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Original Communications.

Membranous Croup. — Tracheotomy. — Recovery.

BY WOLFRED NELSON, C.M., M.D., Member of the College of Physicians and Surgeons, Province of Quebec; late Assistant Demonstrator of Anatomy, Medical Faculty University of Bishop's College, Montreal; Physician Accoucheur to the Female Home; Attending Physician to the Montreal Dispensary. Read before the Medico-Chirurgical Society of Montreal, on the 3rd of May, 1878.

On Saturday, December 15th, 1877, saw patient, a little boy, aged two and a half years, for the first time. He is a well-nourished little fellow, very active and sharp. He was up and dressed. Breathing harsh; voice rough. Examined throat carefully, found tonsils enlarged; a number of small ulcers were to be seen on the right tonsil. Fauces and surroundings presented nothing abnormal to the eye. No fetor from breath. Face slightly flushed. Bowels have been regular. He has slept fairly. Ordered the following:

℞ Potass. chlor..... ʒ ss.
Syr. simp. ʒ i.
Aq. ad..... ʒ viij.
M. ft. gargarisma.

Sig. The gargle.

A teaspoonful to a wineglass of water, and use as a gargle every hour.

Ordered slop diet. Saturday evening he was not so well. Ordered vin. ipecac. and a hot bath, as the child was decidedly croupy; no result followed. Repeated bath, and ordered mx of vin ipecac., which gave ease, the ipecac. to be repeated every two hours.

Sunday, Dec. 16th.—Made a single visit, found him somewhat better.

Monday, Dec. 17th.—Child the same. No anxiety of face. The repeated doses of vin. ipecac. act well.

Tuesday, Dec. 18th.—At morning visit found child worse. Breathing labored; pulse rapid; cheeks flushed. Had passed a very restless night. Will not allow throat to be examined.

Tuesday afternoon.—Child slightly better. He was sleeping during my second visit. Child's father came over at night, and said that he was worse. Used a gargle of liq. ferri, perch. and aq., as well as that first ordered. Pulse, 140; resp. 45.

Wednesday, Dec. 19th.—Was called up at 5.30 a.m. Patient was markedly worse. He had been very ill from 1 a.m. Constant tossing about. High

fever. Gave ten grains of calomel. Applied a solution of nitric acid, 1 to 20, to the throat, had a great deal of trouble in doing so; but succeeded fully. The child quieted down and went to sleep. Face flushed. Bowels moved at 5.45. Left at 6. Returned at 9: no change for the better. Dr. Reddy met me in consultation at 10.45. Had child removed to a room in the basement, where water was evaporated freely, filling the room with moisture. At 4.30 p.m. Dr. Reddy again met me. Child as before. We met at 6 p.m., when the child was worse. At 7 made another visit, when matters were very grave. During the day we had advised tracheotomy as a *dernier resort*. Dr. Reddy having agreed with me in my diagnosis of membranous croup. The child's parents consented. At this visit a powerful emetic, suggested by Dr. Reddy, of hydrarg. sulph. flova, was tried; it was followed by the vomiting of a small quantity of thick ropy mucus. At 7.30, as the child was worse, I sent for Drs. Reddy and Hayes for the operation. On their arrival the child's nails and lips were blue, and he was evidently sinking fast. Face pallid and cold. Child unconscious. All of the muscles of extraordinary respiration in play. Great sub-sternal depression on expiration. All being ready, the child was placed on a table, when, assisted by Drs. Reddy, Hayes and Mr. G. W. Nelson, operation commenced, Dr. Reddy administering the chloroform. A lamp was placed near the child's head to afford me a good light. The chloroform acted admirably. My outline incision was an inch and a half long, and then was enlarged on a director, thoroughly dividing the integument; fasciæ superficial and deep, were taken up and divided, layer by layer, on a director. The trachea was deeply placed. It was soon reached. Cut no vessels of any importance; there was scarcely any hemorrhage. The trachea was successfully hooked after a second attempt, and divided from below upwards with care. The child was sinking rapidly, some difficulty was experienced in introducing the tracheotomy tube, it having slipped into a small pouch to the right of the trachea. This was soon corrected, and the tube properly introduced; however, it would not work. The air rushing in and out of the wound around the sides of the tube, could be heard all over the room; the tube was choked with mucus. Here Dr. Reddy, with great courage, cleared the tube with his mouth, it was placed in situ. Pulse failing. For a few moments we all thought the child dead, as no respiration could be detected; nearly pulseless. He was turned on his side, and gently patted on the back.

