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HÆMORRHAGIC TYPHOID FEVER.

WITH THE REPORTS OF FOUR CASES.

(From the Medical Clinic, Royal Victoria Hospital.)

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Hæmorrhage in typhoid fever is a phenomenon which clinically is well recognised, although its pathology is by no means yet well understood. The term "hæmorrhagic typhoid fever" is not intended here to include cases of intestinal hæmorrhage due to ulceration, which are common enough, but is applied to those much rarer conditions in which a general hæmorrhagic diathesis makes its appearance, or in which we get local hæmorrhagic manifestations in the skin, mucous membranes, or in the various organs. Hæmorrhagic eruptions which are the rule in typhus, for example, are found exceptionally as complications, sometimes with hæmaturia, in many of the other specific infectious diseases, such as yellow fever, variola, measles, scarlatina, influenza, bubonic plague, septicæmia, malignant endocarditis and others. Such complications in typhoid are very rare, but their possibility has been recognized for many years. Liebermeister, in Von Ziemssen's Cyclopædia, states that hæmorrhages into the skin, true petechial vibices, are most likely to occur in patients of a hæmorrhagic diathesis, but occasionally appear in others. Besides this he notes the occurrence of hæmorrhages from the mucous membranes of the nose, stomach, bowels, gums, hæmoptysis, hæmaturia, ecchymoses, on serous surfaces, extravasations of blood into serous cavities, and meningeal and cerebral effusions. Murchison, ("Continued Fevers," 1873, p. 609,) had occasionally observed hæmorrhages into the muscles.

Wilson and Loomis, too, mention hæmorrhages from mucous tracts and into the skin.

By far the most common complication is purpura hæmorrhagica, but even its rarity may be gathered from the following figures. Out of 1420 autopsies at Basle on typhoid cases 12 showed purpura. Three of these were also subjects of a general hæmorrhagic diathesis. Onskow,¹ in a study of 439 fatal cases out of 6513, occurring during five years, describes general hæmorrhagic diathesis in 4 cases; hæmorrhagic pleurisy in 9; hæmorrhage into the cord, particularly into the anterior cornua, was found in a considerable number of cases; in a few cases hæmorrhage into the uterus. The various complications so far as I have been able to make out from the literature appear to occur in the following ratio:

Purpura hæmorrhagica.....	35 cases.
Hæmorrhages into muscles.....	25
General hæmorrhagic diathesis.....	16
Hæmorrhagic pleurisy.....	9
Hæmaturia.....	7
Hæmatemesis.....	4
Hæmoptysis.....	3
Pelvic hæmatocele.....	2
Hæmorrhage into bladder.....	2
Hæmatometra.....	Several.
Hæmorrhage into spinal cord.....	Several.
Hæmatoma of ear.....	1 case.
Cerebral hæmorrhage.....	1
Hæmorrhage into ovary.....	1

Epistaxis is so common a feature as to scarcely deserve mention, but as Loomis points out, if it occurs about the third week it may prove a dangerous complication.

The favourite seat for the purpuric eruption is about the joints, the extensor surfaces of the limbs, the thorax, back and abdomen. The spots are usually small and petechial in character and may be present about the roots of the hairs. Often, too, large subcutaneous ecchymoses of a livid blue colour may develop along with the petechiæ.

The general hæmorrhagic diathesis is an extremely grave feature and is generally fatal. The clinical appearances vary, but there may be bleeding from the mucous membranes, hæmoptysis, hæmatemesis, petechiæ and hæmaturia. It is not to be forgotten, too, that hæmorrhage from the bowels may be an expression of a general hæmorrhagic tendency.

Hæmaturia may be simply a passive flux of blood, or may signify an acute nephritis. In the absence of any complete observations on

¹ Onskow, *Arch. d. Sc. Biolog. St. Petersburg, II.*, 1893, No. 1.

the subject, it is difficult to assign a cause for these manifestations above referred to. Liebermeister considers that the vessels in common with the organs are apt to suffer severe parenchymatous degenerations, and this in combination with some blood dyscrasia is an exciting cause of blood extravasation. It is no doubt possible for such a condition to result from the action of the toxic products of bacillary metabolism. Some of the cases, too, if not indeed a large number, are probably septic in origin. Prof. Adami (Mont. Med. Jour., March, 1894,) reports a case in which empyema was present, followed by pneumonia in the left lower lobe. A week before death peritonitis set in with diarrhœa, tympanites and incontinence of fœces. The temperature was septic. At the necropsy the following condition was found: Healed empyema; five ulcers in the ileum, three of which had perforated; petechial and ecchymotic spots on neck, chest, in upper extremities, gums, tongue, tonsils, stomach, small intestine, large intestine; subendocardial and subpericardial petechiæ; hæmorrhages into liver, kidney, right suprarenal, retroperitoneal glands, bladder, into the consolidated lobe of right lung and into the pelvis of the right kidney.

Cultures from the organs gave a preponderance of the colon bacillus.

Some cases as they occur later on in the disease might be classed under the term cachectic. Thrombosis may play some role in the causation, as in certain cases of cutaneous hæmorrhages the capillaries supplying the subcutaneous tissues have been found plugged. In such cases the hæmorrhages usually take a ring-like form. The purely local effusions in some cases result from embolism or from vaso-motor derangements. That the nervous system can play a very important part in the production of hæmorrhages is seen in cases of hysteria and locomotor ataxia. Until the cases are studied more fully, however, it is quite impossible to give all these factors their proper weight.

CASE I.—A. L., male, æt. 27. Admitted to the Royal Victoria Hospital on Feb. 12th, 1895. Personal and family history unimportant. The patient came in with a history of malaise, headache, loss of appetite and diarrhœa for one week. The temperature had ranged from 101° to 103°. Two days before admission a slight cough set in, but with no expectoration. The condition on admission was as follows: Expression dull, cheeks flushed, tongue moderately coated. Temperature, 102.2°; pulse, 90; respiration, 24.

Except for a slight cough the respiratory system was normal.

Digestive System.—Anorexia and constipation. Abdomen not distended. No abdominal tenderness. No true rose-spots but a faint

sub-cuticular rash of a dull reddish-brown colour was noticed on the chest and abdomen. Spleen easily palpable. Urine, acid, high coloured, 1033, excess of urates. No albumen. No sugar. Ehrlich's reaction absent. Other systems negative.

The patient was treated by cold sponging, and the temperature gradually fell until Feb. 17th, when the temperature did not rise above 99.4°. The temperature immediately began to rise again, and on the 21st the patient had two severe rigors, the temperature reaching 104.6°.

On the next day he complained of severe pain in the right side necessitating the use of morphia. Over the lower half of the right thorax impaired resonance was made out, with increased vocal fremitus and feeble breathing. The following day blowing breathing was noted, with fine crepitations.

On March 1st thrombosis of the right femoral vein took place, followed a week later by thrombosis of the left femoral. By March 3rd the pneumonic condition had fairly well cleared up, but on the 13th a friction rub was made out at the extreme right base and this was followed by effusion into the right pleural cavity. A copious petechial eruption now made its appearance. This was very marked over the front and back of the thorax and upon the abdomen. A number of purpuric spots were present about the extensor surface of the knees.

On March 29th the throat became inflamed with the development of a superficial ulcer about the size of a quarter of a dollar on the posterior pharyngeal wall. On April the 17th the temperature became subnormal, and, in spite of the numerous complications, the patient, even if tardily, gained strength and became convalescent. He was discharged cured on May the 7th.

CASE II.—A. C., female, æt. 16, entered the Royal Victoria Hospital on October 4, 1895. Personal and family history negative. Before entering the hospital she had been sick twelve days with headache and general malaise. The headache was very intense. For ten days there was much diarrhœa and for a week a slight cough.

Condition on Admission—Well-nourished girl, with flushed cheeks and bright eyes. Mental state good.

Respiratory System—Intense bronchitis, with some consolidation of the apex of the right lung.

Vascular System—Heart, accentuated aortic second sound. Pulse of moderate tension.

Digestive System—Tongue dry and fissured and coated in centre with thick white fur. Anorexia, diarrhœa. Abdomen moderately distended. Tenderness in right iliac fossa and in epigastrium. A few rose-spots on thorax and abdomen. Liver and spleen not palpable.



HÆMORRHAGIC ERUPTION IN TYPHOID FEVER.

Portion of Thorax and Abdomen from Case No. III.

Genito-urinary System—Menses always rather profuse. Urine acid dark amber colour, 1023. Small amount of albumen, no sugar.

Temperature 104°, pulse 112, respiration 24.

Diary of Case—Oct. 5, 6 p.m. Complained of severe abdominal pain and passed a large amount of bloody urine. There had previously been some retention. A few granular casts were noticed in the urine.

Oct. 6. Patient noticeably anæmic. Catheter specimens of urine taken every six hours all contain bright blood, albumen and casts. Upon the legs are numerous minute hæmorrhages about the size of a pin's head. There is also bleeding from the mucous membranes of the mouth and gums.

Oct. 7. Condition as before. Blood examination, red cells 3,720,000, white 6,000, hæmoglobin 60 per cent. Stained specimens showed a few mononuclear leucocytes.

Oct. 12. Blood disappearing from urine. No bleeding from mucous surfaces and the spots on the legs are fading.

Oct. 13. Temperature reached normal and remained there.

Oct. 15. Urine free from blood. Albumen and casts still present. Discharged on October 25th cured. Recovery uneventful.

CASE III.—C. M., male, æt. 18 entered the Royal Victoria Hospital on August 31, 1895. Personal history negative. Family history, one sister died of rheumatism and heart disease. He entered the hospital on the seventh day of his illness. He was rather suddenly taken ill with severe headache and general weakness, he went to bed and on the next day vomited and had epistaxis. Pain set in, in the lower abdominal region, with a great deal of diarrhœa. During the next two days he felt somewhat better and went to work, but on the third day began to suffer with severe pain in the neck, back and legs, accompanied by severe diarrhœa.

On admission the temperature was 105°, pulse 96, respiration 28. Face flushed and expression heavy.

Respiratory System—Normal.

Vascular System—Pulse dicrotic. Heart normal.

Digestive System—Tongue dry and furred, with red edge. Anorexia, severe diarrhœa and vomiting.

Abdomen not specially distended. Slight tenderness in right iliac fossa and over the spleen. Rose spots present. Spleen readily palpable.

Urinary System—Urine high coloured, acid, sp. gr., 1031. No albumen, no sugar. Diazo-reaction present.

Diary of Case—Sept. 5. Diffuse macular eruption on thorax and

abdomen. Spots on the size of a pin's head and only partly disappear on pressure; they are of a bluish-red colour.

Sept. 7. At 7 p.m. the pulse was almost imperceptible and strychnine was given hypodermically. Modified bath given henceforth.

Sept. 8. Tongue dry and fissured. Somewhat stuporose.

Sept. 9. Delirious last night. Subsultus marked this morning. A few superficial pustules have developed about the knees and on anterior surfaces of the tibiæ. Vomiting has ceased.

Sept. 12. A bed-sore has developed over the sacrum and two small ones over the right trochanter.

Sept. 13. Very stuporose. Abdomen much distended.

Sept. 16. Marked delirium.

Sept. 21. Pulse fair. Mental state dull. Abdomen considerably distended. An ecchymotic patch, four inches by two, has made its appearance in the mammary line in the right lower thoracic zone; also a smaller one about two inches long in a corresponding position on the left side. A few scattered petechial spots were noticed on the back. A large abscess was opened just below the right patella.

Sept. 22. An abscess the size of a plum developed in the right inguinal region and was opened three days after. Petechial eruption on the thorax and abdomen very profuse.

Sept. 27. Distention of abdomen less. Patient's general condition is much better. Hæmorrhagic spots are fading. Tongue becoming clean. Temperature normal for the first time.

Sept. 29. Skin desquamating on the face.

Oct. 1. Abscess opened on inner side of right tibia.

Oct. 4. A second abscess has formed below the last. No sign of inflammation present.

Oct. 8. An abscess three inches long has developed in Scarpa's space on the right side, also an abscess two inches above the knee.

Oct. 10. Abscesses evacuated. From one which was deeply situated in the muscle I took a culture and obtained a pure growth of staphylococci. Temperature rose to 101°; fell next day.

Oct. 12. Abscess on outer side of right leg about five inches below the knee.

Oct. 24. Hæmorrhagic eruption has quite disappeared.

Nov. 8. Discharged cured.

CASE IV.—Robert C., æt. 32, entered the Royal Victoria Hospital on November 2, 1894. Personal and family history good. Entered the hospital on the eighth day of his illness.

On leaving work one evening he felt rather chilly and had a slight headache. The next evening the headache became very severe, and

two days later he felt nauseated and began to suffer from severe pain in the back and legs. He called in a physician, who found his temperature to be 104°. The next two days he felt a little better, but the pains soon returned, with the addition of pain in the abdomen, and his condition remained unchanged until his admission.

On admission he was found to be a strong-looking young man. Face flushed and expression dull.

Respiratory System—Slight cough. Nothing abnormal detected in the lungs.

Vascular System—Pulse dicrotic. Heart normal.

Digestive System—Tongue dry, furred in the centre, with red edges. Breath heavy. Bowels loose. Abdomen distended. Some tenderness in the right iliac fossa and over splenic region. Spleen not palpable. No rose-spots.

Urinary System—Urine high-coloured, acid, sp. gr. 1025. No albumen. No sugar.

Diary of Case—Nov. 10. Patient has progressed favourably. Considerable abdominal distension. No delirium and no complications.

Nov. 16. He has had 25 baths up to date; now discontinued. Heart normal on percussion.

Nov. 20. The temperature fell suddenly from 102° to 98°, and the pulse increased from 80 to 120, he complained of pain, and slight tenderness was found in the right iliac fossa. Four hours later the temperature had reached 101.6°, and the pulse became 140, running in character. The patient felt well.

Nov. 21. Pulse 146. No new symptoms. No hæmorrhage.

Nov. 22. Pulse 160. No delirium. Mental state clear.

Nov. 23. Pulse 168. Temperature 103° at midnight.

Nov. 24. Pulse 180. Feels well.

Nov. 25. Pulse 190. No marked lividity. Face drawn, pale and anxious. At 2 a.m. he had a rigor lasting ten minutes.

Nov. 26. Urine normal. Lungs normal.

Nov. 27. Temperature subnormal. The thermometer would not register between 10 a.m. and 4 p.m. Pulse 185. No cardiac enlargement.

Nov. 28. Temperature subnormal. Mind clear.

Nov. 29. Heart dulness begins at a point one-quarter of an inch to the right of the left border of the sternum and passes out to the nipple line. Apex in 6th space in nipple line. Slight lividity of the extremities. Temperature normal.

Dec. 1. Temperature reached as low as 95°. Pulse 130. Mind clear.

Dec. 3. Restless and irritable. Abdomen distended, with marked tenderness in the left flank. Over the knees the skin is dry, cracked and raw. Marked lividity. Respirations gasping. Lungs normal. Pulse 120, temperature 95°, respirations 23. Distinct pulsation in the veins of the neck.

Dec. 4. Lividity marked. Hæmorrhagic spots as a fairly copious eruption over abdomen, back, and upon the feet. Delirious. Given inhalations of oxygen without apparent benefit. Coffee-ground vomiting and altered blood in the stools.

Dec. 5. Numerous crepitations at the base of the right lung. Heart dulness greater than before. Marked delirium.

Dec. 6. Extreme dryness and fissuring, with petechial spots upon the extensor surfaces of the extremities. Crepitations in the lungs a little less. Coffee-ground vomiting. Marked emaciation. Pulse 148, temperature 97°, respirations 28.

Dec. 8. Urine normal. Numerous crepitations over the bases of the lungs. Resonance fair. Petechiæ on the inner side of the thighs.

Dec. 9. Pulse 160. Voice hoarse. Colour sub-icteroid.

Dec. 10. The patient died with gasping respiration at 9 p.m.

NECROPSY (performed by Prof. Adami)—Abstract from Post-mortem Note Book : Right pleural cavity contained 30 c.c. of turbid blood-stained fluid with flocculi. Left cavity contained 170 c.c. of similar fluid.

Lungs—Broncho-pneumonia in parts. Infarcts.

Heart—Pericardium contained 100 c.c. of clear, slightly blood-stained fluid. The heart was very large and all the chambers were dilated, but especially the right side. Tricuspid orifice admitted the tips of five fingers. Mitral orifice admitted four fingers. Aortic and pulmonary valves normal. Heart muscle pale. Commencing fatty change about sinuses of valsalva.

Kidneys—Cortex pale.

Liver—Pale, fatty and friable.

Spleen—Not enlarged. On section fairly firm, with congested appearance. White infarcts present.

Pancreas—Pale and very firm.

Intestines—The ileum presents occasional areas of hæmorrhagic congestion of the mucosa. In the lower three feet were numerous ulcers, with smooth floors, of oval shape, with long axis transverse to the bowel. A typical typhoid ulcer was found just above the ileo-cæcal valve. In the last foot of the ileum was a development of small lymphoid miliary nodules protruding above the surface.

MICROSCOPIC EXAMINATION.—*Lungs*—Areas of broncho-pneumonia. Infarcts. Either a diplococcus or a very small bacillus, whose ends are stained deeply, was found enclosed in large cells. A few cocci were present.

Kidneys—Congested. Generalised chronic interstitial change, with recent parenchymatous. Chronic glomerular nephritis. Same bacillus found as in lung.

Liver—Brown atrophy. Along the portal sheaths are occasional infiltrations of small round cells extending into or replacing the liver cells. The same bacilli as before.

Spleen—Congested. Infarcts. Hæmorrhages into the stroma. Slight tendency to general fibrosis. Bacilli as before, the largest being about one-half to two-thirds the diameter of a red corpuscle in length.

Pancreas—Some atrophy of the cells, with definite infiltration of the stroma. Same bacillus as in other organs,

Supra-renals—Cortex cloudy. Medulla congested.

Case I. presented at first the characteristics of a mild attack of typhoid. After admission the temperature gradually fell, reaching the normal by the sixth day. The temperature then rapidly rose, followed on the 9th day by the chills. From that time on the temperature was characteristically septic, and the pulse, which at first had been about 86, now increased up to 100 to 120. The chills, the septic temperature, and the profound exhaustion of the patient, with the evidence of severe blood destruction, made it almost certain that we were dealing with a case of secondary infection. Unfortunately cultures from the blood were not taken. The case was noteworthy, too, on account of the numerous complications.

Case II. had a very mild attack of typhoid, and in spite of the general hæmorrhagic tendency which supervened made a rapid and uninterrupted recovery. At no time did she appear to be severely ill.

Case III. was an exceptionally severe case from the start, and was complicated by vomiting and diarrhœa. The temperature became normal at the end of the fifth week, and it was after the severity of the case began to moderate that the hæmorrhages made their appearance. The appearance of the patient with the extensive cutaneous hæmorrhages was very striking. The abscesses were an incident of convalescence.

Case IV. was specially interesting. The sudden drop in the temperature on the 26th day, with the abdominal pain and increased rapidity of the pulse, pointed at the time to perforation. But as further symptoms did not develop it would seem to have been one of those sudden crises which occasionally occur in typhoid without any as yet explained cause. The marked clinical feature of the case was the great rapidity of the heart, which remained between 160 and 190 for 17 days. Consequent upon this was the gradual dilatation of the organ, which was very extreme. Notwithstanding this grave condition the patient's mind remained clear till near the end, and he expressed himself as feeling well.

