. R. Huggard, J. A. Coutts, Harry Campbell, J. H. Sequeira, Harold Barwell, K. F. Andvord and others.

Not only are pathology and treatment considered, but much space is devoted to the study of the disease in various countries. There are eight special chapters on the occurrence of the disease and the problems presented by it in Scotland, Ireland, France, Norway, New Zealand and other countries. London school children are given a chapter. School hygiene and medical inspection is also dealt with.

The disease in its relation to the various organs of the body is discussed by men who are well-known experts. These chapters are not filled with detail, yet they deal practically with the morbid process and its treatment, though the book throughout tends to deal with the whole subject along lines of prevention rather than treatment. The editor states the purpose of the volume to be "to afford a reliable and scientific basis on which practical measures may be established for the prevention and arrest of all forms of tuberculosis occurring in infancy and childhood."

Some minor criticisms might be made. In the article on tuberculosis of the eye, ophthalmo-reaction is given as a means, still *sub judice,* of diagnosis, yet without a word of warning as to its possible dangers, which we know to be very grave in tuberculous affections of the eye. Von Pirquet's reaction is mentioned several times, but the technique is not described. Clive Riviere's excel-

lent chapter on the tuberculins would be of much more use to the general practitioner if his directions for the administration of tuberculin by the clinical method were more detailed. There can be no excuse for the appearance of such a glaring misprint as "Prudeau," on page 296, and repeated in the index.

Dr. A. D. Blackader, of Montreal, contributes the chapter on the use of medicaments. It is well written, but would be improved if dosage were considered.

It is a most readable book, well printed, and contents so arranged that one has to do no unnecessary reading to find the subject matter required. We heartily recommend it, and trust it will find many readers. J. H. E.

International Clinics, Volume III., Eighteenth Series, is fully up to its predecessors, and well sustains the high standard thus far maintained by the editor, W. T. Langcope, M.D., of Philadelphia, and his distinguished staff of collaborators, among whom are our own Prof. McPhedran, of Toronto University, Prof. Osler, of Oxford, John H. Musson, of Philadelphia, and Chas. H. Mayo of Rochester. *International Clinics* is published by the J. B. Lippincott Co.

The articles are arranged in sections such as Treatment, Medicine, Surgery, Gynecology, Pediatrics, Orthopedics, Psychiatry, Pathology, etc., and each paper brings the very latest thought of that particular subject.

It would not be possible to review fully these papers. A few of the titles to give one an idea of the scope of the volume are: "Sciatica—Its Nature and Treatment," by Sir Dyce Duckworth; "Two Cases of Tetanus Treated with Cholesterin, with Recovery," by Drs. Almagia and Mendes, of Rome; "Perforation of the Intestine in Typhoid Fever," by Dr. Scott, of University of Pennsylvania; "The Value of Esophagoscopy," by M. Ginsee, of Paris; "Malignant Disease of the Liver and Spleen," by John M. Swan, of Philadelphia. In Orthopedics there is a very able discussion on "Cleft Palate and Hare Lip," by Dr. F. N. G. Starr. The publication of this paper marks an epoch in the treatment of these disfiguring and pitiful conditions. Dr. Starr boldly advocates a radical change, and instead of waiting until the little sufferers are five or six years of age and the resultant defects are established, he would operate early, within a few days or weeks. His arguments are convincing and his results have been good. He also exhibits an aluminum splint for cleft palate. In the treatment of hare lip he would apply no dressing. To the reviewer it would appear that some such dressing as subiodide of bismuth would be an advantage and could not be objectionable.

In Surgery, "The Modern Treatment of Fractures by Means

of Direct Internal Splintage," by E. M. Corner, F.R.C.S., of St. Thomas Hospital, arrests our attention. In this article Mr. Corner treats the subject of fractures very fully. He sets a very high standard as the ultimate result in the treatment of fractures. Is it necessary that every fracture should show a perfect skiagraphic picture? Are we justified in creating simple fractures into compound ones and introducing a foreign body alongside the fracture in order to attain this object? About this there may be considerable diversity of opinion. J. N. E. E.

Obstetrics for Nurses. By JOSEPH B. DELEE, M.D., Professor of Obstetrics in the Northwestern University Medical School, Chicago. Third revised edition. 12mo of 512 pages, fully illustrated. Cloth, $2.50 net. Philadelphia and London: W. B Saunders Company. 1908. Canadian agents: J. A. Carveth & Co., Limited, Toronto.

It seems to be a very short time since the second edition of Dr. DeLee's book reached us, and the mere fact of the third edition being already published goes to show that the book has found a ready market. This volume was written originally for nurses; but with the additions found the work becomes sufficiently extensive to be used also by medical students and physicians.