After a pause two convulsive attempts at breathing were made, when respiration again ceased, as far as we could judge. The tube was cleared with a feather; then the chest walls commenced to rise and fall very gently. Pulse a shade better. A stethoscope was placed over the heart, its sounds were weak but regular. The tube had to be cleared repeatedly. We had to sit him up to do this, when he was again laid down. Respiration became regular but weak. Face has lost its deadly ashen hue. Effects of chloroform passed off—about 3 ij were used. In about twenty minutes the child opened his eyes; lips pink; he partially turned; applied a sponge, moistened with hot water, to orifice of tube. Respiration now became full and regular. Pulse firm and full. Face natural. Lividity of nails is disappearing. Operated at 8.20; everything was completed by 8.31.

9.30 p.m.—Pulse 90, full and regular. Patient wanted milk, when a small cup in teaspoonfuls was taken without any difficulty. He slept half an hour quietly, then awoke and was a little restless, quieted down and again went to sleep. 11.20 p.m.—Respiration, 24; pulse, 94.

Thursday, Dec. 20th, 1.15 a.m., pulse 90. 3.30 a.m.—Removed central tube, it having become choked. A number of pieces of very tenacious membrane came through outer tube; the secretion on inner side of centre tube is very difficult to remove. He drank a cup of milk with lime water. Pulse, 84; resp. 30. A good deal of mucus coming away. Moisture on sponge was continued all night at intervals of a few minutes. 4 a.m.—Awake and perfectly conscious; wants more milk, none was given. Placed a light match over mouth and nostrils, the flame was not disturbed, there being no exit of air from either. Bronchitic râles were got over both lungs. Keep room moist by evaporation as before. 4.30 a.m.—Child stood up, wide awake; got up again at 4.50, and urinated; he is perfectly easy. 6.30.—Had motion from bowels. Respiration harsher. He took a cup of milk and lime water, holding it himself. 8.30 a.m.—Centre tube nearly full; distressing symptoms set in, they at once disappeared on putting in a clear tube; he eagerly drank a quantity of milk. He breathes quietly through tube. Patient looks very well. 10 a.m.—Patient sleeping lightly; respiration, 30; pulse, 80; washed edges of wound, they look healthy; no evidence of any membrane; pulse accelerated and not so full. Face natural; lips pink; no cyanotic symptoms. Took half a cup of milk and lime water, and swallowed

without any difficulty. He slept nearly twenty-five minutes. Had a greenish motion from bowels. 11 p.m.—Pulse 135, intermitting. Now gave him small pieces of ice, it was gratefully received. 11.30 a.m.—Got up pledgets of phlegm and membrane; breathing again became easier. 11.45 a.m.—Sleeping soundly. Slept for fifteen minutes only. Temperature of room kept at 75°. 12 noon.—Gave half a cup of milk and lime water. He laid down. 1.45 p.m.—Has slept twenty-five minutes. Ice gives great ease. Slept at intervals until 2.15. 2.30 p.m.—Took milk; symptoms of choking set in at intervals. Pieces of membrane came away on using a feather. Doing well. Face slightly flushed. Resp., 30; pulse, 140. 3.45 p.m.—Gave a wineglassful of milk. 5.30 p.m.—Evaporating two quarts of water an hour. Had a fair motion from bowels. 6 p.m.—Pulse, 116; temp. of body, 101°; temp. of room, 84°; best sleep since illness; still sleeping soundly. 3.55 p.m.—Awake for ten minutes; cleared tube; pulse, 95; resp., 30. Face clear; thick mucus from tube; some moisture on lips. Temp. of room, 80°. He is always better when there is a great deal of moisture in the room. He sits up in bed and plays with toys. Had half a cup of milk. 4 p.m.—Got up a quantity of thick mucus and shreds. We are now evaporating three quarts of water an hour; size of room, about 17 by 17 ft. 5.15 p.m.—Removed tube and got a large piece of membrane. Temp. of room, 81°. 6 p.m.—Temp. of body, 101 $\frac{2}{10}$ °. Had half a cup of milk. Temp. of room, 83°. 6.20 p.m.—Temp. of room, 85°. A long shred of membrane came away. Had another small motion from bowels. 9 p.m.—Patient has slept two hours. 11.30 p.m.—Took half a cup of milk and went to sleep.