It will be seen that out of these four cases three resembled Dr. Adami's case, already referred to, in presenting indications of secondary septic infection. In the first the chills and temperature chart afforded the strongest presumptive evidence of such infection, in the third the development of multiple abscesses due to the pyococcus aureus was a characteristic complication; while in the last there was found in all the organs a bacillary form which, by its polar staining,

resembled the micro-organisms of hæmorrhagic septicæmia in the lower animals. While it is true that a hæmorrhagic condition might be due to the bacillus of typhoid, and to the cachexia thereby induced, it would seem evident that, in the first place, in none of these cases was the purpura or hæmorrhage due directly to virulence of the bacillus.

Where we have to deal with unmalignant hæmorrhagic cases of infectious disease—smallpox, scarlatina, bubonic plague, &c.—the purpuric condition is characteristically of early development, at times so early that the patient dies before the typical symptoms of disease have time to develop. Or more correctly, we can distinguish two conditions: a condition of primary purpuric manifestation, with every evidence of most malignant course of an infectious disease, presumably due to extreme virulence of the infectious agent, and again a condition of later purpuric and hæmorrhagic manifestations, which while possibly due to cachexia—to changes in the blood leading to capillary thrombosis and to degenerative changes in the vessel walls leading to easy rupture—may also be brought about by secondary infection and the development of what is nothing more nor less than a complicating septicæmia. Or, what is yet more probable, it is the combination of these two—of the cachexia and the septicæmia—that predispose to the purpuric state.

Now in the cases here brought forward, we certainly are not dealing with primary typhoidal purpura. In three out of the four cases there was recovery, not a rapidly supervening death, while the condition did not show itself until the 36th, 13th, 28th and 40th days, respectively, of the disease. Nor again was it associated with any clear symptoms of augmentation of the virulence of the typhoid bacillus, or relapse. Further, in none of the cases was there obtainable any evidence of the pre-existence of a hæmorrhagic diathesis. While, as I have said, we cannot neglect cachexia as a factor, and must, I think, hold that the peculiarly extensive degeneration of muscle characteristic of typhoid is, in itself, a sufficient explanation of the recorded cases of hæmorrhage into the substance of the recti and other muscles, and while we must acknowledge the liability to thrombosis, as evidenced by the frequency of obstruction of the vessels of the lower extremities in typhoid patients, we cannot neglect the fact that in each of these four cases the lymphoid swelling in the intestines must, even in the earliest, have given place to ulceration with the large possibility that this opens up of secondary infection from the intestinal contents. We have abundant evidence that such secondary infection with one form—the *B. coli communis*—is peculiarly common.

Hence, taking into account the evidence of the presence of septic disturbance in three out of the four cases, I cannot but conclude that (so far as it is wise to base any conclusion upon but four cases) it is probable that many of the cases of purpura and hæmorrhage occurring during the course of enteric fever are secondary, and associated with septic complications.

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UPON
ARRESTED OR REPAIRED DISSECTING ANEURYSMS,
WITH THE REPORTS OF TWO CASES.¹

BY

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Among the diverse forms of aneurysms one of the rarest is that termed, first by Laennec, the "aneurysma dissecans," a form in which the inner walls of the aorta or one of the large arteries having ruptured, the outer coats remain intact, the blood dissecting a passage between the layers of the middle coat for, it may be, long distances. There are altogether about two hundred cases of this condition that I can find recorded, and in by far the larger number of these death evidently occurred either immediately or within a few hours, most frequently by the blood forcing its way into the ascending aorta and thence into the pericardial sac. Only in a small percentage of the cases is death not the direct and speedy result, compensation being established and the dissecting channel undergoing repair either by the development of secondary openings into the vessel, or by the organisation of the blood, which after escaping between the walls has become clotted. There are singularly few cases on record of this last mode of repair; it is more common to find that, where death is not the direct result of the condition, the dissecting channel gains an endothelium, a channel being formed, opening above and below into the aorta or one of the larger arteries, and resembling the primitive vessel so closely that it is not to be wondered at that some of the earlier cases of the condition were described as congenital abnormalities.

How rare is this condition may be inferred from the fact that it did not gain recognition until this century, that Peacock in 1863 was only able to collect eight cases, and Boström in 1885 only seventeen, although it ought to be added that the latter observer made a somewhat arbitrary classification and purposely omitted two or three cases, which from their course and characters I feel bound to include with the others in one group. Aneurysms which show evidence of progressing repair must, I think, be considered along with those in which repair is complete, or in other words, to employ Boström's

¹ Read before the Montreal Medico-Chirurgical Society, April 3, 1896.

terminology, "healing" aneurysms must be classified along with "healed." By this means one is enabled to divide dissecting aneurysms into the two clearly defined classes of those in which the dissection is progressive and is *per se* the cause of death and those in which dissection of the arterial walls has been arrested and has not directly led to the fatal event.

The two cases here to be discussed are of the latter category, and in their anatomical features and clinical histories present so many points of similarity and interest that they well deserve to be placed upon record. The more recent of the two, and the more extensive, was obtained at a recent necropsy at the Royal Victoria Hospital, the older has been for some few years in the museum at McGill University and has already been briefly noticed in this JOURNAL.¹ Through the kindness of Dr. Finley, who performed the post-mortem, and of Dr. Shepherd, in whose wards at the General Hospital the patient died, I am enabled to record here the fuller details. For the use of the very full clinical notes of the first case I am indebted to Dr. Jas. Stewart.

CASE I.—This was obtained from the body of T. F., a patient of Dr. Stewart, *æt.* 64, by occupation a labourer and carter. The patient, as I learn from Dr. Reilly's notes, had been accustomed to heavy work and was addicted to alcoholism. In 1865 he suffered from sunstroke; in 1891 he was in the General Hospital under Dr. Armstrong with a compound comminuted fracture of the right leg; four months before admission to the Royal Victoria Hospital his left leg was severely bruised by a bar of iron falling upon it. His final illness appears to have begun nearly a year before his death. In April, 1895, while at work he was suddenly seized with dyspnoea and a sense of oppression in the chest, and was so ill that he had to be carried home. After being in bed for several days he went back to work. The next month he suffered from another and similar attack, which incapacitated him for a few days, while a third attack in July led to his being confined to bed for several weeks. Later, cough and expectoration supervened. In December swelling of the legs was first noted, and early in this month he was admitted to the Royal Victoria Hospital, under Dr. Stewart, complaining of pain in the left hypochondrium, present only at times and increased by lying on the left side. There were also paroxysms of pain of an anginoid character over the pericardial area.

Not to enter too fully into the symptoms presented in this case, it may briefly be stated that he presented evidences of arterio-sclerosis, with increased vascular tension, enlarged heart with weak sounds, soft apical systolic murmur transmitted to the left axilla, a fugitive

¹This Journal, XXI., 1892, p. 700.

diastolic murmur and reduplication of the second pulmonary sound. There was poor expansion of the chest, with dulness over the left side and absence of breath sounds; expiration was prolonged. The abdomen was everywhere so tender on pressure, more especially over the epigastrium and in the left hypochondrium, that satisfactory palpation was impossible. The urine contained a small amount of albumen, with hyaline and granular casts and renal epithelium.

The chest was aspirated and 76 ounces of fluid were removed. With rest and digitalis the condition of the patient improved so much that he was discharged on February 3rd, there being still some fluid on the right side and a double murmur at the apex. The œdema had disappeared.

The patient was re-admitted upon February 29th, complaining of severe pain in the stomach and great thirst. Save for occasional attacks of dyspnœa he had been fairly comfortable since leaving the hospital, until two or three days prior to re-entrance, when he had been suddenly seized with agonizing pain in the right hypochondrium, extending well into the mid-axillary line. This was soon followed by severe pain in the umbilical and epigastric regions, as also in the back opposite to the level of the epigastrium. The pain was described as sharp and stabbing, present all the time and very much increased on movement or pressure; in fact the patient could not bear the slightest touch. Turpentine stupes had been applied to the abdomen, but the pain continued for twelve hours longer, when it ceased. Upon re-admission the pulse was found irregular in rate and force; there was inspiratory retraction of the basal intercostal spaces with poor expansion. The base of the right lung was dull, with here and there a friction rub. The patient suffered from severe paroxysms of abdominal pain, for which morphine was employed. There were also repeated paroxysms of dyspnœa.

Upon March the 28th the fluid in the right side of the chest having increased, 84 ounces were removed. He recovered well from the tapping, but some hours later he began to retch, and during the attack he died suddenly. The condition was diagnosed as one of chronic myocarditis, acute nephritis and pleurisy with effusion.

Besides the dissecting aneurysm and the associated arterial changes, the necropsy revealed well-marked hypertrophy and dilatation of the heart, emphysema and bronchitis with œdema of the lungs, and serous pleurisy of the right chest, adhesive pleurisy on the left side. The kidneys were sclerotic, of the small red granular type. The aorta presented an extreme condition of nodose arterio-sclerosis, the hypertrophy of the intima being very considerable and of a hyaline fibroid

type rather than calcareous. Indeed there was only one calcareous patch, 2 cm. across, at the beginning of the descending aorta and an atheromatous ulcer of small size, around the origin of the right renal artery. The fibroid hypertrophy was especially thick around the origin of the innominate, left subclavian and carotid, and there was great thickening also around the offset of the celiac axis, associated here with not a little deformity of the aorta. 3.25 cm. above the celiac axis was situated a large transverse rupture of the inner walls. (Vide fig. 1.) The rupture was situated, therefore, above the diaphragm, near to the point where the aorta begins the oblique course through that septum, the point corresponding to the body of the tenth dorsal vertebra. The rupture was 4.5 cm. across, and began 5 mm. to the left of the middle line behind, extending round the right side of the aorta to the middle line in front. The breadth of the aorta immediately above the rupture was 6.25 cm. This rupture which was unassociated with any evidence of atheromatous ulceration gave entrance into a long channel, extending both upwards and downwards. The upper channel was filled below with fairly firm adherent reddish-grey clot, which gave way to pale discoloured fibrin about the middle of the thoracic aorta, and from here a channel containing thin layers of fibrin and almost obliterated, continued upwards along the right side of the aorta as far as the middle part of the arch. In a downward direction the channel was relatively free from blood clot, what there was being soft, loose and recent. This channel was large, roughly triangular, and smooth-walled, passing along posteriorly somewhat to the right, and at the bifurcation it also bifurcated, passing along the common iliacs, and from them along the external iliacs. Here on the right side it opened again into the lumen of the right external iliac, close to its lower end, 4.3 cm. below the bifurcation of the common iliac, 9.5 cm. from the bifurcation of the aorta. On the left side it continued still further, opening in the first portion of the femoral artery, 7 cm. below the bifurcation of the left common iliac, 14.5 cm. from the aortic bifurcation. The channel ran along the inner aspect of the common iliac becoming posterior below.

Upon the right side a small dissecting channel continued down the posterior and outer side of the right internal iliac artery—for what distance I cannot say, the passage not having been noticed until some little time after the performance of the necropsy, and this artery having been cut near to its origin. Sections taken from the cut end indicated that it can at most have passed down for a few centimetres, the dissecting channel being separated from the intima by the merest trace of muscle tissue.

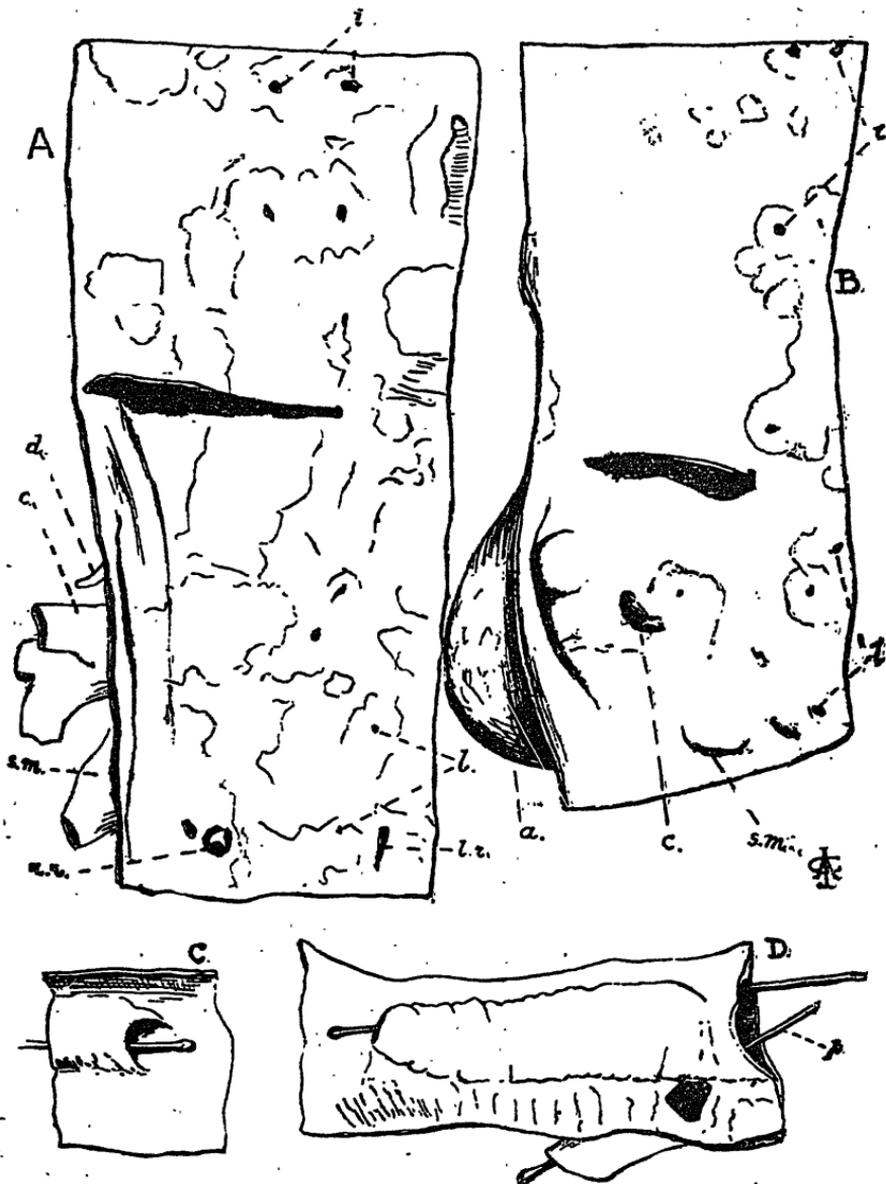


FIG. 1.

A, Thoracic and Abdominal Aorta of Case I, showing primary rupture. Two-thirds natural size. i. Intercostal arteries. d. Diaphragmatic. c. Coeliac axis. s.m. Superior Mesenteric. r.r. Right renal artery, showing ulcer and perforation around origin. l.r. Left renal artery. l. Lumbar arteries.

B. Thoracic and Abdominal Aorta of Case II, showing primary rupture. Upon the same scale. The aorta has been opened to the left of the median line. a. Saccular aneurism of anterior wall of abdominal aorta. Other letters same as in Figure A.

C. Opening of re-entrance in left femoral artery in Case I.

D. Opening of re-entrance in right arterial iliac artery, (Case I.) The probe, p, passes down the dissecting channel along the internal iliac artery.

The wall of the sac below the primary orifice was smooth and glistening but somewhat irregular and of a dull red colour, as though pigmented or the seat of considerable post-mortem imbibition.

Several of the lumbar arteries arose from this sac, their primary origins from the aorta being in general closed up and represented by depressions. In addition, the suprarenal arteries and the inferior mesenteric had similar secondary origin, with closure of the aortic orifices.

Apart from the primary and terminal openings there was but one communication of any size between the aorta and the sac. This was round the origin of the right renal artery where there were still the remains of an atheromatous ulcer, indicating the means whereby the communication had become established.

CASE II. (Specimen 18,764 Museum Med. Coll. McGill.)—As already stated a description of this specimen and a history of the case has already been published, but the account in the MONTREAL MEDICAL JOURNAL is brief and incomplete, and through the kindness of the staff of the Montreal General Hospital I have been able to obtain the fuller history and to abstract the post-mortem report.

Mrs. E., aged 43 years, entered the Montreal General Hospital, under Dr. Shepherd, on August, 15th, 1892, complaining of abdominal pain, vomiting, anorexia and progressive emaciation. She was married, the mother of nine children, the last having been born thirteen years previously.

In 1888 she had suffered from rheumatism, and two years later she began to suffer from dyspepsia with palpitations and some loss of flesh. This condition continued without amelioration. Six weeks before admission there developed an aching pain across the abdomen which became progressively worse; it was not increased by eating, nor was it relieved by vomiting. The vomiting bore no relation to food; the vomitus was of a mucoid character. With the development of the abdominal pain she first noticed the presence of a lump in the abdomen, above the navel; this was tender on pressure and had not increased in size since first it was noticed. For the last two weeks before admission she had pain across the back. Upon examination the patient was found emaciated, her mental state was good, her pupils and tongue in good condition. There was, with the pain across the back, some tenderness at the end of the sternum and along the costal margin on the right side. The tumour above mentioned was situated a hand's breadth above the navel and a little to the left of the middle line. It was the size of a small hen's egg, not very tender,

pulsative, movable laterally but not vertically. The liver and spleen seemed to be normal, as were also the lungs.

The pulse was regular (80), the radials not sclerosed. The apex was situated in the upper line at the 5th space, and there was a marked diffuse impulse extending from the upper border of the 4th rib, and from the left edge of the sternum to half an inch beyond the nipple line. With this there was a loud apical systolic murmur transmitted to the axilla and a faint murmur at the base. The urine was acid without albumen or sugar.

Upon August 17th Dr. Shepherd made an exploratory laparotomy and found a sessile pulsating tumour, smooth, retroperitoneal and close to the aorta. Upon turning the omentum and intestines to one side, the tumour could be seen and was recognized as an aneurysm of the superior mesenteric artery, of the size of a small hen's egg. Only about $\frac{1}{4}$ inch of artery of normal calibre intervened between the aorta and the aneurism. Pressure upon the aorta above readily arrested the pulsation of the tumour. The danger of gangrene of the intestines following any operative interference was so great that Dr. Shepherd decided to do nothing, and after irrigation and controlling bleeding points the wound was sutured with silkworm gut and dressed.

The patient recovered well from the operation, though she suffered so much abdominal pain that preparations of opium had to be given. On the 27th the wound was found to present excellent union and the stitches were removed. The pain continued and was most severe. She vomited several times, this condition being eventually relieved by sinapisms and cocaine. On Sept. 3rd there was more marked pulsation to the tumour, which had apparently increased in size. On the 10th her suffering was intense in spite of opiates and the tumour was certainly increased in size. On the 11th she died suddenly. The pallor and collapse pointed to hæmorrhage as the cause of death.

The necropsy was performed the same day by Dr. Finley and revealed:—Aneurism of the superior mesentric with rupture into the peritoneal cavity; aneurism of the right sub-clavian; dissecting aneurism of the abdominal aorta; hypertrophy of the left ventricle, with chronic intestinal myocarditis; early interstitial nephritis.

The heart was enlarged, weighing 350 grms.; the wall of the left ventricle greatly thickened, the anterior papillary muscle was transformed into a dense white fibroid mass, in which only a few muscle fibres were recognisable. The mitral valves were somewhat thickened and fibroid, the aortic segment normal. The right coronary artery

presented irregular areas of atheroma, the left was normal. There was no obstruction at any part of their course.

The root of the aorta was somewhat dilated, and at the junction of the ascending and transverse portions was a small area of gelatinous raised plaques. The descending aorta (as indicated in the figure) presented numerous similar plaques, without obvious calcification.

Upon the anterior wall of the right sub-clavian, just to the right of the trachea, was an aneurysmal mass as large as a hen's egg. On section this was found to be filled with laminated clot save for a small lumen with smooth walls.

A sacculated aneurysmal pouch of the front wall of the abdominal aorta was also present, as shown in the figure, situated at the level of the origin of the celiac axis.