The work is divided into three parts and an appendix. It really consists of two main subjects, namely, obstetrics for nurses and the actual obstetric nursing, "the author having sought to combine them, so that the relations of one to the other might be natural."

The illustrations are exceedingly good, and, we understand, were made expressly for this work. The book is the result of nearly ten years' lecturing to nurses, and we can heartily recommend it to our readers. W. A. Y.

Taber's Pocket Encyclopedic Medical Dictionary. Edited by CLARENCE W. TABER, author of "Taber's Medical Dictionary for Nurses," "The Secret of Sex," co-author of "Eales' and Taber's Anatomical and Physiological Chart," associate editor the late Nicholas Senn, M.D., Ph.D., LL.D., C.M. Chicago: C. W. Taber, publisher.

To readers who are satisfied with a pocket medical dictionary, this work offers advantages, as it is a handy epitome of medical information, a cyclopedia and a dictionary combined. It is a physician's edition, and might be occasionally useful to the surgeon, specialist, or general practitioner of medicine. In addition to the ordinary vocabulary, important subjects are defined in an encyclopedic manner. The work is cross-indexed. There are a few illustrations, 418 pages, flexible black leather, gold stamping, gilt edges, $1.50. J. J. C.

Pathological Technique. Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By F. B. MALLORY, M.D., Associate Professor of Pathology, Harvard Medical School, and J. H. WRIGHT, M.D., Director of the Pathological Laboratory, Massachusetts General Hospital. Fourth Revised Edition. Octavo of 480 pages, illustrated. Cloth, $3.00 net. Philadelphia and London: W. B. Saunders Company. 1908. Canadian agents: J. A. Carveth & Co., Limited, Toronto.

The above work has become a "standard" in pathological technique, and its fourth edition having been carefully revised in order to keep apace of the times, fully justifies its previous good reputation. The general scheme of the book has not been altered, but we notice some improvements and additions, as Zinsser's anairobic method for plate cultures, and three new methods for the cultivation of typhoid bacillus. The subject of actinomycosis has been entirely re-written to accord with recent investigation on this disease.

In Part III. we find the following additions: Weigert's iron hematoxylin stain for nuclei; improvements in methods for staining fibroglia, myoglia and neuroglia fibrils; Best's stain for glycogen, and Sir A. E. Wright's method of preparing bacterial vaccines.

The size of the book is increased in the present edition by about 50 pages, and contains 152 excellent illustrations. W. H. P.

Medical Gynecology. By S. Wyllis Bandler, M.D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 675 pages, with 135 original illustrations. Philadelphia and London; W. B. Saunders Company, 1908. Cloth, $5.00 net; Half Morocco, $6.50 net. Philadelphia, London, W. B. Saunders Company. Canadian Agents: J. A. Carveth & Co., Limited, Toronto.

Of late years so much has been said and written on the surgical diseases of women, that a book dealing with these same diseases from a medical standpoint only, is one that naturally claims our attention. Many of us, perhaps, have come to feel that there is only one treatment for diseases of women, and that a surgical treatment. Surgery is always brilliant when its results are satisfactory; in fact, surgery has been so much talked of in the management of diseases of women that many of us know that even women themselves are in many instances afraid of consulting a medical man for fear he should at once suggest an operation. Now the writer of this book takes a wholly different view of his subject, and this is the view which the man who is not the expert surgeon should know all about. This work gives the general practitioner an idea of what he can do with many diseases of women in his own consulting

room. To many this will be a matter of the very greatest consequence. The book is very nicely gotten up; the type is good; the articles are well written, are comprehensive, and describe every form of treatment up to the point where in some cases an operation as we all know is necessary, and there it stops, for at this point the case passes into the hands of the expert surgeon.

A Manual of Bacteriology. By HERBERT U. WILLIAMS, M.D., Professor of Pathology and Bacteriology, Medical Department University of Buffalo. Revised by B. Meade Bolton, M.D., Washington, D.C., one time Associate in Bacteriology, Johns Hopkins University, Chief of the Bureau of Health Laboratory, Philadelphia, Pa.; Professor of Pathology and Bacteriology, University of Missouri; Bacteriologist, Bureau of Animal Industry, etc. With 113 illustrations. Fifth edition, revised and enlarged Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1909.

This manual, designed primarily for medical students, has reached its fifth edition with very few additions; some obsolete matter has been omitted and some new material added.

The hygienic examination of milk and water has been practically re-written and considerably expanded. The chapters on disinfectants and antiseptics have undergone alterations as a result of recent investigations on this subject. We notice also that the index has been much enlarged and the references are fuller and more specific.

We can recommend this manual to students and physicians who do not wish to delve too deeply, as, in the smallest possible space, it contains facts which we must know and which it is desirable that we should know. W. H. P.