Friday, Dec. 21st, 3 a.m.—Cleaned tube; gave half a cup of milk and lime water. Patient has slept the greater part of the night. Temp. of room, 83°. Face natural. 6 a.m.—Gave another half cup of milk and lime water. Respiration tranquil and noiseless. Pulse 78°; resp. 25; temp. of body, 99 $\frac{5}{10}$ °. Temp. of room, 83°. 8 a.m.—Child up and drawing; some blood and mucus came away. Still evaporating the same quantity of water. Mucus running from nose. 10.55 a.m.—Temp. of room, 80°. 11.20 a.m.—Gave half a cup of milk. 12 noon.—Evaporating six quarts of water an hour. Gave half a cup of milk. 1.30 p.m.—Tube nearly full; bloody mucus comes away. Now remove exudation matter on tubes easily by dropping them in boiling water for a moment, which coagulates it. 2.30 p.m.—Tube filled with mucus and blood. No

signs of pulmonary trouble of any kind. Clean mucus running from nose, and also from below wound in the throat. Tongue furred, edges clean. During the last two days there has been considerable moisture in the mouth. 5.30 p.m.—Temp. of room, $82\frac{1}{2}^{\circ}$.—Child up cutting paper. 6 p.m.—Urines freely. 7.30 p.m.—Temp. of room, $82\frac{1}{2}^{\circ}$, clouds of steam at times. Child sleeps quietly. A muco-pus of a straw color is now found between main and inner tube on removal. 8 p.m.—Had another motion from bowels. 10 p.m.—Cleaned tube; pulse, 80° ; resp., 28. Pulse intermits at ninth, eleventh, and fourteenth beats. Flow of mucus from nose continues and under tube. Gave half a cup of milk.

Saturday, Dec. 22nd. 1 a.m.—Temp. of room, 73° . Temp. of room had fallen by error to 68° earlier in the night, when the patient became choked up and very restless, due, I believe, to the absence of moisture; tubes were clear. When this happened the matter secreted dried hard and brown on tube. After getting up the fire again, and full evaporation, he became quiet and slept well, all agitation leaving at once. Continue milk and lime-water at suitable intervals. Some blood in discharge from wound. 8 a.m.—Removed tube for first time since 12 midnight, it having been in *situ* eight hours; it was partially filled, mucus of a bloody tinge escaping from under main tube. Child slept nearly all night very quietly when evaporation was fully established. Temp. of skin to hand seems perfectly natural. (Some mucus and thick membranous matter were placed in a solution of equal parts of liq. pot. and aq. experimentally. A like quantity of mucus, etc., was placed in like parts of acid nit. and aq. That placed in the liq. pot. dissolved perfectly in half an hour, that placed in the acid mixture seemed to be coagulated at once and remained wholly insoluble, and has remained so up to this day, May 3rd, 1878. This fact may, perhaps, have some value in like cases). Temp. of room, 78° . When the fire went down the room seemed very cold to those present. 10.15 a.m.—Temp. of body, 99° ; pulse, 80; resp., 24; temp of room, 74° ; continue milk and lime-water. Considerable quantities of frothy mucus are coming up. 11.30.—Had a full motion. 11.45.—Patient very jolly and playful. 2.45 p.m.—Cleaned tube, and removed a very thick matter. Temp. of room 76° . 3.35.—Temp. of room, 81° ; breathing very quietly through tube. 4.45 p.m.—Temp. of room, 85° ; pulse, 88; still intermits. 5.40 p.m.—Temp. of room, $85\frac{1}{2}^{\circ}$; sleeps very quietly. 8 p.m.—When

swallowing milk now a little escapes by edge of tubes. 10 p.m.—Milk now escapes in quite a little stream, fully a teaspoonful came away. Temp. of room, 78° ; pulse, 76; resp., 22. 11.30.—Bloody mucus now escaping.