The orifice of the superior mesenteric artery was normal; about an inch from the orifice it became dilated, forming a large mass lying behind the mesentery, pancreas and third part of the duodenum. These structures assisted to form the walls of a false aneurysm which was filled with a mass of recently clotted blood two inches thick.

There was a considerable amount of fluid blood free in the peritoneal cavity with some large clots. The blood had evidently escaped through a small rent to the right side of the mesentery. The abdominal viscera and the aorta were removed *en masse*.

The primary and, in this case, the only orifice of the dissecting aneurysm was situated 1.8 cm. ($\frac{3}{4}$ in.) above the origin of the celiac axis. It was in the form of a transverse rent, 3 cm. across, with sharp, well defined edges, showing no definite marks of advanced sclerotic change save towards the right border of the lower edge, where the nodose sclerotic change at the border of the sacculated abdominal aneurysm continued into the edge, causing it to be somewhat thickened and rounded off. This old rent led into the dissecting sac, whose walls, in the immediate neighbourhood of the opening, were peculiarly smooth and glistening and undistinguishable in texture from the interior of the aorta proper. The sac passed at most 2 cm. in a downward direction, but upwards it continued as a channel 2.5 cm. across, running within the arterial coats along the right and posterior aspect of the vessel, and gradually narrowing. It passed up almost to the arch and there ended in a rounded smooth-walled cul-de-sac at the level of the bifurcation of the trachea. The walls of this upper portion, save in the immediate neighbourhood of the cul-de sac, were not so smooth as were those in the neighbourhood of the opening. They were slightly ragged, but on section so thick that the roughness evidently was due not to shreds of ruptured media, but to irregular organisations of a fibrinous layer lining the sac.

The cavity was filled with old mixed blood clot, fairly firm, but removable without difficulty.

Microscopical Examination.—Case I. The dissecting sac was seen to be within the layers of the middle coat throughout, save in the immediate neighbourhood of the orifices. Nevertheless, the extent to which the media formed portions of the outer and inner (arterial) wall of the sac varied very considerably. Thus in the upper abdominal and lower thoracic portion of the sac the blood evidently had penetrated almost through the media, and sections from these regions showed only a very slight external coating of the media, varying in thickness. In the common iliacs the passage ran through the middle of the media, there being about as much of the muscle left forming the wall of the main channel as was to be seen aiding in the formation of this outer wall of the sac. (Vide fig. 2.) Whereas as already stated in the right internal iliac, presumably close to the re-entering orifice, the main bulk of the media formed the outer coat, and but a few threads of muscular tissue intervened between the intima of the artery and the newly formed intima of the dissecting sac.

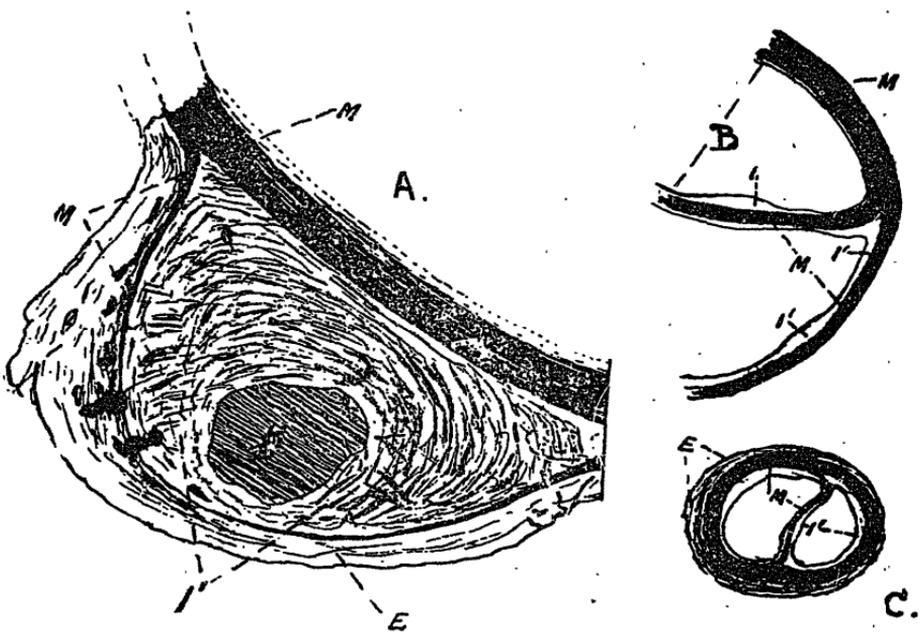


FIG. 2.

Sections from A, the thoracic aorta, above the seat of rupture; B, the right common iliac, and C, the right internal iliac artery, to exhibit the relationship of the middle coat to the dissecting aneurysm.

The middle coat (M) throughout is figured in black. I, the intima. H, heart blood clot.

The sections also exhibit the new formed intima (I') of the dissecting channel. (The figures are twice the natural size.)

Evidently, therefore, in the process of dissection—as has been recognized by previous observers—the blood does not confine itself to one layer of the media, but makes a path which while remaining within the media causes rupture and separation of successive layers.

Microscopical examination of the newly formed intima of the sac, revealed several points of interest. Below the primary rupture it was covered by a distinct endothelium, and in parts, both in thickness and structure, was scarce to be distinguished from true arterial intima. Elsewhere, however, it was very thick, and in such regions, and again more especially in the angle where the outer wall of the sac passed off from the inner—the angle of separation of the layers of the media—not only was it formed of superposed strands of fibroblasts and richly nucleated new fibrous tissue, but in addition it presented fairly numerous vessels. These could be seen most frequently in the newly formed intima of the outer wall of the sac, which in general was distinctly thicker than that lining the inner wall.

Above the primary rupture, the channel, as already stated, was filled with clot. Save for a central small channel filled with what was evidently post-mortem coagulum, the contents of the sac were undergoing organisation. In the more central part of the sac, around the aforesaid post-mortem clot—there could be recognised the deposit of fibrin in laminae. In the more external areas, vessels were to be seen passing from the vascular adventitia through the thin layer of media into the clot, and organisation was proceeding apace.

A study of this series of sections appears to indicate the method of formation of the new intima of the sac. It would seem that as a consequence of the blood forcing its way through the layers of the media, the ruptured muscular walls of the sac become covered with a layer of coagulum, the thickness of this layer depending upon the rate of the blood stream as in other cases of coagulation *intra vitam*. Where the blood rapidly forces a re-entrance into the circulation and a current is swiftly established through the dissecting aneurysm, there the coating of fibrin remains relatively slight—save in the angles above mentioned, where the current being poor or wanting, the coagulation is considerable. Where, on the other hand, the dissection results only in the establishment of a cul-de-sac (as in the upward extension in this case) here after the first deposit of coagulum over the ruptured tissues, the fibrin is laid down in laminae just as in ordinary sacculated true aneurysms.

There is, however, this difference between the dissecting and ordinary sacculated aneurysms, namely, that the act of dissection causes the coagulation to occur in a vascular tissue, not in a region (an

ordinary true aneurysmal sac) which, paradoxically, but, truly is non-vascular. And as a consequence of this difference vascularisation and organisation occur in the one case and not in the other.

Judged therefore from these sections, the development of the new intima is essentially due to the organisation of the layer of clot covering the ruptured tissue. I will not venture to state the origin of the endothelial covering of this intima. This may be by extension from the endothelium lining the aorta, but it may equally well originate *de novo* from modified fibroblasts. How endothelia originate is a matter concerning which we know little positively.

Case II. This specimen having being preserved in Sappey's fluid for some years, was in a condition ill-suited for microscopical research it was impossible to gain any nuclear stain, and only the shadow of cells could here and there be recognized. It was, however, possible to make out that the outer wall of the sac contained a relatively thick layer of media, while within this was a fairly thick layer of a laminated character, containing pigment granules and apparently fibrinous, though from the fact that it was peculiarly firmly adherent to the deeper structures, I cannot but conclude that organisation was already in progress. In short the case appears to exhibit a somewhat earlier stage of the condition found in the upward extension of the aneurysmal sac in Case I, exhibits, that is to say, an earlier stage of the arrested dissecting aneurysm that is undergoing repair by a process of deposit of laminated fibrin and organisation of the same.

(To be continued.)

ANGIOMA OF THE HEAD.¹

(From the Surgical Clinic of the Montreal General Hospital.)

BY

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Wm. C., aged 30, was admitted to the Montreal General Hospital on February 17, 1896, for a tumour on the left side of the head. The trouble was first noticed about Christmas, 1895, *i. e.*, nearly eight weeks previous to admission, when his attention was directed to the prominence of the left temporal artery. Previous to that time it had never been noticeable.

About one week later he noticed a small tumour over the left temple and on the artery. It was a small soft lump, and during the week that followed its appearance it grew very slowly. He then worked very hard and got overheated, the head became hot and an intense headache came on. The head seemed as though about to burst and the pain was principally at the back. The severe pain lasted about one hour, but a dull headache continued for several days.

Following this overheating the tumour increased during the next three days almost to the dimensions it had on his admission. By that time it had reached almost to the middle line. Since then it has increased very slowly and has gradually become more prominent. No history of injury was obtained.

He stated that he was born and had always lived in Canada and followed farming; that when a child he had had scarlet fever, measles and croup; that he had had erysipelas ten years, and again five years previous to admission; that he had had no other illness and had always enjoyed good health; as regards his habits, that he had used tobacco freely, alcohol very moderately, and that he had had no venereal diseases.

Ever since he could remember he had been troubled with headaches, which would last two or three days at a time and then would not be felt for a week. Another fact he mentioned was that up till the time of his operation he had always been troubled with epistaxis, sometimes three or four times a day.

No information or points of interest were obtained on inquiry into the family history.

¹ Read before the Montreal Medico-Chirurgical Society, April 3rd, 1896.

On admission his condition was that of a stout, intelligent, well-nourished man of 30 years, of florid complexion, and with a tumour situated on the anterior left part of the head. The left temporal artery was prominent and tortuous, pulsated visibly and extended up through the tumour. The longest measurement was from a point a little above the outer angle of the orbit one and a half inches upwards and backwards obliquely. In the middle line of the head the posterior border was nine inches from the nasion. The anterior border of the tumour extended forward only to the top of the forehead. Laterally it extended one and a half inches to the right of the median line, posteriorly to the line joining the external auditory meatus. Its general appearance was that of a large prominent tumour with tortuous margins. One saw and could feel well-marked pulsation over its whole surface. It was soft and yielded readily to pressure, which when removed showed the tumour to again fill out with each pulsation. Beneath the temporal and superior portions there seemed to be a complete absence of both tables of the skull. At the posterior part there was a detached portion of bone unconnected with the surrounding bone. This portion felt thin and friable and had very irregular, uneven margins. It was $6\frac{1}{2}$ cm. in its longest and 4 cm. in its shortest diameter.

Where the temporal artery coursed along the anterior border of the tumour was heard a well-marked bruit, having its maximum intensity over the temporal artery and occurring synchronously with the pulse. It could be best described as resembling the placental souffle.

The following observations, carefully made before operation, were verified by several present at the time :

(a.) Digital compression of the left common carotid caused the bruit to entirely disappear.

(b.) Digital compression of the left common carotid arrested pulsation of the temporal portion of the tumour and of the temporal artery, but did not arrest pulsation on the upper part of the tumour.

(c.) Digital compression of the right common carotid lessened but did not altogether arrest pulsation in the major part of the tumour.

(d.) Simultaneous digital compression of the right and left common carotids arrested completely pulsation all over the tumour.

(e.) Immediately after pressure was applied to the carotids the tumour visibly sank, and when the pressure was removed the tumour expanded.

Examination of the lymphatic system showed no enlargement of glands anywhere.

The respiratory and digestive systems were normal.

The pulse at the radial was regular, easily compressible, of good volume; the artery was slightly sclerosed.

Other than a slight reduplication of the second sound heard over the pulmonary cartilage, the heart was normal.

The urine was normal in quantity and colour, with an abundant flocculent precipitate at the bottom; specific gravity 1024, clear, contained no sugar; urea grs. x. to the ounce. On admission albumin was present in the proportion of three grammes to the litre. It gradually under a milk diet diminished to one gramme and remained at that amount. Microscopically the urinary sediment gave urates, pus cells, squamous epithelial cells and granular casts.

Examination of the eyes by Dr. John J. Gardner gave evidence of inequality of the pupils, the left being $\frac{1}{2}$ mm. larger than the right. Both pupils reacted to light and accommodation, but the left not so readily as the right. The discs were about normal, but the arteries somewhat small. There was no fundus trouble.

On February 27th, *i.e.*, twelve days after admission, he was given ether and both external carotids were tied. At the operation several glands were seen and were removed. On examination by Dr. Wyatt Johnston they were found to contain only lymphoid tissue.

After the operation immediate and marked diminution in the bulk of the tumour occurred. Pulsation ceased and the bruit disappeared.

The following are taken from the bed-side notes of April 3rd: "The tumour has diminished in size and bulk; there is no pulsation or bruit; no further extension of absorption of bone has occurred in any direction; he does not suffer any longer from headaches or nose bleeding and says he feels a remarkable improvement in his general health.

CARCINOMA OF THE TONSIL¹

BY

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A French carpenter, aged 59, was admitted to the Montreal General Hospital for a growth on the tonsil. He stated that the trouble began two months previous to admission, when he first noticed a pain on the right side of the throat on swallowing. Swallowing gradually became more difficult and the pain attending the act more severe up to about five weeks after the first onset of symptoms, when he noticed a small tumour beneath the angle of the jaw on the right side. Up till the time of admission to the hospital the tumour had increased very little in size from the time of its first appearance.

As a child and in adult life he had had no illness and for thirty-eight years had been a diver. Other than a bubo he had had no venereal diseases. He had always used alcohol in fair amount, but even up to the time of his admission had been a very heavy smoker.

Inquiry into the family history gave no history of carcinoma. His appearance was that of a fairly nourished, wiry Frenchman of 59 years, and his only complaints were the soreness on the right side of the throat on swallowing and the tumour on the neck.

Examination of the throat showed a tumour the size of a large marble growing from the right tonsil. It was hard and gristly, not tender or painful, freely movable in all directions. The right pillars of the fauces showed beginning infiltration.

There were two enlarged lymphatic glands on the right side of the neck.

The respiratory, vascular, digestive and urinary systems were normal.

He applied to Dr. H. S. Birkett in the out-door department. Dr. Birkett removed a small portion from the tonsil, which was submitted to Dr. Wyatt Johnston for a report. Dr. Johnston reported the growth to be an epithelioma.

A preliminary tracheotomy was performed on January 16, 1896, and five days later he was again anæsthetized and the tonsil, anterior pillar and a considerable portion of the base of the tongue on the right side were removed by a modification of Cheever's operation.

The external carotid artery was ligatured below the origin of the

¹ Read before the Montreal Medico-Chirurgical Society, February 7, 1896.

facial artery. During the succeeding stages of the operation there was very little hæmorrhage.

The posterior belly of the digastric and the stylo-hyoid and styloglossus were not divided, but pulled to one side, the superior constrictor of the pharynx opened and the tonsil thoroughly separated. Then with a gag in the mouth the anterior pillar, remaining attachments of the tonsil and a portion of the base of the tongue were divided by scissors and the whole removed in one piece. He made a good recovery.

This method of operating gave good access and was much less severe than either Czerny or Mikulicz's methods.

The prognosis in this case is not particularly good. Early recurrence has been the rule, but as in malignant disease elsewhere, early and thorough removal may, it is hoped, give better results in the future.

NOTES FROM
A
DEBATABLE CASE OF HODGKIN'S DISEASE.¹

BY

A. E. VIPOND, M.D.

Physician to the Montreal Dispensary,

and

C. F. MARTIN, B.A., M.D.

Assistant Physician, Royal Victoria Hospital.

Although cases of Hodgkin's disease are, as a rule, not difficult of diagnosis, there occur at times instances where the peculiarity of the blood conditions renders it not only difficult, but even impossible to determine the differentiation between that disease and true leucæmia. Our report concerns one such case, which further presented other features, rendering the condition worthy of special mention before this Society.

One of us (V.) was called about the middle of November last to see a young Frenchman who complained of cough accompanied by headache, of deafness, painful swelling of the left arm and "lumps" on various parts of the body.

He was a Canadian, 21 years old, of good habits, and accustomed to light work. He had a previous history of some early "cerebral" disease in which he lost his eyesight and had been partially blind since the age of four years. He had never had malaria and gave no history of specific disease.

There was a family history of tuberculosis.

His present illness had commenced less than two months previously and was supposed to have followed some infection of the lips from playing on a friend's flageolet. His lips became swollen and painful, and shortly afterwards the lymph glands about the neck became enlarged. Rapidly the axillary and inguinal glands became swollen and the patient suffered pain in both thighs. This condition was accompanied by epistaxis, progressive anæmia and asthenia, slight dyspnœa, and about four weeks after the onset of the symptoms orthopnœa supervened.

On November 24th his left arm began to swell, and as his condition became grave he was sent to the Royal Victoria Hospital, where his

¹ Read before the Montreal Medico-Chirurgical Society, January 23, 1896.

condition was noted as follows. (We are indebted to Dr. A. A. Robertson for careful records of the case, from which we abstract these notes):

Patient is a young man, anæmic and very weak. He has a slight cough with dyspnoea, sometimes orthopnoea. He has headache, and pain in the left arm. Temperature $101\frac{1}{2}^{\circ}$, pulse 126, respiration 32.

The lymph glands all over the body are much enlarged, fairly movable, painless and without signs of suppuration. There is slight tenderness over the sternum. There is also general anasarca, with marked œdema, especially in the left arm and hand.

The heart presents evidence of some dilatation, with a systolic murmur at the apex.

There is no disease apparent in the lungs.

Over the upper half of the sternum and right half of the pericardial area there is definite dullness merging into the cardiac dullness, due evidently to enlarged retro-sternal glands.

The alimentary tract shows enlarged tonsils, coated tongue, some digestive disturbances, but no diarrhoea. The liver and spleen are palpable to a slight extent below the costal margin. The urine has an excess of uric acid, but is otherwise normal.

Examination of the blood by various methods showed red cells 1,131,000, white 24,000, hæmoglobin 21 per cent. The leucocytosis was mainly lymphocytic (76 per cent.) The stained specimens further showed a large number of nucleated red cells, these nuclei often being broken up and showing a condition sometimes resembling mitosis. The polynuclear neutrophiles showed a similar process of cell division. A number of free nuclei were present and but very few eosinophile cells.

Examination of the eyes by Dr. Buller revealed a retinitis pigmentosa, with some appearances of a recent change in the disc, and also what seemed like retinal hæmorrhages, though the patient's condition precluded the possibility of a satisfactory examination.

The patient was treated by hypodermic injections of liq. sodii arsenitis, and for some weeks showed marked improvement. During this interval, however, a few other enlargements occurred, notably over the forehead, subcutaneously.

His blood condition varied inappreciably from week to week, and the proportion of white to red cells varied within narrow limits of 1-50 to 1-75 or 1-100. The red cells remained between one and two millions.

Towards the end of December his condition again became worse and he suffered from numerous hæmorrhages, chiefly from the nose.

One of these attacks was markedly prolonged, and shortly after it the patient died, about ten or twelve weeks from the onset of the symptoms.

A complete autopsy was permitted, and the following main conditions were observed: General enlargement of all the glands, both superficial and deep; in many of them hæmorrhages had occurred. The spleen was but slightly enlarged, the kidneys dense and firm from the presence of numerous lymphomata. In the stomach, liver and intestines there were some evidences of over-growth of lymphoid tissue. On the inner surface of the dura mater, beneath the skin of the forehead, and even in the calvarium, there were multiple heteroplastic lymphoid tumours, many of them being as large as a filbert or even walnut. The bone marrow was distinctly pale.