Practical Life Insurance Examinations.—With Chapter on the Insurance of Substandard Lives, by Murray Elliott Ramsey, M.D. Philadelphia and London, J. B. Lippincott Company, 1908.

This is a book that every medical practitioner whose duty it is to examine an applicant for life insurance will do well to read; and not alone the medical examiner, but the general practitioner will find this a very convenient little book to have at hand; many difficulties are so simplified that the reader wonders that he has never come across anything of this kind at an earlier date. For instance: "the chest measure should not be less than one-half of the height"; then again, "the difference between inspiration and expiration should not be less than one-tenth of the maximum chest measure."

The auscultation of the chest is very good and very simple.

The heart areas are reduced to four—aortic, pulmonary, tricuspid and mitral—and the heart murmurs are described under the

area in which they are loudest, and consequently in which the diseased valve is. The reader in this matter is led on so gradually that any one who really wishes to learn how to diagnose heart trouble will hardly go astray.

The examination of the abdomen is made very simple from the fact that this region also is divided into four areas with a description of diagnosis by inspection and palpation of all the abdominal organs.

The portion of the book dealing with urinalysis is simple and practical, and the points contained in the last chapter on substandard lives will if followed out make a medical examiner of more than usual assistance to the medical director.

A Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science. By HENRY S. MUNRO, M.D., Americus, Ga. Second Edition. C. V. Mosby. St. Louis: Medical Book and Publishing Company. 1908.

To those students of psychic science who are following the advancement of hypnotic and suggestive therapeutics, this second edition will be of use. It is more complete, and new material, the evolution of steady work, has been added, which makes the edition the most recent of its kind. A. J. H.

Spectacles and Eyeglasses. Their Forms, Mounting and Proper Adjustment. By R. J. PHILLIPS, M.D., late Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic. Fourth edition, revised, with 56 illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1908.

The proper adjustment of spectacles and eyeglasses is a much more important matter than generally supposed. The most thorough work of the oculist may be completely nullified by the carelessness of the optician. The practitioner who takes any interest in this subject will find in this little book all the necessary information. This fourth edition has been brought up to date and is all that can be desired. J. M.

Genito-Urinary Diseases and Syphilis. By EDGAR G. BALLENGER, M.D., Lecturer on Genito-Urinary Diseases, Syphilis and Urinalysis, Atlanta School of Medicine; Editor *Journal-Record of Medicine;* Genito-Urinary Surgeon to Presbyterian Hospital, Atlanta, Ga. With 86 illustrations. Atlanta, Ga.: E. W. Allen & Co. 1908.

There is no doubt that what the author claims, namely, that the medical student frequently finds the want of a small, practical work giving the diagnosis, treatment, etc., of genito-urinary dis-

eases, without the necessity of his purchasing a larger book, exist. After glancing over Dr. Ballenger's book, we think that he has succeeded in giving the reader the fundamental principles of this subject, without entering into such details as are more or less unnecessary. The work has evidently been based on a study of the most recent literature upon this subject, and will, doubtless, be of value, not alone to the student, but to the general practitioner.

W. A. Y.

General Pathology. By DR. ERNST ZIEGLER, Professor of Pathological Anatomy and General Pathology in the University of Freiburg in Breisgau. Translated from the eleventh revised German edition. (Gustav Fischer, Jena, 1905.) Edited and brought up to date by Aldred Scott Warthin, Ph.D., M.D., Professor of Pathology and Director of the Pathological Laboratory in the University of Michigan, Ann Arbor, Michigan. With 604 illustrations in black and in colors. New York: William Wood & Co. 1908.

I can only say of this great work that it is still the best work to-day for the pathological student. Written by a teacher in a classical way, it has always appealed very strongly to me, both during my student life and at present as a practitioner. It has always a place before me among my great friends. Every care has been taken to keep this edition abreast of this progressive age, and I am sure that this edition will find its usual place in every physician's library.

A. J. H.

The C. F. Birtman Catalogue.—Anyone interested in electrotherapeutic apparatus should write to the C. F. Birtman Company, 152 East Lake Street, Chicago, Ill. This firm has just lately issued the twelfth edition of their catalogue, and it is certainly worthy of perusal. By referring to page lxi of this issue of the *Journal* further particulars can be secured as to the Birtman goods.

Saunders' Illustrated Catalogue.—For this edition our catalogue has been subjected to a most thorough revision, incorporating some twenty-five new books and new editions. The colored plate from Keen's new Surgery, replacing the one inserted in the last edition, and the colored illustration of the *spirochaeta pallida* as stained by the method of Levaditi—illustrating the announcement of Jordan's General Bacteriology—in themselves give the catalogue a real value. Printed in two colors on a high-grade India-tint paper and handsomely bound, this edition is truly an *edition de luxe.*