Sunday, Dec. 23rd, 12.30 a.m.—Temp. of room $74\frac{1}{2}^{\circ}$. 4 a.m.—Do. 8.30; has slept fairly. Continue milk and lime-water. 6.30 a.m.—Temp. of room, 72° ; fire had gone down; no steam. Child again very much disturbed and restless; got up fire and steam, when these symptoms passed away at once; second time this has happened, with the same result. 9.40 a.m.—We examined larynx and surroundings, found them red and swollen, the small ulcerated patches that existed on right tonsil last Sunday (a week ago to-day) have disappeared. Give m. ij. tinct. nux. vom. every three hours for paralysis of spiglotitis. Repeated doses did not seem to do any good. Closed main aperture of tube with finger to test breathing. He seemed to experience great difficulty. On placing his ear over child's mouth, Dr. Reddy felt his breath on his cheek; no odor from tube or its contents; patient is bright and cheerful; plays contentedly with toys. 11.40 a.m.—Temp. of room, 74° ; pulse, 75; intermits; resp. 22, ordered.

Rj. Acid tannic..... 3 ij.

Glycerin pur 5 j.

M. ft. lotio.

Sig.—Ut. dictu utend.

3 p.m.—Cleaned tube, touched parts with p. eq. liq. pot. and aq. It caused no inconvenience. A good deal of clear mucus came away. 7 p.m.—Milk still escapes from wound on swallowing. 10 p.m.—Patient asleep; temp of room, 80° . 10.40 p.m.—Do. 85° ; pulse, 80. 11.10 p.m.—Commenced breathing slightly through his nose fourth day after operation. Took half a cup of milk, it still runs away from wound in trachea. No membrane formed on lips, mouth or edges of wound at any time. Creamy pus now always on tube when it is withdrawn. 12 midnight.—Temp. of room, 81° ; sleeping quietly; nostrils dilating.

Monday, Dec. 24th, 9 a.m.—Tube has not been removed since 1 a.m., it contains a muco-pus; milk still escapes from wound on swallowing; patient has slept very well all night; no motion from bowels yesterday; he urinates frequently and in large quantity, it is clear and normal (not tested for albumen); he plays with his toys, pulse, 83, regular; resp., 22; temp. of room, $77\frac{1}{2}^{\circ}$; examined throat, parts still look congested; applied lotion of tannic

acid and glycerine, it seemed to be very unpleasant to him, he gasped, and discharged a quantity of mucus through tube, in fact shot it out, it was yellowish. 3 p.m.—Bowels have moved; had two cups of milk; muco-pus escapes from tube, cleaned it after being in situ five hours. Discharge from tube is free. 4.30 p.m.—Temp. of room, $81\frac{1}{2}^{\circ}$. While child was leaning on father's shoulder he stopped breathing suddenly, a long shred came partly out of tube and returned on inspiration occluding it; he choked and fell back powerless; no breathing could be detected. Mr. George W. Nelson, who was in charge of case at the time, promptly removed inner tube, and, after passing a feather four times, he succeeded in dislodging the shred; child's face was purple; some mucus also came away. When respiration returned slowly, he was unconscious for several minutes, and then gradually recovered; child's father thought him dead. At first child clutched at throat like a wild thing. An accident of this kind shows very conclusively that skilled assistance should always be at hand. The after treatment being decidedly as important as the operation, as these notes will, I think, show. A little indecision here, and my patient was lost. 8.45 p.m. pulse, 80° ; resp., 25; sleeping quietly.