While we are unable as yet to give a complete report on the case, as our investigations are incomplete, we cannot but conclude that the conditions found bring into very close relationship the lymphosarcomata and some cases of lymphatic leuchæmia. The blood condition, with its numerous nucleated red cells, its leucocytosis of lymphocytes, renders the case extraordinarily like leuchæmia, while the tumours found in various portions of the cranium and other unusual sites give to the case all the characters of a lympho-sarcoma.

It may, perhaps, be classed among the cases recorded by Fraenkel as instances of acute lymphatic leuchæmia, and in favour of this view are to be mentioned the sudden onset and early appearance of such symptoms as hæmorrhage, etc. The case, however, is more than suggestive of the intimate relationship between cases of lymphatic leuchæmia and those of Hodgkin's disease, and it would amply bear out the ideas conveyed by some authors already as to the existence of this interesting relationship.

AORTIC ANEURISM.¹

BY

A. E. ORR, M.D.

Physician to the Montreal Dispensary.

Wm. H., barber, married, complains of cough, dyspnoea and swelling on front of chest.

Family History—Good so far as known; no history of aneurism, gout or phthisis.

Personal History—Born in England, where he was a military bandman, playing on a wind instrument. He came to Canada in 1883 and became a bandmaster and was also employed in a lumber mill, where he had to do much heavy lifting. He denied venereal disease. At the age of 20 he had an attack of cholera (cholera nostras?); a slight attack of rheumatism at 22. Except these illnesses he was well and strong until the autumn of 1883, when he had an attack of sharp pains up the right side of the neck and down the right arm. He had at the same time a slight dry cough. After a few weeks the cough ceased and the pain leaving the right appeared in the left side of the neck, being of dull aching character, usually constant, but with occasional remissions of a day or a few days and continuing five or six months. In the spring and summer of 1885 he felt pain of an aching character in the upper part of the sternum, but not of sufficient intensity to cause him to give up work or to lose sleep.

In December, 1885, a little over one year from the first appearance of pain, he first noticed a pulsating swelling in the upper part of the chest. Up to that time he had had little or no dyspnoea. The cough had disappeared and the voice was not noticeably altered. The pains in the side had disappeared after lasting nearly a year.

On the 9th of December, by the advice of his physician, he went to the Montreal General Hospital, where he remained about three months with great benefit. He was given Pot. iodid. gr. x., t.i.d., with absolute rest in bed and nourishing diet. The size of the tumour diminished and pulsations ceased.

After returning to his home he was forced by the necessity of earning a living for his family to resume his work in the lumber mill, but after a few months was forced to desist by the recurrence of the pulsation in the tumour. He was then treated at home with Pot.

¹ Read before the Montreal Medico-Chirurgical Society, April 3rd, 1896.

iodid. gr. x. t.i.d. and rest in bed, but the treatment could not be very efficiently carried out on account of restlessness and refusal to maintain the recumbent position. However, the tumour again diminished, and he commenced work as a barber, eking out a subsistence by performing the duties of sexton and bell-ringer.

During 1887 his voice became hoarse and he suffered a great deal from dyspnoea. In the winter of 1887-88 he suffered from a harsh dry cough. In the spring he was exposed to a thorough drenching and chilling and the cough became much worse and was attended with profuse but difficult expectoration.

When he came under my care in July, 1888, the cough was no better and was of a harsh, brassy character. There was great dyspnoea on exertion. He was a man of average height and fairly well developed, but much emaciated and looked very ill. The swelling was larger than ever before and was a rounded, visibly pulsating elevation situated in the upper sternal region somewhat to the right side, dull on percussion over the tumour, and for about half an inch outside, making a dull area of about two and three-quarter inches diameter. The pulsation was expansile, with double shock and systolic thrill. There was a soft systolic murmur over the tumour, most distinct near its right border, audible outwards to the outer third of the clavicle and of varying intensity: the first heart sound was not much altered, second sound unusually sharp and distinct. The apex beat was between the fifth and sixth ribs, half an inch inside the nipple line. The veins of front of chest were not enlarged. Tracheal tugging well marked; no inequality of pupils or pulse. There was no dulness except about the tumour. Sonorous and cooing râles audible over both lungs. Air seemed to enter both lungs equally. The radials were not sclerosed. No sugar or albumen in urine. He was ordered the iodide and rest treatment again.

October 18th.—The cough has been getting worse and there are medium-sized moist sounds or crepitations over both lungs, especially at the bases.

October 21st.—He had a suffocative attack about 3 a.m., with pulse of 160 and very weak. He was promptly relieved by bleeding to six ounces, after sinapisms, stimulants and posture had failed. He rallied and felt fairly comfortable for a few hours, but urgent dyspnoea soon returned, with great acceleration of pulse and respirations; the lungs showing filling of the smaller tubes with liquid, and he died next day.

The post-mortem was performed hurriedly at midnight, circumstances making it impossible to secure a more suitable time or more favourable surroundings. Permission could be obtained to examine the tumour only.

AN INSTANCE OF
APPENDIX VERMIFORMIS ONLY PARTIALLY
COVERED BY THE PERITONEUM.

BY

ARCH'D E. MALLOCH, M.D., Hamilton.

On the 23rd of April, with Drs. Mullin and Olmsted present, I made a post-mortem examination on M. L., æt. 73, and, having a case of relapsing appendicitis for operation the next day, special attention was directed to the appendix.]

In a discussion on the surgical treatment of typhlitis reported in the *British Medical Journal*, November 8, 1889, F. Treves remarks that "Inasmuch as the cæcum and appendix are entirely covered by serous membrane, a perforation in either of these organs can not lead to suppuration of the connective tissue of the iliac fossa," and as this view is generally held, it might not be amiss to note an exception to the rule. The vermiform appendix was not more than three inches long and started from the cæcum very close to the termination of the ileum; its direction was downwards towards Poupart's ligament; its upper half, lying on the cæcum, was covered anteriorly and at the sides with peritoneum; its lower half lay wholly behind the peritoneum imbedded in a mass of fat; there was no mesentery. The lower layer of the peritoneum from the mesentery of the ileum passed over the upper half of the appendix, covering fully two-thirds of its surface, and then passed downwards over the mass of fat, in which the lower half of the appendix was imbedded. The peritoneum over this mass of fat had to be cut through to expose the lower half of the appendix. There was no sign of old inflammatory action, the peritoneum having a perfectly normal appearance.

Kelynaek¹ found that out of 80 cases the mesentery extended to the tip of the vermiform appendix in 64, that is to say, in more than two-thirds of the cases. If now such a mesentery were shortened, or to state it otherwise, if the peritoneum here instead of being long enough to form a mesentery resembled that covering the ascending colon, and only covered the anterior aspect of the appendix, we should then obtain the simplest form of retro-peritoneal position of the organ. Kelynaek, who has published a very full study of the

¹ Pathology of the Vermiform Appendix, London, 1893, p. 31.

anatomy and pathology of the appendix, would seem never to have met with such a condition as is here indicated, but Ferguson,¹ of Toronto, in an analysis of 200 dissections, while he does not indicate that he has ever met with the complete form of retroperitoneal appendix, evidently found frequently a condition in which the appendix was not covered by peritoneum throughout the whole of its course, for he states that in 77 cases "the appendix was so placed and covered by peritoneum that its perforation would open into the sub-peritoneal tissue and establish a diffuse form of cellulitis. He records one case of a man about forty, who had a discharging sinus "in the situation of a psoas abscess," and died from an acute attack of pneumonia. On making a careful dissection of the sinus, it was traced to a perforated appendix "that lay behind the peritoneum."

It would almost seem that the majority of those who have studied the anatomy of the appendix have observed the peritoneal relationships of the free end, but have not sufficiently regarded the relationships of the proximal portion where there is the greatest likelihood of finding the appendix incompletely surrounded with peritoneum.

¹ American Journal of Med. Sc., N.S. CI., 1891, p. 61.

CASE OF EXOSTOSIS BURSATA.¹

BY

W. GORDON M. BYERS, M.D.,

House Surgeon, Montreal General Hospital.

Thos. S., aged 45, a well-nourished storeman, of temperate, industrious habits, was admitted into the Montreal General Hospital, under Dr. F. J. Shepherd, on June 5th, 1895, complaining of a "lump in the back."

A month previous to his entrance into the hospital, the patient, while carrying a basketful of fish up the gang-plank of the SS. Vancouver, slipped and fell on his back; and experienced, as a result, on getting up, slight pain in the region of the left shoulder blade. The following morning he went to work as usual, but the shoulder "ached" and "caught" him whenever he attempted to lift anything, and "seemed out of joint," when putting on or off his coat. About a week after the fall, the patient felt, on leaning against his chair, a small hard lump in the region of the left shoulder blade, which became more perceptible later on. The presence of this growth, together with an increase in the severity of the symptoms mentioned above led him to seek medical advice.

Examination.—A hard somewhat nodular tumour was found situated on the vertebral border of the left scapula, one and one-half inches from its inferior angle. In size it approached a walnut or bantam's egg, and caused a distinctly visible prominence at the point mentioned above. It appeared to be firmly attached to the scapula, inasmuch as it participated in all the movements of that bone; but remained immobile when the shoulder blade was fixed. It glided smoothly over the surface of the ribs. On firm pressure a crackling, crepitus-like sensation was produced; at these times also the soreness was marked.

On June 10th, 1895, Dr. Shepherd made a vertical incision over the prominence, and having torn through the intervening muscles in the direction of their fibres, came upon a large, smooth, slippery sac, which, when cut into, was found to contain a small quantity of jelly-like substance, and to envelop a hard, glistening, white mass. This growth having been partly sawn through and then chiselled away, was found to consist of a more or less rounded tuberculated head

¹ Read in abstract before the Montreal Medico-Chirurgical Society, June 14, 1895.

about one inch in diameter ; a shaft two inches in length, of a somewhat smaller calibre, and a broader and somewhat flattened base, which was attached to the under surface of the scapula, a thin plate of which came away in its removal. On section, the exostosis was found to consist of spongy bony tissue, the head being surrounded by a layer of cartilage which caused the shiny, glistening-white appearance. No free cartilaginous bodies, such as occurred in the cases reported by Fehleisin and Dr. James Bell, were present in this instance. Following the removal of the growth, the greater part of the surrounding sac, which extended well under the ventral surface of the scapula, was dissected out and cut away.

The patient's after-progress was without mishap and his recovery perfect.

This case of "Exostosis Bursata" is interesting, not so much on account of the extreme rarity of the condition (two or three other examples having been brought before the notice of the Montreal Medico-Chirurgical Society) as for the light which it throws on the origin and development of these curious growths.

Two main views are held in regard to their etiology.

(a.) That they originate as out-growths from the intra-articular cartilaginous structures, which push in front of them a portion of the lining membrane of the joint as they develop. At length, however, there comes a stage when they become separated from the joint and then differentiate into these exostoses.

(b.) The second view is the well known "cell-inclusion" theory of Enaheim. According to this explanation, cells having a tendency to produce joint-structures became in every foetal life misplaced and "included" among cells having a more or less different life work. Here for a time they remain quiescent ; but at last a period comes—generally after the active growth of the body has ceased—when they take on new life and develop into tense exostosis bursata.

The situation of the growth in this instance, quite apart from any joint, and in close relationship with the growing epiphysis near the vertebral border of the scapula is strong proof in favor of the latter of these two views.

Ephemerides, 1895.

By WILLIAM OSLER, M.D.

XI. IS THE COIN SOUND DISTINCTIVE OF PNEUMOTHORAX ?

I have always believed that the *bruit d'airain* of Trousseau was never heard except in pneumothorax. I have often examined for it in very large excavations without ever noting its presence. In the first edition of my "Text-book of Medicine" I stated with reference to the diagnosis of pneumothorax that "In those rare instances of total excavation of one lung the amphoric and metallic phenomena may be most intense, but the absence of dislocation of the organs and of the succussion splash of the coin sound suffice to differentiate this condition. Why the coin sound is not heard it is difficult to determine, unless its production is connected in some way with a certain degree of air-tension, which is not present in a vomica, however large."

The following case led me to change this opinion :

Henry S., aged 57, seen July 11th, presented all the signs of chronic pulmonary tuberculosis, which, according to his statements, had lasted for seven years. On the 12th the condition noted was as follows : The patient is propped up in bed, breathing at 48 per minute. He is a small-framed man, much emaciated. The sterno-cleido-mastoid muscles stood out prominently, having between them a deep episternal notch, and the clavicular spaces are deep. The left side expands more than the right. There is a well marked cracked-pot sound at the right infra-clavicular region, with impaired resonance in the first and second spaces. In the axilla the note is fairly good. On auscultation there is at the right apex pure amphoric breathing, with occasional metallic rales after coughing, as low as the second rib. Below this the breath sounds are somewhat enfeebled with prolonged expiration. Over the dull areas in the axilla and the right back breathing is tubular and there is a loud to and fro friction rub. At first I regarded the case as one of large cavity at the right apex. There was a note that the coin sound was tested for on this day and not noted.

He remained in very much the same condition through the summer.

On my return Dr. Thayer called my attention to the remarkable character of the auscultatory signs at the right apex. The note above the fourth rib had a somewhat wooden, tympanitic quality; and the breath sounds here were purely amphoric. From this point into the

axilla there was tubular breathing. Behind, the amphoric signs were present from the apex nearly to the angle of the scapula. The breath sounds were loud and amphoric in quality. Dr. Thayer called my attention to the loud and ringing character of the coin sound, which he regarded as produced in a very large excavation. I must confess that I rather leaned to the opinion that a localized pneumothorax had developed.

The note I made early in November was as follows: Listening in the second interspace in front, while someone taps in the mid-scapular region behind, the coin sound is heard with great intensity, and the amphoric quality of the breath sounds and of the rales is of exquisite grade.

The following are extracts from the autopsy note: The right lung is firmly adherent anteriorly. The anterior margin is 4.5 cm. from the edge of the sternum. The adhesions between the lung and the parietal pleura are very strong, and over the upper lobe the pleura is greatly thickened. A large part of the upper lobe is occupied by a cavity, the walls of which average, including the pleura, 4 mm. in thickness. The walls are covered with granulation tissue and present here and there papillary projections, which on section contain remnants of branches of the vessels and bronchi.

XII. HEAD-SWAYING IN CHILDREN.

Among the curious co-ordinate movements in children, head-nodding and head-banging are among the most interesting.¹

The following case presents an interesting condition, which I do not remember to have seen described, in which the head is swayed from side to side in a rhythmical manner:

E. C., female, aged five, third child; always healthy; when born was not a blue baby, and instruments were not used. Developed naturally and had no trouble with teething. Both mental and bodily growth were normal, and she is now a well-nourished, healthy-looking child, very bright and intelligent.

She is an Hebrew, and many members of the family are excitable and nervous. The parents are bright, intelligent people.

From the time the child sat up it was noticed that she moved the head from side to side, or dropped it on the shoulder, and this habit has persisted. The father states that it was noticed from the very earliest infancy. She never has had any other movements; never any rotation of the head, or head-nodding, or any twitching of the

¹ I have given a brief statement of the different forms of these co-ordinated movements in my *Chorea and Choreiform Affections*. Blakiston & Co. 1894.

muscles of the face or of the arms. She is not a mouth-breather, and she sleeps quietly. At times, however, she is very restless and gets on her hands and knees in her sleep and bores her head into the pillows and climbs up until she knocks her head against the foot of the bed, as her father says, "rooting about like a pig." She never has had spasms, and has been a very healthy child in every respect.

Present Condition.—A very well-grown child for five years; healthy looking, with a bright, intelligent face and well-shaped head. She has no squint, no nystagmus; the pupils are equal and react to light. The tongue is clean, the palate well formed; the tonsils are a little enlarged. There are no movements of the face or of the hands; at times she is a little nervous with her hands, but as a rule there is nothing whatever noticeable, and it is really only when her attention is not called to it that she begins the swaying.

When first seen there was nothing to attract attention, and while taking the history no movements were noticed. Her father said that for a couple of years, so long as her attention was directed to it, she would refrain; thus coming in the long railway journey yesterday, knowing that she was coming to see me, she did not make any movements whatever. If, however, her attention was diverted by anything the movements would at once begin. I sent her into an inner room to watch the type-writing machine, and in a position at which I could readily see her. In a few moments she began swaying the head from side to side, at the rate of a little more than sixty movements in the minute. The excursion from the middle line is about a foot. There was no rotation, and there was no jerking character to the movements, but a rhythmical, swaying motion. When she became a little excited the movements were rather more rapid; thus I counted 47 in 40 seconds, and then the shoulders participated slightly. The father says that sometimes the body will sway with the head.

In every other respect the child seems perfectly natural.

RETROSPECT OF CURRENT LITERATURE.

Medicine.

Pernicious Anæmia.

WILLIAM HUNTER. "The pathology of pernicious anæmia."—*British Medical Journal*, February 8, 1896.

In the August (1895) number of this Journal we reviewed the article by Ralph Stockman on this very interesting subject. One of the authorities whom Stockman quoted and with whom he could not agree is Dr. Hunter, whose views are presented in this article now under consideration, which is all the more interesting, since, while presenting his own views, he takes special exception to those of Stockman, already herein recorded (MONTREAL MEDICAL JOURNAL, August 1895).

The first part of the paper sets forth the grounds on which Hunter believes this form of anæmia differs from anæmia due to loss of blood or from the anæmia of wasting disease. They are as follows:

1. The extreme degree of blood change which pernicious anæmia invariably presents is always marked by certain pathological changes, characteristic either as regards their nature, their degree or their peculiar association. These changes are constantly met with in the liver and not infrequently in the kidneys and spleen.

2. These changes according to my observations are characteristically absent in traumatic anæmia and in wasting anæmia.

3. They consist for the most part of deposits of blood pigment, with corresponding increased richness in iron in the liver, etc.

4. The pigment is not the result of extravasation.

5. From its character and from its amount it denotes an excessive destruction of blood as the prominent and most constant and characteristic feature of the disease.

While recognizing the hæmolytic nature of this disease the writer believes that the destructive process takes place within the area of the portal circulation—notably within the spleen—and since the destruction is confined to the portal circulation he argues that in

pernicious anæmia the source of the poison which injures the blood is the gastro-intestinal tract.

Having thus presented his own views he goes on to discuss those of Stockman. The criticism on Stockman's view as to the essential cause he divides into two: (1) Do extravasations occur with the frequency or to the extent which he assumed? (2) Can the typical pigment changes found in the liver, spleen and kidney in pernicious anæmia be caused by the absorption of extravasated blood?

The first question he answers in the light of his own personal experience, and by that concludes that they are neither of the frequency or importance that such a theory presupposes.

The second question he also answers in the negative, basing his conclusions on experiments made on rabbits. He transfused the blood of one rabbit into the peritoneum of another, in several cases without defibrination and then again after defibrination. The health of the animals was generally maintained. The post-mortem changes failed to reveal the pigmentation in the liver so characteristic of pernicious anæmia. On the whole the process of taking up this abnormal amount of transfused blood was done in a normal way and gave normal findings. From this Dr. Hunter concludes that the extravasation theory is not tenable.

It appears that further comparison of these two observations might be profitable.

The experiments performed by Hunter were done on healthy animals. Stockman always speaks of the already "debilitated" subject. Again, more blood was added to the already full-blooded rabbit; in Stockman's experiments he bled the animal into its own tissues, and those cases cited as occurring in the human species where large hæmorrhages were present were cases in which poor health was a feature, or accident, which terminated life, had occurred.

These points, it would seem, suggest a difference in methods of such magnitude as to render exclusive conclusions quite impossible.

Further, the report of Stockman's experiments, as seen in the *British Medical Journal*, does not contain any statement that "an increase of pigment in the liver can be produced by *injecting blood subcutaneously* into rabbits." What is recorded, however, is, "After an internal hæmorrhage there is found an excess of iron in the liver, spleen, etc. This is readily enough shown by experiments on animals, of which one may be quoted: A rabbit during ten days had four *subcutaneous bleedings made*, etc."

Hunter regards pernicious anæmia as a specific form of gastro-intestinal anæmia, and this whole view is based upon the facts which

establish, according to him, that an excessive blood destruction, initiated within the portal area, is the characteristic feature of this disease, and that this destruction differs from all other forms of hæmolytic.

What the specific factor in the causation of this disease is, is not yet decided. He suggests the "presence under certain favourable conditions of organisms of specific nature within the gastro-intestinal tract"—a specific form of gastro-intestinal infection.

Tubercular Meningitis in Ending Recovery.

JANSSEN, of Maastricht (Holland.) "Über einen Fall von Meningitis tuberculosa mit Ausgang in Heilung."—*Deutsche Medicinische Wochenschrift*, März 12, 1896.

All teaching, or nearly all, concerning the prognosis in this disease has been pretty unanimous in regarding recovery as the rarest event in the course of this form of meningitis, and when such did occur, reasonable doubt was thus cast upon the diagnosis.

While recent observations on the subject have not served to alter the prognosis to any considerable extent, yet the notes which the above mentioned writer has given must lead to a little more reserve on the part of some teachers in pædiatrics and writers of text-books, in their prognostic teaching. Though thoroughly in accord with those who choose to doubt the correctness of the diagnosis in many cases of "healed tuberculous meningitis," he nevertheless concludes from anatomical evidences, given in those cases which he cites from the literature on the subject and from those manifest in the case which he presents, that tuberculous meningitis may and does end in recovery. The authorities quoted offer together but eight cases which resulted favourably, the clinical diagnosis being confirmed by anatomical findings years after, death being due to recurrence of meningitis or perhaps tuberculous disease in other parts. Among those quoted are Rilliet, Politzer, Carrington, Biedert, Schwalbe and Leube.

The points in the case which Janssen presents may be briefly summarized.

A corporal, nineteen years of age, was taken ill with what was regarded as tubercular meningitis in May of 1892. The course of the illness, with the exception of its termination, confirmed the diagnosis—the disease evidently confined to the brain and its membranes.

In June of the same year he was allowed to leave the hospital and he resumed the duties of his office in the Infantry. However, his full strength never returned and he was subject to attacks of laryngitis and bronchitis at changes of the weather. Three years after, April,

1895, he again fell ill, but at this time with signs of disease in the lungs, which, rapidly developing, terminated in death in August.

The autopsy showed signs of meningitis, both at the convexity and base of the brain, with minute tubercles and intimate adhesions between pia mater, arachnoid and surface of the brain. No tubercle bacilli could be demonstrated. The firmness of the adhesions, the degenerated condition of portions of the products of this change, as well as the failure to find the bacilli, indicate the long standing and practically healed meningitis. While death was due to pulmonary tuberculosis, the brain condition found, abundantly confirmed the diagnosis of tuberculous meningitis with recovery, made three years before.

A word concerning the treatment adopted by Dr. Janssen in this case. It consisted in ice to the head, poultices over the whole of the body to the neck, leeches to the nose, and large doses of potassium iodide, as high as 600 grains daily.

Prognosis in Phthisis.

JAMES E. POLLOCK. "Prognosis in Phthisis."—*The Practitioner*, April, 1896.

In a lecture delivered at the Hospital for Consumption, Brompton, early in this year, Dr. Pollock reviews the subject of phthisis from the prognostic standpoint and presents several points which, with advantage, may be briefly summarized here.

The progress of phthisis is influenced by two great classes of factors, viz. : (1) General ; (2) individual.

Under the class of general influences, he enumerates age, sex and heredity. The fatal age of phthisis is between twenty and thirty. After forty the cases are slow.

Male cases are generally longer than female cases. Those cases in which heredity plays a part occur early and terminate sooner, and again there is generally a uniform type of pulmonary tuberculosis among those upon whom the same hereditary influence acts.

The most important factors, however, are the local or individual factors. Under this heading he first discusses the subject of cavity formation and fibrous changes. The disease thus limited locally tends to great chronicity, and not only such cases, but even those presenting diffuse deposit of tubercle in the lung belong to the class of slowly progressing cases.

In such cases, of which the lecturer has observed upwards of 140, the deposit is unilateral, and the patients present none of the typical signs of the chest of phthisis in its movements and measurements.

They waste moderately and the temperature is usually low. The lung shows on examination the superficial situation of the tubercles and inflammatory exudations are wanting.

A third form of this disease, tending to run a prolonged course, is the basic form.

Among other prognostic elements, denoting unfavourable course, are continued high temperature as measure of lung irritation, with progressive waste and hæmoptysis.

Further, as favourable elements in prognosis are pauses in the disease, by change of the moist to the dry crepitation, with lower temperature and increase in flesh, and when such occur the time for change of climate has arrived, if it be otherwise indicated.

From 300 tabulated cases, Dr. Pollock shows that in cavity formation, in emphysematous lungs and in those with chronic diffuse deposit, the progress is slow, while cases with digital clubbing or cretaceous expectoration or fistula, belong also to the class of chronic phthisis, though generally terminating earlier than those of the first mentioned types.

Enteroptosis and Its Treatment.

C. SCHWERDT, of Gotha. "Enteroptose und intraabdominaler Druck." *Deutsche Medicinische Wochenschrift*, Nos. 4, 5 and 6, 1896.

MEINERT, of Dresden. "Ueber normale und pathologische Lage des Menschlichen Magens und ihren Nachweis."—*Centralblatt für Innere Medicin*, March 21 and 28, 1896.

FREDERICK TREVES. "The treatment of Glenard's disease by abdominal section."—*British Medical Journal*, Jan. 4, 1896.

Schwerdt's two main points in speaking of this disease are: (1.) That it is a constitutional disease, and (2) that it is due to diminished intra-abdominal pressure.

I. *It is a Constitutional Disease.*—Glenard was the first to describe this disease in 1885. He used the term to denote the sinking of the intestines, and apparently did not include the liver, kidney or spleen in his description. Ewald in 1890, with other observers, gave the term a broader meaning, making it to include a sinking of all the abdominal organs. Schwerdt, on a symptomatic and therapeutic basis, believes he is justified in speaking of enteroptosis in all cases where at least two of the abdominal organs are in a condition of ptosis, since the complaints and therapy in minor and major cases alike are so much the same.

With the term thus qualified, he describes numerous observations

during 1895. Of 95 cases which he reported, 89 were in women and 6 in men.

In 69 cases the stomach was displaced and atonic, while in 86 cases the right kidney was movable. In writing of the kidney in this condition he speaks of three classes :

- I. The kidney palpable at its lower end.
- II. The kidney palpable over its lower half.
- III. The wandering kidney.

The liver and spleen play but a rare part in this condition, though a few cases have been reported in which the liver was displaced or rotated on its horizontal axis ; while the displacements of the spleen are yet much rarer.

What are the clinical features of this disease ? Upon this point most writers are agreed.

Prominent in the picture of this yet rarely recognized condition are the dyspeptic symptoms, sense of fulness in epigastrium, nausea, eructations, vomiting, obstinate constipation, abdominal distension, colic, and in more marked cases pain in the back, polyuria, and often in cases yet further advanced pain in diaphragm, palpitation, dyspnoea, sleeplessness, mental depression, melancholia,—a clinical picture so often spoken of as “purely functional” or “neurasthenic,” but which may be referred, with some show of reason according to the observers mentioned above, to a condition of “anatomical changes” *existing and demonstrable*.

The essential element productive of this dislocation is, in the mind of Schwerdt, a lessened *intra-abdominal pressure* which has its origin in a lax atonic anterior abdominal wall. Such a condition exposes the hollow organs, otherwise supported, to the influence of gravity when filled with their normal contents, and one part after the other tends to fall, pulling other parts with it.

The ordinary movements of the body, and the accidental ones which occur, tend to aggravate the condition.

Peristaltic activity being lessened, products of decomposition act upon the mucous membranes or upon the general system after the manner of “auto-intoxication,” producing many nervous manifestations.

In his discussion of the ætiology Dr. Schwerdt says that the essence of the disease is to be sought for in the atonic and enervated condition of the nervous system. Active as causes of the condition he enumerates :

1. Heredity.
2. Methods of living.

3. All chronic diseases.
4. The corset.
5. Insufficient care during pregnancy and after.

From this the conclusion is drawn that it is purely a constitutional disease.

The effects of splanchno-ptosis or enteroptosis are sometimes manifest in a peculiar unnatural form of dyspncea,—deep inspiratory movement, which Dr. Schwerdt regards as due to the change of thoracic processes following on altered intra-abdominal pressure.

An unusually lax and atonic scrotum with dependent testicles is also suggestive of a corresponding condition of the organs internally.

The author *en passant* touches briefly on the subject of chlorosis, tuberculosis and hysteria in connection with enteroptosis.

Chlorosis occurred 25 times in the 95 cases.

That chlorosis may develop out of enteroptosis he holds as not unlikely, since the condition in the intestinal tract favors *auto-intoxication*.

In 15 cases, Dr. Schwerdt reports pulmonary disease. It is thought that the treatment, especially feeding, in pulmonary tuberculosis has much to do in causing this dislocation of organs.

The already relaxed abdominal organs are overloaded.

In 12 cases hysteria was found. Many cases suggest the existence of hysteria, but it is necessary to establish a diagnosis of such by other signs and symptoms.

II. *The diminished intra-abdominal pressure is the first and most important symptom of enteroptosis.*—The demonstration of the alteration of pressure has been made in many instances and sufficiently uniform results obtained warranting the above conclusions.

A description of the method adopted and a detailed account of results would take up too much space in this retrospect.

Four forms of intra-abdominal pressure are found to exist :

1. That due to tonicity of abdominal wall.
2. That due to tone of walls of the hollow organs.
3. The communicated pressure, greatest in lower part of the abdominal cavity, as in pregnancy, and in abdominal tumours.
4. The inflation tension, in ileus, etc.

The latter alone is distinctly pathological, while the other three may become so altered as to be so considered. From these observations Dr. Schwerdt lays down the principles of treatment. He deals with *prevention*, which should begin with the habits of the child, and especially the form of dress, in discussing which *corsets* are strongly forbidden. The period of pregnancy, so active as a cause in this disease, is to be carefully supervised.

When the nervous symptoms predominate, let these be treated—all forms of toxic measures—and protection against depressing influences of cold, in the northerly winter climate, is recommended. Of highest importance are those measures which are adapted for the purpose of directly raising the *constantly diminished intra-abdominal pressure*.

Massage and faradisation are of great use and much advantage may be gained from the use of the corset properly adjusted or a neatly fitting abdominal binder applied only so long as to enable the patient to go out into the fresh air and when partially restored in this way such supports should be discontinued, as they cannot be constantly worn without doing harm. Special attention is needed in taking moderate supplies of food, in evacuating the bowels regularly, in avoiding any fermentation or degenerative changes in the digestive tract.

Among drugs iron, quinine and strychnine hold first place.

The treatment of Glenard's disease is discussed from a surgical point of view by Mr. Treves in the article above named. The case illustrates several interesting points.

1. The disease may be in comparatively early life—a girl aged 22 years.

2. The progressiveness of the case notwithstanding all forms of treatment, and finally the use of a belt, which, from its extreme tightness, Mr. Treves condemned as positively dangerous.

3. The results of operation were most satisfactory.

4. The liver was found considerably displaced and the general ptosis was shown to be due to tuberculous gland disease with adhesions of the omentum and gradual dragging upon the stomach and colon.

Mr. Treves' finding in the case suggests another cause for this condition, in addition to those discussed.

Dr. Meinert discusses somewhat lengthily the subject of the position of the stomach and the various methods of demonstrating it. The most important points pronounced upon may be here enumerated.

The anatomist, the pathological anatomist and the clinician are unfortunately not in accord in determining what is normal and what is pathological in the position of the organ.

The position of the stomach is practically the same in both sexes at birth, *i. e.*, in a vertical position. Then a tendency to the "horizontal-oblique" position is manifest up to the age of four or six years. Thereafter the tendency on the part of females is generally to some degree of gastropptosis, while in males suffering from no deformity of the thorax it maintains the so-called normal position. A cause for this Dr. Meinert finds in the clothing of the females, the band about the waist bearing the weight of the garments, and the corset. That such

are causes appears from the facts (1) that females are in the great majority, 88 to 90 per cent.; (2) those girls whose garments are supported over the shoulders and who wear no corsets are practically never subjects of displacements; (3) those who live without clothing are said to be free from gastroptosis or enteroptosis.

The points to be established before concluding that the stomach is displaced are the position of the pylorus and the position of the lesser curvature. The alteration in position of these parts of the stomach is generally found associated, while the cardiac end is seldom, if ever, displaced.

According to the position of the stomach given by Luschka, that generally accepted in our text-books on anatomy, the stomach of the male is the normally situated one, while that of the female is exceptionally so found.

Many methods of determining these positions are discussed—sounds, electrical illumination, introduction of water, and the inflation of the organ. The method of inflation either by means of a tube and bulb apparatus or by the use of sodium bicarbonate and tartaric acid finds most favour with Dr. Meinert. In fact he regards it as the only means by which the exact diagnosis of the position of the stomach can be made during life. The other methods are regarded as inadequate, and, in the case of illumination, fallacious.

What is the cause of gastric displacements, as well as of those described under the term splanchnoptosis, the writer does not say with definiteness. The theory of Glenard seems most tenable—a weakness in the tissues which directly support the intestinal organs.

The above reviewed theory of Schwerdt is not accepted, the writer disposing of it in the statement, "The frequency with which visceral displacements downwards are met, even in cases presenting tense abdominal walls, is strictly against this teaching. It may be said, however, while the corset, the mode of life and dress may all produce that condition spoken of by Glenard, which undoubtedly must exist, it appears that Schwerdt has entered a little more deeply, at all events more theoretically, into the influence of these generally recognized causes, and has presented us with a theory which applies in the great majority of cases, at least according to the observations recorded

W. F. Hamilton.

Measles Complicated by Laryngeal Diphtheria.

PODACK. "Measles complicated by laryngeal diphtheria."—*Deutsch. Arch. Klin. Med.*, Bd. 56, 1 and 2.

After pointing out, by exhaustive references to the literature of the

subject, that true diphtheria is occasionally associated with scarlatina, variola, whooping cough, measles and other diseases, the author reports three new cases of measles in which signs of laryngeal stenosis developed. In all three cases he was able to prove the presence of diphtheria bacilli in the larynx by microscopical examination, cultures and inoculations in guinea pigs. In spite of numerous negative results by other observers, the author believes that membranous croup occurring in measles is almost invariably true diphtheria. Purulent otitis media developed in all three cases, and diphtheria bacilli were proved to be incontestably present in the pus along with streptococci and staphylococci. The absence of membrane in the ear renders it somewhat doubtful whether the otitis media was a direct result of diphtheria in two of the cases, but in the third a distinct membrane with numerous diphtheria bacilli was demonstrated at the autopsy. This case certainly proves the occasional occurrence of true diphtheria in the tympanum.

The cases are reported in great detail, and an extensive reference to the literature of the diphtheria bacillus is appended.

Vaso-motor Edemas Without Albuminuria.

TCHIRKOFF. "Vaso-moto edemas without albuminuria."—*Revue de Médecine*, August, 1895.

Tchirkoff, of Kiew, calls attention to cases of general anasarca in which albumen is absent from the urine.

The patients observed were all males from 25 to 60. The anasarca set in either rapidly or slowly, and involved the extremities, serous sacs, trunk and face, precisely like a renal dropsy. In the majority of cases (5 out of 7) there was distinct evidence of syphilis, and treatment with potassium iodide rapidly relieved the symptoms. In the first case cited various diuretics, digitalis, caffeine, failed completely, yet the disease yielded rapidly to iodide.

In one case marked dyspnoea and cyanosis due to the enormous collection of fluid set in, and it was found necessary to incise the scrotum to allow this fluid to drain off. After the escape of 10 litres of fluid the urgent symptoms passed off, only to reappear five days later. Iodide of potassium was then administered, when the oedema rapidly diminished and completely disappeared six weeks later.

Great care seems to have been taken in excluding cardiac, hepatic, renal and blood conditions as a possible cause of the cedema, and the evidence is very strong that general anasarca may form one of the protean manifestations of syphilis.

F. G. Finley.

Midwifery and Diseases of Infants.

After Effects of Symphysiotomy.

WOYER. "Kasuistischer Beitrag zur Symphyseotomiefrage."—*Centralblatt für Gynäkologie*, 25 Jan., 1896.

A remarkable case occurred in Prof. Schauta's wards (Vienna) which is interesting on account of recent discussions respecting the after-effects of symphysiotomy upon the pelvis. The patient, æt. 34, III-para, a strong, muscular, well-nourished woman, was admitted on the 5th of February, 1893, in labour. The pelvic measurements were as follows: sp. 27 cm., cr. 27, tr. 29½, c.d. 10½, c.v. (measured after Skutsch's method) 8 cm. The promontory projected strongly, the lower part of the sacrum pointing outwards and backwards. This was a typical simple flat rachitic pelvis with moderate contraction of the conjugate of the brim. The head remained above the inlet, notwithstanding strong labour pains; finally the membranes were ruptured and axis-traction forceps applied, but it was impossible to bring the head through the brim. Symphysiotomy was then performed and delivery easily effected. Convalescence was perfect and the patient was discharged on the sixteenth day. In the autumn of 1894 she became pregnant again and re-entered the hospital on 30th May, 1895. The pelvic measurements were larger than before, especially the antero-posterior, they were as follows: sp. 27½ cm., cr. 29½, tr. 33, c.d. 11¾, c.v. (after Skutsch) 8.9 cm. Labour terminated without artificial aid on 23rd July. The remarkable point in this case is the permanent alteration of the pelvis which remained after symphysiotomy. Not only were the measurements increased, but the very type of pelvis was changed from the simple flat rachitic with projecting promontory to the normal, through which a full-sized child was expelled by the natural efforts.

The Question of Puerperal Self-infection.

ROMME. "Des propriétés bactéricides des sécrétions vaginales chez les femmes enceintes."—*Archives de Gynécologie et de Tocologie*, February, 1896.

JEWETT. "The question of puerperal self-infection."—*American Gyn. and Obstet. Journal*, April, 1896.

Much confusion has arisen from the use of the unfortunate term

auto-infection. *Contact-infection* is universally admitted; a patient may be infected during labour or the puerperal period by infective matters introduced from without. But can she infect herself? Are there micro-organisms present primarily in her genital tract which are capable of infecting her during labour or the puerperal period, even though contact infection has been excluded? If a woman is liable to infect herself by means of micro-organisms which are pre-existent in her own vagina, can we ever be sure that a case of puerperal septicæmia is really due to the carelessness of physician or nurse? Such a doctrine would be a direct premium on carelessness, would paralyze honest effort and would retard the general adoption of strict antisepsis in obstetric practice. The term *auto-infection* is a misnomer and should be banished from obstetric literature, for primarily all infection comes from without, and the normal parturient woman does not harbor pathogenic micro-organisms in her genital tract. If there has been pre-existent ovarian abscess or salpingitis or a pus focus elsewhere in the pelvis, her condition is pathological at the time of labour and the course of the puerperium is not normal.