Tuesday Dec. 25th.—Xmas day, 5 a.m., temp. of room, $84\frac{1}{2}^{\circ}$. 6.45 a.m.—Cleaned tube, it was completely filled; restlessness disappeared at once; child passed a very good night. 10.30.—When Dr. Reddy came in we withdrew centre tube and closed aperture of main instrument; child gasped twice, air rushed in by the mouth. As choking was imminent it was not continued, a sufficiency of air not entering. By touching back part of throat with an aneurism needle gently, some spasmodic action was induced, when a large quantity of thick caseous looking matter was got up, mixed with mucus. 2.20 p.m.—Child has slept quietly for two hours; pulse, 80, full and regular; resp., 28; temp. of room, $75\frac{1}{2}^{\circ}$; still evaporating water as before; motion from bowels; urinates freely; urine is of a light straw color, and clear. 3 p.m.—Removed centre tube and gave a drink of milk, a good deal got into trachea, caused reflex action, when about a teaspoonful of thick mucus was voided, followed by bloody mucus. The exudation matter now deposited on inner surface of centre tube not so difficult to remove; nostrils dilate regularly. A drop of nasal mucus moved up and down on inspiration and expiration. 7.30 p.m.—

Removed centre tube, closed orifice of main instrument; he cried audibly.

Wed., Dec. 26th, 1 a.m.—Pulse, 80, regular; temp. of room $78\frac{1}{2}^{\circ}$; child sleeping quietly. 9 a.m. patient has slept quietly all night; centre tube has not been removed since 7.30 p.m. yesterday, or for thirteen and a half hours. We evaporated the water in a large tin boiler, on a kitchen stove burning coal. We found by experience that the larger the quantity of water put in boiler, say four or five gallons, the greater was the volume of steam produced. If but a gallon or so was placed in boiler and allowed to nearly evaporate, and another was added, vapor was checked for a time. At times when desirable we filled upper part of room with vapor; patient now breathing slightly through the nose; he ejected a large quantity of muco-pus through tube; pulse, 80, full and regular; resp., 22; temp. of room, 83° ; temp. of body, 99° . Whenever centre tube is out and patient is allowed to drink, there is a greater escape of fluid; milk still comes away in small quantities on swallowing. Again tested breathing through mouth as before; he breathed with some difficulty, and cried, continued for several minutes; he did not choke, nor was there that congestion of the face observed before. He got up a large quantity of phlegm. Centre tube now removed without any resistance from patient, heretofore he has objected to its removal, and pointed to it to have it replaced, when he is satisfied. 12 noon.—Temp. of room, 88° ; child took a small quantity of solid food for first time since operation. 2 p.m.—When handed a child's trumpet he blew through it, producing a slight noise. 7 p.m.—Has had two cups of beef tea. Had a solid motion from bowels, the first; still getting up phlegm in considerable quantities; temp. of room, 88° . Centre tube was removed at 4 and 7.30 p.m., no adherent matter on it; closed main tube; child said father distinctly. 10.30 p.m.—Temp. of room, 80° ; child sleeping quietly.

Thursday, Dec. 27, 5.40 a.m.—Cleaning tube gave him a great deal of relief. He has passed a good night. Temp. of room, 83° . 10 a.m.—Pulse, 80, full and regular; resps., 23; temp of room, $77\frac{1}{2}^{\circ}$; temp. of body, $98\frac{3}{4}^{\circ}$, taken in axilla throughout. 11 p.m.—Tested breathing again; he cried, producing articulate sounds; no congestion of face. Care was taken not to press instrument back on posterior wall of the trachea. A creamy pus-like fluid comes away from instrument. After drinking beef-tea a little escapes from wound, followed by a

good deal of phlegm. 7.30 p.m.—Removed tube, it was nearly clear. Nothing adhered to its sides. Pulse, 80, full and regular; temp. of room, $76\frac{1}{2}^{\circ}$; resps., 22. Removed centre tube, closed orifice of main tube with finger, remaining fingers on platform of instrument to prevent any pressure on trachea. He breathed freely through the mouth, some air escaping by sides of instrument. The test did not cause as much disturbance as before. 9 p.m.—He took bread and butter, and swallowed with ease.