Dr. Jewett discusses the relation of pus-producing germs primarily present in the body of the pregnant woman to child-bed sepsis, and devotes attention chiefly to the vaginal secretion, since upon this hinges the practical points of treatment. Is the average parturient liable to infection from the bacterial contents of the vagina? Like other open body cavities the vagina may be invaded by pathogenic micro-organisms; the gynæcologist prepares the vaginal surface as carefully as he does the skin before operating. Should the obstetrician do the same? Opinions and practice vary. Essentially three different opinions are held in the profession:

1. That the vaginal secretion may infect whether healthy or diseased.
2. That only pathological secretions can infect.
3. That the vaginal bacteria, either in health or disease, have practically no part in the ætiology of child-bed fever.

The upholders of the first use disinfectant douches before and after labour as a routine practice. The second class douche only when the secretions are pathological, while the third class rarely use the douche at all.

After reviewing the opinions and practice of prominent Continental and American obstetricians, Dr. Jewett draws the following conclusions:

1. There is no clinical proof that puerperal infection can occur from normal vaginal secretions.

2. All child-bed infection in women previously healthy is by contact.

3. Prophylactic vaginal disinfection as a routine measure is unnecessary, and even in skilled hands is probably injurious.

4. Its general adoption in practice could scarcely fail to be mischievous.

5. In healthy puerperæ, delivered antiseptically, post-partum douching is also contra-indicated.

6. These rules must hold good in the simpler cases of manual or instrumental interference in which the uterus is not invaded.

7. A purulent vaginal secretion exposes the woman to puerperal infection.

8. In the presence of such discharges at the beginning of labour the vagina should be rendered as nearly sterile as possible.

9. Concentrated antiseptic solutions should not be used, and the process should be conducted with the least possible mechanical injury to the mucous surfaces.

10. In cases of highly infectious secretions the preliminary disinfection should be followed by douching at intervals of two or three hours during labour.

11. Sterilized glycerin, or other suitable material, may be used to restore the proper lubrication of the birth canal.

12. The safest and most efficient means for correcting vicious secretions is a mild antiseptic douche repeated once or more daily for several days during the last weeks of pregnancy.

13. It is the duty of the obstetrician to know before labour the amount and character of the vaginal discharge.

14. Clinically the amount of discharge, its gross appearance, and that of the mucous and adjacent cutaneous surfaces usually furnishes a sufficient guide to the treatment.

15. Probable unclean contact within 24 or 48 hours is an indication for prophylactic disinfection.

Romme reviews at length the investigations of Döderlein, Kroenig, Menge, Walthard and others, and refers to the results of the new treatment in which no vaginal examinations are made and no vaginal douches are given either before or after labour. Mermann in 1,200 normal labours conducted on this plan had a morbidity of 5 to 7 per cent. and a mortality of 0 per cent. In Dresden, in 1891, Leopold and Goldberg in 1,489 labours had a morbidity (by infection) of 8.34 per cent. and a mortality (by infection) of 0.4 per cent. More recently Leopold published the statistics of 1,382 labours conducted without vaginal injections with a morbidity of 0.65 per cent. and a mortality

of 0.07 per cent. Ferrata in 800 confinements had a morbidity of 4 per cent. and a mortality of 0.05 per cent.

Döderlein holds that virulent micro-organisms (especially streptococci) in the vagina are comparatively rare in pregnant women, and that in the immense majority of cases the vagina is relatively aseptic. He attributes the absence of pathogenic microbes to the presence of vaginal bacilli and the acid reaction of the secretions which result from their biological activity.

Kroenig attributes the destruction of pathogenic microbes to the action of the vaginal secretions and not to the vaginal bacteria. He finds that streptococci are killed rapidly, staphylococci less rapidly, and pyocyanic bacilli least rapidly of all. He holds that the vagina of a pregnant woman should be considered aseptic (free from pathogenic microbes) when three days have elapsed since the last vaginal examination.

Menge's conclusions in the main support those of Döderlein. He finds that the vagina rids itself of pathogenic microbes in a period of time varying from $2\frac{1}{2}$ to 70 hours.

Walthard finds the genital tract of pregnant women divisible into two parts; the lower part, containing microbes, includes the vestibule, the vagina and the lower portion of the cervical canal; the upper part, which is sterile, comprises the upper part of the cervical canal, the uterine cavity and the tubes. The cause of this sterile condition he attributes to the action of the mucous plug secreted by the cervical glands, which fills the cervix and is being constantly pushed out into the vagina by the formation of fresh mucus. This mucus is a poor culture medium. He also attributes to the vaginal secretions the power of determining an influx of leucocytes which attack and destroy the pathogenic microbes. He therefore condemns vaginal injections in normal labours where there is no traumatism and advises the limiting of vaginal examinations and the use of precautions to avoid carrying septic matters above the external os, *i.e.*, above nature's safety plug of cervical mucus.

Menge concludes that the causes of the bactericidal power of the vaginal secretions are multiple, and may be arranged in the following order according to their relative importance: (1) the antagonism between the ordinary vaginal bacteria and the microbes which accidentally penetrate within its cavity; (2) the products of activity of the vaginal bacilli; (3) the acidity of the secretions; (4) the properties of the secretions from the anatomical elements of the vagina; (5) leucocytosis with or without phagocytosis; (6) the absence of free oxygen in the vagina.

Although the opinions of eminent obstetricians are thus somewhat at variance, it is perhaps safe for us to conclude that in the present state of our knowledge, a healthy parturient may be considered safe from septic infection and does not need vaginal douching either before or after labour, provided contact infection can be excluded. But if there is a pathological vaginal discharge, or the vaginal secretions are neutral or alkaline, repeated vaginal douches with a mild antiseptic should be given before, during and after labour and during the puerperal period. Vaginal examinations should be few, the hand should not be passed into the uterus unless it is absolutely necessary to do so, and the greatest care should be taken to avoid contact infection by scrupulous cleansing of hands, instruments, dressings and everything which is brought in contact with the genital tract.

The Action of Anæsthetics During Child-birth.

BUKOËMSKY (St. Petersburg). "Ueber Anæsthesirung durch Aether- und Chloroform-Inhalation bei normalen Geburten."—*Monatschrift für Geburtshülfe und Gynäkologie*, March, 1896.

The questions of anæsthesia and the choice of anæsthetics in obstetric practice are of great interest. Chloroform and ether are both employed. What are the advantages, disadvantages and indications of each? Many observers have studied the action of chloroform, but comparatively little has been done for ether. Bukoëmsky carried out a series of experiments to determine whether ether or chloroform render labour painless and why they do so, what effect they have upon the contractile power of the uterus, upon the strength and frequency of the pains and the interval between them, upon the dilatation of the os, and the abdominal pressure. He looked also for irritative symptoms due to ether and chloroform, examining their action upon the kidneys, respiratory function, pulse, temperature and general condition. In the puerperal period he examined the loss of blood, the involution of the uterus, the lochia and the secretion of milk, and finally noted the effects on the child and the frequency and degree of *icterus neonatorum*. The following conclusions are drawn:

Ether.—Ether undoubtedly diminishes the painfulness of uterine contractions in all cases and generally makes painless the actual birth of the child. Its anæsthetic effect is most marked during the expulsion period, if the patient has been already partially under its influence. It does not prolong labour, but on the contrary seems to shorten it about one hour in primiparæ. It *increases* the force of the uterine contractions, as shown by the toko-dynamometer. It does not lessen the length of the pains, but shortens the intervals between them. In

a few cases there were irritative symptoms at the beginning of its administration, but they soon disappeared. The course of the puerperal period is remarkably favourable after ether; in primiparæ and deutiparæ the lochia became serous sooner, involution began earlier and proceeded more rapidly than without ether. In multiparæ serous lochia appeared a day or two later. Hæmorrhage did not occur in any case. The general comfort of the patient was not lessened and there was no respiratory trouble, in fact there seemed to be no noteworthy effect upon pulse, temperature or respiration. The swelling of the breasts was less in some cases and the establishment of the milk occurred later. The general effect on the secretion of milk was not unfavourable; in some cases the quantity seemed to be increased. Even in larger doses ether had no unfavourable effect on the fœtus, which was in no case dull or narcotized when born. Icterus was less common and severe and the loss of weight was less during the first week. The best time for the administration of ether seemed to be when the os was dilated to the width of three finger-breadths; it seemed to have no effect upon the early dilation of the os.

Chloroform.—Small doses do not diminish the contractile power of the uterus. In the majority of cases examined the pains were shortened eight seconds, but in a few they were lengthened eight seconds. The intervals between the pains were generally lengthened 13 to 49 seconds. Although chloroform generally protracts labour somewhat, it seems to have no ill effect on the mother when given in small doses. It is pleasanter than ether, but in a few cases slight irritative symptoms were noticed at the commencement of chloroform-narcosis. It had no unfavourable effect upon the puerperal period, and in no case did hæmorrhage occur when it was used in small doses. The children seemed unaffected by it, and a mild icterus occurred in about half the cases. The best time for administration is the same as for ether.

In comparing the action of ether and chloroform it seems that ether is generally preferable, because it has less toxic effect upon the organism and does not produce such ill effects as chloroform if it has to be given in a relatively large quantity or for a length of time. Moreover, it shortens labour and has a more favourable effect upon the puerperal period and upon the fœtus. As most of these patients were delivered at night, and a common coal-oil lamp was used in the room, there need be no fear of ether taking fire or exploding if ordinary precautions are used.

From these observations it seems clear that either anæsthetic may be used in ordinary cases of labour, if given carefully and in small doses, without injuring mother or child and without causing hæmor-

rhage during the puerperal period. It is equally certain that chloroform may predispose to hæmorrhage and injure both mother and child if given in too large doses or for too long a time. Chloroform should be selected when complete relaxation of the soft parts is required or when there is much spasm to overcome. Ether is preferable when deep anæsthesia has to be maintained for some time, or when there is severe cardiac trouble, or when some operation has to be done after the conclusion of labor, such as the repair of perineal laceration or the removal of an adherent placenta. When chloroform has been given for some length of time during labour, the child is apt to be lethargic when born and does not begin to cry without considerable stimulation.

J. C. Cameron.

Pharmacology and Therapeutics.

The Serum Therapeutics of Malignant Tumours.

LE DENTU. "Toxithérapie et serothérapie des tumeurs malignes."
—*Gazette des Hôpitaux*, No. 17, February 8, 1896.

COLEY. "Treatment of inoperable malignant tumours with the toxins of erysipelas and the bacillus prodigiosus."—*The American Journal of the Medical Sciences*, July, 1894.

At the present time there is doubtless no subject which is exciting keener interest in the medical world than that of the serum therapy of disease. While this method has not so far been attended by success in every case, yet its wonderful efficacy in the treatment of certain diseases, notably diphtheria, is such as to lead one to anticipate equally brilliant results in dealing with other maladies which hitherto have baffled medical science and skill. It is not surprising, then, that some observers should have attempted to follow this method of treatment to control one of the deadliest foes which the medical profession is called upon to face, and while it would be premature to assume too much from the results of the investigations which have been made, yet there is evidence to show that the subject is one well worthy of further study and research.

So far observers have conducted their investigations upon two very different principles. Basing themselves upon the markedly good results known to occasionally occur from an attack of erysipelas, a certain number have essayed to modify the course of the malignant new growth by producing an attack of this disease. Others have followed the principle of serum therapy proper, *i. e.*, that of opposing a micro-organism or its virus to itself. Unfortunately for the latter school the micro-organism of cancer, supposing it to exist, is so far unknown. To overcome this difficulty they have utilized the fluid obtained by the maceration of a cancerous tumour in sterilised water to immunise certain of the lower animals, and the serum obtained subsequently from these has been the therapeutic fluid employed.

Here the methods employed have been: 1, Inoculation of the living streptococcus; 2, inoculation of the filtered medium of streptococcus cultures; 3, inoculation of a combination of filtered media of streptococcus and *m. prodigiosus*; 4, the injection of the serum of animals inoculated with erysipelas; 5, serum therapy with cancerous serum.

The recorded cases of the cure or the amelioration of malignant new growths by the occurrence of an intercurrent attack of erysipelas have been collected by Bruns in Germany and by Répin in France, and Le Dentu in the paper above quoted has analysed these and other cases. Bruns reports the cure of three sarcomata, two lympho-sarcomata and one melanotic sarcoma of the breast. Répin's records include twenty-one cases, of which eleven were sarcomata of different varieties and ten, epithelial growths. Six cases are reported as being permanently cured, all being sarcomata. Among those who have noted similarly beneficial results may be mentioned Coley, who observed the disappearance of a submaxillary sarcoma, Wyeth, the cure of a sarcoma of the thigh, Biedert, that of a sarcoma of the tonsil and Busch the cure of multiple sarcomata of the skin. Plenio records the same good result in a case of melanotic sarcoma of the hip. A specific action on the part of the streptococcus of erysipelas, however, is not to be inferred from these cases, for Fischer has shown the good effects resulting from an attack of scarlet fever, typhoid fever, cholera or pyæmia. Again, malignant growths are not alone in reacting to the above diseases, for Ricord and Mauriac have observed similar results in cases of syphilis, and in tuberculous adenitis, lupus, nasal polypi and cicatricial cheloid. Why tuberculous adenitis and lupus should be affected in this manner is difficult of comprehension.

The discovery in 1881 of the streptococcus of erysipelas by Fehleisen led to the inoculation of malignant tumours with cultures of the micro-organism itself, but four fatal cases observed by Coley (2), Jänike and Feichenfeld showed the danger incurred by this method. Lassar, of Berlin, in 1891, was the first to employ inoculations of the sterilized toxine of the streptococcus, and Coley, of New York, as the result of the observations of H. Roger upon the increased virulence of certain bacteria when associated with the micrococcus prodigiosus, succeeded in combining the toxins of the streptococcus and *m. prodigiosus* in definite proportions so as to obtain more certain results than those which occurred from the use of the former alone.

While these investigators confined themselves to the inoculation of the tumour mass with the streptococcus itself, Emmerich and Scholl advanced a step farther. Having injected a living culture of the streptococcus into the cellular tissue of a sheep, the blood was collected shortly before the animal's death, the serum separated from the plasma, filtered and injected into the neoplasm in definite quantities for a series of days. The experiments of Bruns and Schuler were made upon similar lines.

The method followed by Maydl and Kopfstein is somewhat the

same. On the fourth day after the inoculation of a sheep with the streptococcus the blood is drawn, allowed to stand for 48 hours, and then filtered, one portion being filtered twice, the virulence of the latter being greatly reduced by this means.

A method more closely allied to serum therapy proper has been followed in the investigations of Richet and Héricourt. The fluid obtained by the maceration of a cancerous tumour with a little water is injected into an ass, and the injections are continued for a number of days until the animal is supposed to have been rendered immune. The serum obtained from this animal is then utilized in the treatment of the malignant growth.

The seat of injection has varied with different observers. Some inject the serum into the neoplasm itself, others in the immediate neighbourhood of the growth, and a few have confined their injections to distant parts of the body. Répin alone has dared to give intravenous injections. The dose employed has also differed widely. The injections are continued for weeks, or even months, and in increasing quantities.

The effects of the injections vary. When injections of the sterilized toxine of the streptococcus are used no constitutional effect may result, but a marked reaction invariably follows the injection of the mixed toxins of the streptococcus and *m. prodigiosus*. Some of these effects are: a rise in temperature, which may reach 40° C., preceded by chills, nausea, headache and vertigo; occasionally suffocative attacks and cardiac pain, and more rarely grave results, as collapse, syncope and cyanosis. These disturbances gradually diminish as the treatment is continued. An abundant leucocytosis is constantly observed, as well as a rapid loss in weight.

The local effects resemble those produced by an attack of erysipelas. If the tumour be non-ulcerated, and particularly if a living culture of the streptococcus has been employed, it becomes oedematous, softens and atrophies in a variable degree. When ulceration has occurred the ulcerated portions are soon thrown off after having undergone softening, disintegration and necrosis. Complete mortification of a tumour has been observed six times, in two epithelial cancers, two lympho-sarcomata, one mixed sarcoma and one endothelioma.

The marked reaction resulting from these injections in a certain number of cases has naturally led to an enquiry into the nature and cause of the diminution in size of the tumour. Petersen refers the changes observed to the high temperatures which follow the injections. As fever alone has not been noticed to affect malignant tumours in this manner, it can hardly be accepted as the explanation of the

phenomenon. Coley, Emmerich and Scholl attribute the amelioration to a direct parasiticide action of the injections thereby implying a subject which is *adhuc sub judice*. Répin considers it the microbic origin of cancer the result of a cellular degeneration similar to that caused by arsenic and phosphorus, a view which is borne out by the histological examination of the affected tumours.

The theory of the specific action of the cultures and toxins is also open to objection. On the one hand we find definite results following the use of a living culture of the streptococcus, and also of the toxins of the streptococcus and *m. prodigiosus*; on the other hand we find corresponding results following Richet and Héricourt of employing cancer serum. The injections cannot be regarded as being specific for it is more than unlikely that methods which differ so widely should be followed by results which in so many respects are similar. If the injections act upon certain cells which are common to all tumour masses, how is it possible that they should act upon the specific cells of each variety of tumour, *e.g.*, those of the sarcomata and of the epitheliomata? The one cause being capable of acting directly upon the specific cells of the sarcomata and epitheliomata, we would be driven to admit of a close relationship between the two. It is more reasonable to conclude that either the connective tissue is principally affected, or again the migrated leucocytes, both of which enter into the formation of tumour masses. This opinion has been championed by Fabre-Domergue, who advanced it at a séance of the Société de Biologie. At the same time the changes in the cellular elements proper, studied by Busch and Neelsin, must be borne in mind, but they are to be interpreted merely as a necrobiosis, without any definitely specific action being attributed to the modifying agent.

The clinical records of the cases treated vary somewhat. Fehleisen, using an injection of a living culture of the streptococcus, caused an attack of erysipelas in five cases. In four of these he observed a temporary atrophy of the neoplasm, and in the fifth case, a carcinoma of the breast, he reports a complete cure. Coley, employing streptococcus cultures, out of ten inoculations, was successful in producing an attack of erysipelas in four cases. In two of these he records the complete and rapid disappearance of the tumour, while the remaining two showed a considerable decrease in size.

Spronck in his investigations studied the effects of the treatment in eight sarcomata, two of which were melanotic, and in seventeen inoperable epitheliomata. Some retardation in the rapidity of growth and occasionally a diminution in size were observed.

Coley, employing his injections of the combined toxins of the

streptococcus and micrococcus prodigiosus, observed thirty-five cases of malignant inoperable tumour treated in this manner. Of this number twenty-four cases were sarcomata, eight were epitheliomata and three were either sarcoma or carcinoma. Among the twenty-four cases of sarcoma treated, in four there is hope of a permanent cure, from fourteen months to three months having elapsed since the treatment was discontinued. The tumour has either disappeared completely or any part of it which persists remains dormant. In addition to these cases nine others showed marked improvement, eight slight temporary improvement, while in two the injections had no apparent effect. Of these two one was an osteo-sarcoma of rapid growth and the other an extensive sarcoma of the contents of the abdomen and pelvis, occurring in a weak and emaciated patient. The cases of carcinoma proved more refractory to treatment. In none of the eight cases did the tumour disappear, yet a very marked improvement was seen in the most unpromising cases. Dr. Coley has found the osteo-sarcomata the least susceptible to the influence of the toxines.

An important point in the preparation of the toxines is that cultures obtained from any but a virulent case of erysipelas are of little value. All the successful cases were treated with toxines from cultures taken from a fatal case of erysipelas. Cultures obtained from mild cases were, as a rule, ineffectual.

Johnson observed the rapid disappearance of an ulcerated tumour of the soft palate, the pillars of the fauces and the epiglottis, but a suspicious nodule remained from which the growth again spread.

Friedrich treated thirteen carcinomata, four sarcomata, one osteo-sarcoma and two lympho-sarcomata. He observed no cure, but found that occasionally the patient experienced some amelioration in the subjective symptoms.

Roberts, Czerny, Lowenstein and Répin, using either the sterilized toxine of the streptococcus alone or in combination with that of the micrococcus prodigiosus, give negative results.

Emmerich, following his own method of treatment, reports eight cases, of which six showed a rapid amelioration, while two remained unaltered. Bruus was unsuccessful in six cases, but in marked contrast to these, Schuler has described the case of a carcinoma of the breast which was cured within a few days. It would be interesting to learn whether this cure has been permanent or not. Czerny treated a large sarcoma of the ear and surrounding parts and noticed a great reduction in its size, but a nodule remained. The complete cure of an intra-peritoneal sarcoma in a child of 12 is recorded by Mynter, and

DeWitt saw a similar result in a case of sarcoma of the abdominal wall, a part of which it was impossible to remove by operative measures.

Coming now to the results of serum therapy proper, as practised by MM. Richet and Héricourt, we find that they have employed their method in more than fifty cases of malignant growth. They note the following results: Diminution in pain, sometimes immediately following the first injection; rapid amelioration of the ulcerated portions which tend to cicatrize; reduction in the size of the tumour and of the involved glands; slowing in the growth of the neoplasm and a general improvement in health. Four-fifths of their cases benefited from these local and constitutional effects; one-fifth remained unaffected. They record no cure.

Up to the present, as a study of the above cases shows, the results of anti-cancerous injections are somewhat conflicting. The cases which are reported as being cured are few in number, yet these cases, taken in conjunction with the marked amelioration observed so frequently, must be considered as a decided step in advance in the treatment of malignant tumours. The serious constitutional disturbances mentioned, however, as well as the occasional formation of abscesses at the site of inoculation, show that the injections are not unaccompanied by a certain amount of risk. It has been noticed also, in certain cases, that a distinct aggravation in the malignancy of the tumour has followed upon the methods described.

E. J. Semple.

Pathology.

The Bubonic Plague.

KITASATO. "The bacillus of the bubonic plague."—*Lancet*, II., 1894, pp. 325 and 428.

YERSIN. "La peste bubonique à Hong Kong."—*Annales de l'Institut Pasteur*, VIII., 1894, p. 662.

LOWSON. "Notes on the plague in China."—*Lancet*, II., 1895, p. 199.

LOWSON. "The epidemic of bubonic plague in 1894."—Medical report, Hong Kong, Noronha & Co., 1895.

AOYAMA. "Mitteilungen über die Pestepidemie im Jahre 1894 in Hong Kong." *Mittheilungen der Med. Fak. der k. Japanischen Univ. zu Tokio*, III., 1895, No. 2. (Abstracted *Ctbl. f. Bakt.*, XIX., 1896, p. 481.)

In his History of epidemics in Great Britain Creighton lays not a little stress upon the succession of pestilences, pointing out how one appears upon the field, causes terrible devastation during a series of years and then, dying down, gives place to another. We have for example the sweating sickness, which came in the 15th and disappeared in the 16th century, or to give a more familiar example, cholera which first appeared in Europe shortly before 1830 and now with each return appears to be capable of less and less advance. Syphilis again, although evidently in existence before the close of the 15th century, suddenly appeared, in 1494, in a most fatal and truly epidemic form, became mitigated within 30 years and, though still capable of inducing a hideous series of sequelæ, would seem to be steadily, if slowly, assuming characters of a milder type. While there is much to be adduced in support of this succession, the stress that has been laid upon it by sundry anti-vaccinators as explained by the sudden and remarkable diminution in smallpox mortality at the beginning of this century is wholly unjustifiable. Nor if there be such a succession, does its existence imply that of necessity diseases die out and are replaced by others. While it is not always easy to trace the continued existence of any given disease between its epidemic manifestations, we have evidence in connection with several that

in certain regions they remain endemic. The endemic nature of cholera in India is well known to all, and in the case of one great pestilential fever, the sweating sickness, extinct for centuries, as an epidemic, Creighton himself, following Hirsch, points out that it still lingers in a mild form in the valley of the Seine—as the Picardy sickness.

The bubonic plague, although it has not invaded Europe since the Marsailles epidemic in 1720, is known to be endemic in more than one region of the East, notably in sundry villages of the great Arabian plateau. This pestilence, indeed, furnishes the most striking example that we possess of constancy of a disease and adherence to type. It is the disease having the longest record.

According to a recent leader in the *Lancet* Thucydides' vivid picture of the pestilence occurring during the siege of Athens in 430 B. C. is held by some to be the earliest recorded example. Thucydides himself was attacked and undoubtedly he writes with authority. He writes to the intent that "anyone who knows (the symptoms) beforehand may recognize the disorder should it ever reappear." But the symptoms given by him cannot be said to coincide with those of the bubonic plague; the duration alone is too long, and there is no emphasis laid upon the development of buboes. His description might be that of a peculiarly malignant influenza with premonitory redness and inflammation of the eyes, violent headache, sneezing, hoarseness and chest and throat disturbances, or taking into account the skin complications, might, as Dr. Wyatt Johnston has suggested to me, apply to the appearance of measles in a community hitherto unaffected by that disease; but it is not that of bubonic plague.

Nevertheless our records of the bubonic plague stretch back into yet more remote antiquity. I remember discussing this very subject of succession of disease—apropos of Creighton's work, then just published—with one of most learned and truest of men, the late Robertson Smith. It has been said of a well-known English man of science that not only was he the editor of *Nature*, but he appeared to consider himself the author thereof. Of Robertson Smith it might be declared that he was not simply the editor of the *Encyclopædia Britannica*, but was in himself a universal encyclopædia. From the constitution of the family in ancient Egypt, through higher mathematics and the fauna of the Malay archipelago, down to the latest theories upon the nature of pernicious anæmia and the most scientific method of keeping tobacco, there were few subjects upon which he did not show himself more than abreast of the times. And while discoursing upon

this matter he pointed out to me that the curious history of the return of the Ark by the Philistines¹ is clearly connected with an outbreak of a plague which was probably bubonic.

It may seem a long digression,

— A far cry from Hong Kong to Beth-shemesh.—

but I believe that Robertson Smith published no note upon the matter, and I myself have never referred to it in print, hence it may not be inopportune to indicate briefly the evidence supporting this view that the plague broke out among the Philistines rather more than 1,100 years B.C., or about 3,000 years ago. The general statement is that there is no record of the true plague in Holy Writ.

After the Ark had been brought to Ashdod and placed in the temple of Dagon and Dagon had fallen upon his face to the earth and "only the stump of Dagon was left to him," we are told that "the hand of the Lord was heavy upon them of Ashdod, and He destroyed them and smote them with emerods, even Ashdod and the courts thereof." Whereat, after a council of the lords of the Philistines, the Ark was carried about unto Gath, and thereupon this second city was visited with a very great destruction, and the men of this city, both small and great, were smitten so that very many died, and "they had emerods in their secret parts." Therefore they sent the Ark of God to Ekron, and forthwith "there was a deadly destruction throughout all the city . . . and the men that died not were smitten with emerods." Thus at the end of seven months the priests and the diviners advised that to stay the destruction the Ark be sent away, *not empty, but with a trespass offering*. "Then shall ye be healed." And the priests and diviners ordered that the trespass offering should take the form of *five golden emerods and five golden mice*, according to the number of the lords of the Philistines, "for one plague was on you all and on your lords." And thus, according to the well-known old history, the Ark and the coffer with the golden jewels—the mice and the emerods—were placed upon a new cart and drawn by the two milch kine that had never known a yoke, and un-urged by man the kine took the straight way into Israelitish territory, to Beth-shemesh, lowing as they went, and crossing the border were offered as a burnt sacrifice by Joshua the Beth-shemite, the cart being broken for the burning, and the Ark being placed upon the great stone of Abel. And there was great rejoicing at the return of the Ark. But now, "because they looked into the Ark of the Lord," the

¹ I. Samuel, cap. 5-6.

people of Beth-shemesh were smitten with great slaughter, fifty thousand three-score and ten dying.¹

There could scarce be a more vivid picture of the advance of a plague from town to town, or the conveyance of infection across the border from the one people to the other. The especial interest here, as showing the nature of the plague, centres around the trespass offerings. Evidently, as Robertson Smith pointed out, the disease was associated with the development of characteristic swellings, "tumours" as he and his fellow revisers expressed it in the Revised version, which could be modelled in gold and most probably the "emerods in the secret parts" were buboes—lymph glands enlarged to the size of a walnut or a hen's egg and of a livid colour—characteristic of the bubonic plague. By sending the golden emerods away as a trespass offering, the ark the priests and diviners hoped that the disease also would pass from their coasts.² But, said Robertson Smith, the meaning of the golden mice has always been an enigma. By good fortune I was able to point out to him that the mice afforded the requisite proof of the correctness of his theory. If the development of buboes is that which in man differentiates the true plague from other epidemic visitations, a feature equally characteristic is the behaviour of small ruminants at the onset of an epidemic. From all parts of the world we receive the same record, namely, that suddenly the rats and mice and such small deer leave their holes, and careless of surrounding human beings, or unconscious, die on the floor. Thus in 1603 Thomas Lodge, writing of the great outbreak of the plague in England, states that "rats, moles and other creatures (accustomed to live underground) forsook their holes and habitations," and in the epidemic in Northern India in 1838 we learn that the inhabitants of any house in the Marwar district instantly quitted it upon seeing a dead rat.

¹ From the time of Josephus onwards there had been much discussion concerning the fifty thousand three score and ten—or as it is written in the Septuagint three score and ten and fifty thousand. Beth-shemesh was only a small village, hence it may be that the fifty thousand is an insertion by a later scribe, and this is the generally accepted opinion. It might, however, well be that the number gives the mortality not in Beth-shemesh alone, but throughout the land of Israel. I may here add that since this article went to press, I have in one of the best recent Bible Dictionaries (not edited by Dr. Fairbairn) found a passage indicating that other modern authorities have regarded the emerods as buboes, and the plague among the Philistines as the bubonic plague. I have, however, found no references to the mice that were at all to the point.

² The idea underlying this trespass offering was closely paralleled in mediæval times by the modelling of the person of an enemy in wax and transfixing the image with pins so that thereby the original might similarly be pierced by misfortune and die, and is extant even at the present day, as witness the strange collections of models of all kinds at St. Anne de Beaupré and other pilgrimage resorts throughout the world.

According to Yersin, J. N. Radcliffe and Pichon describing the disease in Yunnan, draw especial attention to the deaths of both mice and rats at the commencement of the epidemic, while Kitasato refers to the death of mice at Hong Kong. As Dr. Lawson remarks in his Hong Kong report, "the statement that the death of rats generally precedes the epidemic—although generally true—is only dependent on the fact that rats and other small animals are peculiarly liable to be infected and have a very short incubation period of the disease. Their habits and residence also conduce to their early affection after the disease has been introduced." In connection with no other epidemic have we this remarkable feature. Thus the "golden mice," coupled with the euerods, afford convincing proof of the existence of bubonic plague among the Philistines.

The Hong Kong epidemic of 1894 has gained for itself a place in medical history, from the fact that during its course the bacillus of the plague was discovered first by Kitasato, and independently, after a very brief interval by Yersin, while Lawson and Aoyama have given us the fullest studies yet made of the clinical features and pathological anatomy of the disease.

We have little or no accurate information concerning the plague in China in early times. It is true that mediæval writers ascribed the origin of the terrible Black death (hæmorrhagic plague) to China, but apparently without full cause. It has, however, been known to be endemic in one of the southern provinces—Yunnan—for more than twenty years, as also at Pakhoi, on the southern coast. Early in 1894 it appeared at Canton, causing the death of more than 60,000 individuals in the course of a few weeks. Hong Kong, situated as it is at the mouth of the Canton river, and having a population in the main Chinese (about 150,000 out of a total of 163,000) became infected, most probably from Canton, and, at the latest, early in May. In June the disease was at its height, and it continued through the next two months. After August cases were few and far between. Altogether, according to Lawson's statistics, which confessedly do not include all the Chinese cases, more than 2,600 persons were admitted to the hospitals, of whom 2,485 died—an appalling mortality of more than 93 per cent. The Chinese were in the main affected. The mortality among the Japanese (10 cases) was 60 per cent. Among Europeans (11 cases) 18.2 per cent. How many Chinese died unrecorded in their quarter of the town will never be known. Aoyama himself suffered severely from the disease and Lawson gives a full report of his case.

The disease possessed all the typical characters—numerous dead

rats and mice encumbered the infected quarters. After an incubation period of 3 to 9 days, the infected individual became the prey of a sudden intense fever, accompanied often by delirium, but without noticeable rigor. From the first day of the fever a bubo was noticeable, at first in general solitary, later other glands, situated more centrally, became enlarged. In some of the severest cases death occurred before the bubo had time to develop; in such there were frequent subcutaneous and submucous hæmorrhages, recalling the Black Death. In 75 per cent. of the cases (Yersin) the bubo was of the nature of an "emerod in the secret parts" being situated in the inguinal region, more correctly in the femoral chain; the axillary glands were the next most frequent seat of primary enlargement. The swollen glands attained the size of a hen's egg. Aoyama points out that all the Japanese patients had axillary buboes, and from this fact, and from the centripetal extension of the glandular enlargement, he concludes that infection is most often through wounds of the extremities, the Chinese going barefoot, the Japanese being booted. Lawson, however, points out that all the men of the Shropshire regiment infected had femoral or inguinal buboes, and yet they were well booted—a fact which throws some doubt upon the theory of the Japanese professor. Everything, however, points to the disease being of the nature of a soil infection rather than conveyed by water, and Aoyama's theory fits in best with the fact that in most cases the disease first manifests itself in a solitary peripheral gland. Inasmuch as necropsies in some cases demonstrated the primary affection of abdominal glands, the possibility of intestinal infection must also be acknowledged.

Death occurred at the end of 48 hours, frequently sooner. If the disease continued for 5 or 6 days the prognosis was hopeful. In such cases the tense buboes became softened and suppurative and relief was obtained by operative discharge of the pus.

At autopsies performed upon those dying from this disease the swollen glands were found to swarm with minute bacilli. These bacilli resemble those found in the hæmorrhagic septicæmias of the lower animals—the bacilli of chicken cholera for example—staining more deeply at the poles, so that when not deeply stained they appear to be diplococci. They decolorise by Gram's method and grow easily in various media. In preparations made from the tissues they frequently appear as though surrounded by a capsule; grown in broth they often form short chains, and indeed the appearance of broth cultures resemble those of the streptococcus pyogenes. Mice, rabbits and guinea pigs inoculated either with material from the infected

corpse or with pure cultures die in from one to four days. Pigeons are unaffected. The bacilli are to be found in the blood and spleen, though not in such numbers, as in the huboes. Preserved in dried films at 28° to 30° C. they die in four days or so. The action of direct sunlight killed them in a few hours.

In mice and other small animals the main features discovered at the necropsy are the development of a reddened œdema at the point of inoculation, swelling of the nearest lymph gland or glands with profusion of bacilli, congestion of the kidneys and suprarenals and great swelling of the spleen. In man, as shown by Lowson and Aoyama, the chief anatomical changes are very similar, namely, enlargement of one or more lymphatic glands, due to multiplication of lymphoid cells, surrounding reddened gelatinous œdema, some enlargement with softening of the spleen, increase in the number of white corpuscles in the blood. The liver and kidneys are congested, with parenchymatous degeneration.

There can therefore be no doubt that the causative agent of the bubonic plague has been discovered.

In general the descriptions given of the plague contain no reference to infection of cattle; but in Yunnan the destruction of these animals has been a distinctive feature, and Yersin determined the presence of the bacillus in cattle in a most virulent form. Lowson failed to obtain more than local results upon inoculating cattle and pigs, and suggests that the cattle suffer from a disease common in Yunnan and due to a similar microbe, namely, the Rinderpest.¹

J. G. Adami.

¹ An account of the microbe of Oriental Rinderpest is given in the *British Medical Journal* of May 16th. Dr. W. J. Simpson's description, so far as it goes, strengthens this suggestion of Dr. Lowson.

Reviews and Notices of Books.

The Treatment of Pulmonary Consumption. A Practical Manual. By V. D. HARRIS, M.D., Physician to the City of London Hospital for Diseases of the Chest, Victoria Park, and E. C. BEALE, M.B., Physician to the City of London Hospital for Diseases of the Chest, Victoria Park. London: H. K. Lewis, 136 Gower street. 1895.

This volume is one of the very valuable series of manuals published by Lewis, of London. It deals exhaustively with the entire subject of the treatment of pulmonary consumption.

The authors, from their extensive experience with this disease, are well qualified for the task they have undertaken. The chapters on the climatic treatment and on the management of the complications are especially well and carefully written. J. S.

Physical and Natural Therapeutics. The Remedial uses of Atmospheric Pressure, Climate, Heat and Cold, Hydrotherapeutic Measures, Mineral Waters and Electricity. By GEORGES HAYMÉN, M.D., Professor of Clinical Medicine in the Faculty of Medicine of Paris. Edited by H. C. Hawkins. Philadelphia: Lea Bros. & Co.

We welcome the translation into English of this standard work in French on General Therapeutics.

Prof. Haymèn has been for years connected with the Paris Faculty, where he held the chair of general therapeutics previous to assuming that of clinical medicine.

The translator and editor has increased considerably the value of the volume by the judicious addition of certain practical subjects not fully dealt with in the original. J. S.

The International Medical Annual and Practitioner's Index.

A work of reference for Medical Practitioners. 1896. Fourteenth Year. New York: E. B. Treat, 5 Cooper Union. Price, \$2.75.

We gladly welcome this work. It is in many respects one of great usefulness to the busy practitioner. In addition to a concise *resumé* of the important advances of the past year, it contains several articles on special subjects, all of which are of great value.

The chapters on Malarial Poisoning; Neuralgia of Dental Origin; Remedial Value of Cycling; Sensory Disturbance of Sensory Nerve Roots; Angio Neuroses; Life Assurance, are alone worth the price charged for the volume. J. S.

A Treatise on Nervous and Mental Diseases. By LANDON CARTER GRAY, M.D., Professor of Diseases of the Mind and Nervous Diseases in the New York Polyclinic. New (2nd) Edition. 172 Engravings and Three Coloured Plates. Philadelphia: Lea Bros. & Co. 1895.

The second edition is a very considerable improvement on the first. The introductory chapters have been entirely rewritten to conform with the recent development in the finer anatomy of the central nervous system. The illustrations of this part of the work are particularly good.

While many of the chapters devoted to the special diseases of the nervous system are fully abreast of modern teaching, a few will be found to be lacking. We would especially call the attention to the one on the progressive muscular atrophies. The myopathies and myelopathies are mingled together in a mass of confusion, and appear as if they might have been written a quarter of a century ago.

The work concludes with a short and clear account of the more common forms of insanity.

J. S.

Diagnosis and Treatment of Diseases of the Rectum, Anus and Contiguous Textures. Designed for Practitioners and Students. By S. G. GANT, M.D., Professor of Diseases of the Rectum and Anus, University and Women's Medical College; Lecturer on Intestinal Diseases in the Scarritt Training-School for Nurses; Rectal and Anal Surgeon to All-Saints, German, Scarritt's Hospital for Women, and Kansas City, Fort Scott, and Memphis Railroad Hospitals, to East-Side Free Dispensary, and to Children's and Orphan's Home, Kansas City, Mo.; Member of the American Medical Association, National Association of Railway Surgeons, the Mississippi Valley Medical, the Missouri Valley Medical, and the Missouri and Kansas State Medical Associations, etc., etc. With two chapters on "Cancer" and "Colotomy" by Herbert William Allingham, F.R.C.S. Eng., Surgeon to the Great Northern Hospital; Assistant Surgeon to St. Mark's Hospital for Diseases of the Rectum; Surgical Tutor to St. George's Hospital, etc., etc., London. 400 p. F. A. Davis Co., Philadelphia, New York and Chicago.