Friday, Dec. 28th, 1.10 a.m.—Child sleeping quietly. 8.30 a.m.—Patient has slept twelve hours, from 8.30 last evening. 9 a.m.—Removed centre tube and cleaned it. 12.30 p.m.—Again tested breathing by mouth, same as before; a good deal of mucus present; air passes through nose; urinates freely. Temp. of room, 75° ; but little steam at present. 6.30 p.m.—Temp. of room, $82\frac{1}{2}^{\circ}$; patient better. Takes bread and beef tea. As soon as centre tube is out he points to it and wishes to have it replaced at once, when he is perfectly satisfied. We have noticed that he seems better and brighter every afternoon from about five to seven o'clock. Temp. of body, $98\frac{1}{2}^{\circ}$; pulse, 74; resps., 24. Takes a cup of beef tea now and then. He breathes a little through his mouth. No signs of any pulmonary trouble. Chest is examined occasionally. Sleeps very well. Filling of the tube causes restlessness. On swallowing, fluid still trickles away from wound. 7.30 p.m.—Tube again nearly filled, clearing gave relief at once. 11 p.m.—Temp. of room, 75° ; patient asleep.

Saturday, Dec. 29th, 1.20 a.m.—Child choked as on first occasion, when he again became unconscious, and was some minutes in recovering. Tube this time was not filled. Using a feather got a piece of membrane away from lower part of trachea. Temp. of room, 76° ; pulse, 86; resps., 22; temp. of body, 99° . 8 a.m.—Motion from bowels. Patient very lively, passed a good night. Again tested breathing as before with the same results, he coughed twice. This second attack of asphixia as late as the tenth day shows the absolute necessity of skilled assistants. I am very much indebted to Messrs. H. Chandler, R. Leprohon, and Geo. W. Nelson, students in medicine of the Medical Faculty of Bishop's College, for assistance by day and night throughout the case. 8.30 a.m.—A large piece of membrane and mucus shot partly out of tube and slipped back again on inspiration, during the next expiration it was secured and withdrawn. The exudation matter became very tenacious during

the night before the choking fit and dry within tube. The amount of secretion is becoming less and less. Upper part of trachea can now be seen through wound, its mucous membrane is still red. No membrane of croup to be seen above. Also examined throat carefully from above, could discover nothing but highly reddened mucous membrane. All traces of ulcers have disappeared. Patient very bright. Tongue clean. Takes beef tea occasionally, alternates with milk; bread is not now swallowed with the same ease. The paralysis of the epiglottis is evidently disappearing, as scarcely any milk escapes on swallowing, but a few drops. 2.30 p.m.—Tubes can now be cleaned with cold water. Temp. of room, 73° ; creamy pus in tube; pulse, 80, full and regular; temp. of body, $99\frac{3}{4}^{\circ}$; resps., 20. 10.40 p.m.—Temp. of room, $82\frac{1}{2}^{\circ}$; child sleeping.

Sunday, Dec. 30th, 12.45 a.m.—Temp. of room, $83\frac{1}{2}^{\circ}$; child has slept all night. 9 a.m.—He took beef tea and said "No, no" distinctly. 10 a.m.—Dr. Reddy met me to remove main tube. The tapes around next neck were cut away, centre tube was taken out, and the main tube closed by working a screw that closed its valves, the remaining small aperture was closed. Respiration was somewhat impeded, again dilated blades when a quantity of mucus and blood escaped, when it was closed and partly withdrawn, then finally removed. The edges of wound had granulated up to sides of instrument, leaving a circular opening, through which the child commenced to breathe very fairly. It was removed in eleven days thirteen and a half hours after the operation, or two hundred and seventy-seven and a half hours. On closing aperture with finger child breathed through mouth very well. A silk handkerchief was folded in four thicknesses and applied loosely over the wound. Respiration through the mouth was regular and fair. He cried out when the opening was closed. Pulse, 80; resps., 22; temp. of body, $98\frac{1}{2}^{\circ}$; temp. of room, 74° . On taking a cup of beef tea a small quantity escaped. Size of opening is that of a good-sized pea. Child said mamma.

11 a.m.—Is playing with toys. He asks for different things, some clearly; answers questions, some words distinctly, others indistinctly. Child is learning to talk, having commenced but three months ago. Mother states that he speaks as plainly, but not so loud, as before illness. When tube was first removed he was afraid to speak, but commenced in twenty minutes, 2 p.m.—Child very busy playing. 4 p.m.—Still playing. When he drinks it produces chok-

ing, when some of the fluid escapes by the wound. Temp. of room 75°; resp. 22; pulse, 80. Wound is decreasing in size, healthy granulations are apparent, mucus comes away. 7.40 p.m.—Drinks a good deal, with same results. Temp. of room 80½°. 10.55 p.m.—Pulse, 84; resp. 30; temp. of room 77°; is sleeping, but restless, a gurgling sound is heard on each inspiration. 12 midnight, breathing quick, rapid and noisy.