Dr. Gant has got out a book which contains much valuable information, but it is a pity that he has not paid more attention to the composition, for in many places the English is not that of the school-master, while in other places he is led into ambiguities simply from a careless way of expressing himself. In the chapter on the anatomy of the parts, he says that the rectum is in contact, in front, with the uterus in the female, a statement which is certainly not strictly correct, while on page 14 a sentence is started in the subjunctive and ended in the indicative mood. We trust that these and similar solecisms will be corrected in future editions. The chapter on "The relation of pulmonary tuberculosis to fistula" is an

exceedingly good one, and the subject is discussed as clearly as possible; the rules laid down being likely to be of great advantage to anyone wishing to treat a case suffering from this unhappy combination of diseases. In the treatment of internal hæmorrhoids, the clamp and-cautery operation is given the preference.

Mr. Allingham writes two chapters, one on cancer of the rectum and one on colotomy. The latter is a complete *resumé* of the subject, being practically a condensation of his excellent work on colotomy. The treatment of cancer by excision of the rectum is not gone into at all fully. The Kraske operation is dismissed in seventeen lines, and the most important statement made by the writer is "I have used it on several occasions." Heinecke's operation is not mentioned, although now in great favour in Germany and elsewhere.

A new feature is the introduction of a chapter discussing the reasons for the frequency of rectal disease in railroad employes. The general causes are given as three: Irregularities of living; erect position assumed by employes; irregular, jarring motion of the train.

Auto-infection from the intestinal canal is a very interesting chapter on the bacillus coli communis and the disturbances produced by it. This is one of the most important parts of the book, for it directs attention to a subject of great importance in abdominal surgery generally and one which cannot be passed over with impunity.

At the head of this review we print the title page in full, so as to draw attention to a fashion which has lately come into vogue, that is, to add titles which are not either diplomas or appointments, official or *honoris causa*, but simply ordinary membership of societies to which any respectable graduate in medicine is eligible. The book is good enough to stand on its own merits without such artificial padding, and with the correction of a few points such as we have noted, we can recommend it to our readers as a useful work.

R. C. K.

Pregnancy, Labour and the Puerperal State. By **EGBERT H. GRANDIN, M.D.**, Consulting Surgeon to the New York Maternity Hospital; Consulting Gynecologist to the French Hospital, N.Y., etc.; and **GEORGE W. JARMAN, M.D.**, Obstetric Surgeon to the New York Maternity Hospital; Gynecologist to the Cancer Hospital, N.Y., etc. Illustrated with Forty-one (41) Original Full-page Photographic Plates from Nature. Royal Octavo, Pages viii. 261. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry Street.

This is a companion volume to *Obstetric Surgery* written by the same authors, and received with so much favour by the profession. It does not pretend to be a treatise or text-book on obstetrics, but is written from the clinical standpoint only. While, therefore, it cannot take the place of more systematic works, it will prove useful to those who desire to get in

small compass reliable information respecting modern methods of obstetric practice. Part I. deals with the diagnosis, duration, hygiene and pathology of pregnancy, and the diagnosis of presentations and positions. Part II. treats of the mechanism and clinical course of labour, the management of normal and abnormal labor, and the care of the new-born infant. Part III, describes the normal and the pathological puerperium. The chapters on the pathology of pregnancy, the management of normal and abnormal labour and the care of the new-born infant are particularly good, while the description of the normal and abnormal puerperium present modern views in compact and readable form. There are many illustrations, mostly reproductions of photographs from life; some are excellent, but others are not very distinct and convey but little information. Plates 28, 29 and 30, showing the management of the delivery of the head and the support of the perineum, seem to emphasize too much the use of the finger in the rectum as a means of controlling the sincipital pole of the fetal head. It is questionable whether it is wise to recommend such a manoeuvre as a routine practice. The same end may be obtained more easily in other ways, without infecting the fingers with fecal matters, with the attendant risk of conveying colon bacilli into the parturient canal. In the text, the authors do not lay much stress upon this manoeuvre, for they say, "The thumb applied to the head and, if need be, the index finger inserted into the rectum in order to enable the extension to be of the most gradual type, is the proper way to deliver the head under normal circumstances." It would be an advantage if the present book and *Obstetric Surgery* could be issued together as one volume.

J. C. C.

A Manual of Physiology, with Practical Exercises. By G. N. STEWART, M.A., D.Sc., M.D., Edin., Professor of Physiology in the Western Reserve University, Cleveland. With numerous illustrations, including five coloured plates. London: Balliere, Tindall & Cox. Cleveland: The Cleveland Medical Publishing Co. 1896.

This work is, we believe, the latest text-book in the English language on the important subject of physiology. It is an octavo volume of about 800 pages, well printed and well bound. It will be seen that so far as size is concerned it is better suited to a large proportion of medical students than some other well-known text-books. The illustrations are numerous, a large proportion of them new, most of them good, but a few somewhat crude. In some instances the illustrations though new, are not equal to many others well known. The book numbers among its cuts more diagrams than are usually furnished in text-books—a matter we consider of considerable importance in teaching, and in regard to which there is room for ingenuity and originality.

Few teachers of physiology these days who have enjoyed modern opportunities themselves will dispute Prof. Stewart's views of teaching physi-

ology as expressed in his preface ; and there can be no doubt that physiology must be studied more and more as an experimental science in all institutions up to date. At the same time it must not be forgotten that the claims on the student of medicine in one direction and another, are yearly increasing. No doubt much of the time that has in the past been dawdled away in the dissecting room, might be profitably spent in some other laboratory. Nevertheless, teachers may be said to be now experimenting on the problem : To what extent is it judicious to attempt laboratory work with the ordinary rank and file of medical students, and how far should this be carried out by the more complicated apparatus and methods. We are very apt to think that the latest in education as in everything else, must be the best ; but educational methods are themselves experiments, so that while there can be no doubt that for the professed physiologist, technical methods in all their varieties are admirable, if not indispensable, we believe that technicalities and laboratory work generally can be readily overdone for the undergraduate. It does not follow that the student acquires thinking and doing ability in proportion to the time he spends in a laboratory.

While it is cruel to feed the young mind solely on the husks of old-fashioned didactic lectures, it seems to us equally injudicious to introduce any more laboratory work than can be thoroughly discussed in the lecture room and its significance digested by the student—all the more as practical exercises in physiology generally involve more or less vivisection and sacrifice of life and consume an enormous amount of time. We have dwelt on this subject somewhat because it affects materially one's attitude towards Prof. Stewart's book. We know of no work of the same size into which technicalities have been introduced to the same extent, even independently of the practical exercises. About the latter there will be considerable difference of opinion. Some will doubt whether it is judicious to attempt to introduce into a book, somewhat inconvenient to handle in the laboratory, directions for work there. No doubt many would have welcomed these same exercises if bound together separately. As, however, directions suitable for classes in one laboratory, have generally to be modified to fit them for those of another, we are ourselves inclined to regard these " Practical Exercises " as very useful suggestions to teachers and advanced students.

We notice that the subject of anatomy, coarse and fine, has been almost ignored by the writer of this work, but it is a significant fact that some authors who formerly observed a similar plan have, in later editions, introduced histology. We are inclined to think that Prof. Stewart's book would have been more valuable for the great mass of medical students if he had worked in structure and function together more fully, and sometimes omitted or dealt more briefly with descriptions of instruments, methods, etc.,—of great interest no doubt to the professed physiologist, but somewhat burthensome if carried beyond a certain limited

treatment for the ordinary student. We do not question that in this handling of the subject, the author is thoroughly modern—we simply doubt whether he has not carried it too far, in such a book.

We also have great doubt whether it is judicious, apart from the few great and well established discoveries of physiology, to introduce the names of investigators into an ordinary text-book, especially as all cannot be named, and according to the author's own admission, "names no less worthy of mention have often been omitted" in this work. Nothing makes a name more widely or more quickly known than its use in a text-book; and who would deliberately undertake to decide what names should thus be rendered prominent and what others consigned to obscurity so far as the student body of readers is concerned?

The style of this work is clear and readable throughout. The author shows himself to be a thoroughly well informed and competent physiologist,—one who has assimilated the best that has been produced and has set it forth with the judgment and skill of an experienced teacher. If we have any doubt at all as to whether his book is perfectly suited to the average student, we have none whatever as to its adaptability to advanced students, the progressive general practitioner and to such teachers as may not have the time to follow up the literature of physiology in different languages.

The work is thoroughly up to date and this is evidenced in an especial manner by the fact that space has been found for a short chapter on "Internal Secretion"—a subject that may be said to be as yet in a molten condition. Although we have many works on the subject, Prof. Stewart's book may be justly regarded as sufficiently new in form and treatment to constitute it a distinctly valuable contribution to the literature of physiology.

Wesley Mills.

Lewis's Nursing Chart. H. K. Lewis, 136 Gower street. London, W.C.

These charts are drawn up for the use of nurses, so that they may, if necessary, keep hourly records of their cases. Each day occupies a page and there are spaces for recording temperature, pulse, medicine, &c., &c. Such charts will be useful to ensure accuracy on the part of the nurse, and to present to the attending physician a succinct history of the past twenty-four hours.

Society Proceedings.

AMERICAN PÆDIATRIC SOCIETY.

EIGHTH ANNUAL MEETING.

Held at Montreal, Canada, May 25th, 26th, 27th, 1896.

JOSEPH O'DWYER, M.D., President.

Owing to the necessary absence of the President, Dr. James C. Wilson, of Philadelphia, the First Vice-President, presided. The first session was opened by the reading of the President's address, entitled "The Evolution of Intubation." This had been prepared at the request of the Council, and was a paper of great interest, describing the labours which Dr. O'Dwyer pursued with untiring devotion to a great idea through five long years. A bivalve tube was first used, but after three years of continuous effort it was abandoned and experiments were begun with the solid tube. The writer described the various experiments made with alternating failure and success, until at last obstacle after obstacle was overcome and imperfection after imperfection was removed. As a result of this patient toil perfected instruments were given to the profession, a very rare thing in the history of medicine. The various steps taken in attaining this great result were narrated with the simplicity and modesty which has always characterized the literary work of Dr. O'Dwyer. A complete set of instruments showing the evolution of intubation from the first bivalve tube to the present perfected model proved of much interest.

The first paper was read by Dr. George N. Acker, of Washington, on "Gangrene of the Lung following Typhoid Fever." Dr. J. H. Fruitnight, of New York, read a paper on "Malignant Endocarditis," and presented a specimen. As the bacteriological examination showed that the condition was due to the presence of streptococci, the author advocated the use of streptococcus antitoxin serum in such cases.

At the second session Dr. A. H. Wentworth, of Boston, read a most exhaustive paper on "Lumbar Puncture," and reported twenty-nine cases. He affirmed that while normal cerebro-spinal fluid contains neither fibrin nor cells and is clear, it is always cloudy in cases of meningitis, though the cloudiness is sometimes very slight. This is caused by cells, the character of the cells differing with the variety of meningitis. The operation, the author believes, offers a valuable

means of diagnosis. For such purposes, however, the microscope is essential, and inoculation experiments are also of value. This was followed by a paper on "Tapping the Vertebral Canal," with remarks on local treatment, by Dr. Augustus Caillé, of New York. He reported twenty-one cases, and believed that a study of the cases reported up to the present time would certainly convince the most skeptical that Quinke's puncture is of positive value as a method of diagnosis. It is simple and usually easy of performance. In two cases Dr. Caillé injected antiseptics into the sub-arachnoid space, but without material results. He proposes in some future case to lay bare the dura by removing a button of bone and irrigating from a lumbar puncture upwards through an opening in the dura.

Dr. C. G. Jennings, of Detroit, also read a valuable paper on "Lumbar Puncture," and reported practical experience. Dr. Floyd M. Crandall, of New York, read a paper on "The occurrence of Influenza in Children," and reported local epidemics. Dr. Samuel S. Adams, of Washington, reported an extremely interesting case of "Temporary Insanity following Typhoid Fever." Dr. Frederick A. Packard, of Philadelphia, reported a case of "Endothelioma of the Brain with Atrophy of the Paralyzed Members." Dr. Henry Jackson, of Boston, read a paper on "Nasal Feeding in Diphtheria," in which he advocated feeding by means of a soft tube passed through the nose into the cesophagus in certain cases of diphtheria. As this can be done with ease, it does much by preventing exhaustion of the child's strength.

Dr. William Osler, of Baltimore, read a paper on "The Classification of Tics or Habit Movements." He made the following classification: (1) Simple tic or habit spasm; (2) tics with superadded psychical phenomena (maladie de la tic convulsif, or Gilles de la Tourette's disease); (3) complex co-ordinate tics; (4) tic psychique. An imperative idea is the psychical equivalent of, and has an origin similar to, the motor tic. Each of these subdivisions was elaborated and illustrated by practical examples.

The third session was devoted to the antitoxin treatment of diphtheria. The report of the Collective Investigation Committee of the Society upon the results of the antitoxin treatment in private practice was read. Over five thousand cases were reported, the results being, on the whole, more favourable than any extended reports that have thus far appeared. A complete report will be published in full in our July number. Dr. F. A. Packard reported favourable results of the antitoxin treatment, and Dr. S. S. Adams read a paper on "The Comparative Results of the Treatment of Diphtheria with and without Antitoxin in the District of Columbia." It appears that the

death rate from diphtheria in the District of Columbia since the appearance of antitoxin has materially diminished. Dr. A. Seibert, of New York, read a paper on "Sudden Death After Antitoxin Injections." He reported a series of striking experiments which showed that the injection into animals of carbolic acid, even in very weak solution, was constantly followed by characteristic spasmodic movements. Another series of experiment was made to determine the effects of subcutaneous injections of air. The results seem to show that antitoxin can contain but infinitesimal quantities of carbolic acid. They also render the proposition reasonable that the few sudden deaths reported after the injection of antitoxin might be due to the injection at the same time of air. The general discussion elicited by these papers was extremely interesting and showed a unanimous and very strong sentiment in favour of antitoxin.

At the fourth session Dr. Rowland G. Freeman, of New York, read a paper on "Low Temperature Pasteurization of Milk at about 67° C." He proved that this temperature was sufficient to kill numerous pathogenic bacteria and various atmospheric bacteria, and referred to the importance of avoiding unnecessary heat in the preparation of milk for infants' use. He presented a new apparatus of simple construction designed to Pasteurize milk at 67° C. Dr. Charles W. Townsend, of Boston, reported several cases of "Thigh Friction in Infants." Dr. William P. Northrup, reported a most interesting case of "Apparently Relapsing Cerebro-Spinal Meningitis," followed by death and autopsy, which elicited a warm discussion on the pathology and diagnosis of meningitis. Dr. Henry Lafleur, of Montreal, reported a case of "Insolation in an Infant of Thirteen Months." Dr. A. D. Blackader, of Montreal, reported a case of "Enlargement of the Liver" in a young child, with symptoms closely resembling typhoid fever.

Papers were read by title by Drs. B. K. Ratchford, of Cincinnati; F. Forchheimer, Cincinnati; Irving M. Snow, of Buffalo, and Henry D. Chapin, of New York.

The last session was devoted to the presentation of pathological specimens, specimens being presented by Drs. Rotch, Holt, Caillé, Adams, Packard, Acker, Freeman and Townsend.

In the executive meeting the following officers were elected for the coming year: President, Dr. Samuel S. Adams, Washington; First Vice-President, Dr. W. S. Christopher, Chicago; Second Vice-President, Dr. Charles W. Putnam, Boston; Secretary, Dr. Frederick A. Packard, Philadelphia; Treasurer, Dr. Charles W. Townsend, Boston; Recorder and Editor, Dr. Floyd M. Crandall, New York.

THE

Montreal Medical Journal.

A Monthly Record of the Progress of Medical and Surgical Science.

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JUNE, 1896.

No. 12.

THE FLOWER MISSION.

The ladies who have for many years taken charge of this mission have now started on the twenty-third season of their labour of love.

The object is to give every week a bunch of flowers to each patient in our great hospitals, thus enlivening the bedside of the sick and brightening the weary period of suffering. The hospitals thus supplied are the Montreal General, the Royal Victoria, the Montreal Maternity, St. Margaret's Home, and the Ladies' Benevolent Institution.

To accomplish this very many hundred bouquets are required. The flowers are collected and sent in each Saturday morning. They are arranged in bunches of suitable size, and are then distributed during the afternoon. Visitors to the hospitals on Sundays cannot fail to remark the bright and lively appearance imparted to the wards by the little bunch of lovely flowers on each patient's table beside the bed. Everyone must recognize the advantage to the sick by having, as it were, a breath of the open gardens and fields brought to their side; for who does not love flowers? And the kind word with which they are given helps pass the weary time of sickness or convalescence. But to carry on this work requires much labour, and unfortunately the labourers are few. We appeal to our friends to help on this good work; speak to your lady friends and get them interested and induce them to share in the pleasure felt by those already engaged in it.

More flowers, more workers, more money are needed to supply the ever-increasing number of patients in all the hospitals.

The workers meet every Saturday morning at the Natural History Society rooms, University street, where flowers will be gratefully received, as well as at the C. P. R. Windsor Station and the G. T. R. Bonaventure Station, where baskets are provided for their reception.

However few may be the flowers that are sent, no one should be deterred from sending; they will supply at least a bunch for one patient.

Any communications may be addressed to the Natural History Society rooms for the Secretary of the Montreal Flower Mission.

Freely ye have received, freely give your flowers for those who have none.

The following circular has been received from the Board of Health of the Province of Quebec :

MONTREAL, May 6th, 1896.

SIR—I have the honour to communicate to you the following extract from the minutes of our meeting of the 29th April last :

Being informed that a great number of cases of croup, escape the control of sanitary authorities, and that it is mostly due to the public being generally under the impression that croup is not a contagious disease, the Board of Health of the Province of Quebec authorizes the publication of the following definitions :

Croup is nothing else than diphtheria attacking more especially the respiratory tract (larynx). The expression *laryngeal diphtheria* designates better than the term croup the nature of the disease and should be preferably employed.

Distinction should always be made between croup or laryngeal diphtheria, which is contagious, and false croup or laryngismus stridulus, which is not contagious. There are no membranes in laryngismus stridulus or false croup. The cough of croupal form which characterizes this disease is due only to a nervous element.

We hope, sir, that each time you will have occasion to do so you will see that the measures prescribed against diphtheria be equally applied against croup, both being one and the same disease.

I have the honour to be your obedient servant,

ELZÉAR PELLETIER, *Secretary.*

The May number of *The New York Polyclinic* contains an article by Dr. Ed. A. Ayers on Symphysiotomy and Its After Effects, with a description of a new method and a report of five successful cases. There is also a tabulated report of all the recorded cases in America.

NEW BOOKS, ETC., RECEIVED AND NOTED.

Pregnancy, Labour, and the Puerperal State. By Egbert H. Grandin, M.D., and George W. Jarman, M.D. Philadelphia: The F. A. Davis Co.

Transactions of the American Dermatological Association. Nineteenth annual meeting, September 17, 18, and 19, 1895. Charles W. Allan, Secretary, New York.

A Manual of Anatomy. By Irving S. Haynes, Ph.B., M.D. Philadelphia: W. B. Saunders.

Ruhmkorff Induction Coils. By H. S. Norrie. New York: Spon & Chamberlain.

Mortality from Casualties. The Mutual Life Insurance Co. of New York.

The Royal London Ophthalmic Reports. October, 1895. London: J. and A. Churchill.

A Neurologist's Farewell. C. H. Hughes, M.D. Reprint from *Alienist and Neurologist*.

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