Monday, Dec. 31st, 1.40. p.m.—Gurgling sound is produced when he takes a short and rapid breath, not when he respire quietly. Pulse, 82; resp. 24;

Monday, Dec. 31st, 2 a.m.—Child sleeping quietly. Less difficulty in breathing, pulse, 82; resps. 24. temp. of room 80°. 3 a.m.—Respirations rather more regular, and less labored. Tried to cough up some mucus, but was unable to do so. Temp. of room 77°. 9 a.m.—After 3 he slept quietly and well. Whenever he drinks spasm and coughing are produced. He is up and playing about. Pulse, 75; resps. 21; temp. of body, 98.70°; temp. of room 79°. The wound is closing rapidly, and healing from below upwards; depth of wound was three-quarters of an inch when instrument was removed. He is still unable to get up mucus. There is a slight discharge of pus from the wound. Silk handkerchief is still retained; slight whistling sound through wound at times. Child nearly well. 2 p.m.—Commenced using the tinct. nux-vomica again. 2.10 p.m.—As the case was progressing very favorably, regular watching ceased, by skilled assistants. My brother ceased taking notes. 6 p.m.—Edge of wound in apposition. 9.30 p.m.—As before.

Tuesday, Jany. 1st, 1878,—New-Years-Day, — 2.30 p.m. Child breathes slightly through wound at times, markedly when he cries. Has slept all night. Pulse 80. 9.30 p.m.—Some mucus escaping from wound; child up and playing; temp. of room 75°. As soon as moisture is absent he becomes agitated; chokes less on swallowing; free discharge of mucus.

Wednesday, Jany. 2nd.—Child had a restless night; bowels have moved.

Thursday, Jany. 3rd.—Child passed an excellent night. He is bright and cheerful. Takes solid food. When he cries air rushes in through wound. Pulse, 80.

Friday, Jany. 4th.—Child very well, wound remains closed, except when he cries; choking and noise produced on swallowing have nearly disappeared; bowels have moved; partakes of solid food

with ease; temp. of room 70°. Child was removed to a bedroom in upper part of the house.

Saturday, Jany. 5th.—Continuing well.

Sunday, Jany. 6th.— do. do.

Monday, Jany. 7th.— do. do.

Tuesday, Jany. 8th.—Harsh breathing has set in.

Wednesday, Jany. 9th.—Breathing with great difficulty and noise; sub-sternal depression marked. Case looks grave. Had patient removed to basement, and got up steam. He passed a bad night before coming down. Gave him doses of mij. tinct. digit. and pot. iodid. gr. i. every three hours touching throat with liq. pot. every three hours. At noon he was better.

Thursday, Jany. 10th.—Had a fair night, child's head has to be kept nearly level with body; if elevated too much breathing is interfered with. Pulse rapid and weak; opening closed. Patient was better during the evening.

Friday, Jany. 11th.—Child a great deal better; Not much difficulty in breathing; bowels regular; child up and playing again; continuing treatment and steam. Temp. of room 76°.

Saturday, Jany. 12th.—Child nearly well, no more bad symptoms. Steam acted as well as usual. Bowels regular. Tongue clean. Child was again removed to upper part of house, water was evaporated in hall in but small quantity, when the hoarseness again returned. Gave medicine as before. Stridulous breathing at night, substernal depression, etc., this continued for some nights. At times it seemed very alarming indeed. Its rythm was altered in certain positions, this continued off and on until Feb. 9th, when it nearly ceased. It has returned slightly at times, but is not followed by any cyanotic symptoms. Child's health is excellent. The scar measures three-quarters of an inch in length and a quarter of an inch across in its central part. Ceased paying any visits after this date. Put the little fellow on a tonic.

The instrument used was a tracheotomy tube and set by Walton of Lambeth street, London, near St. Thomas Hospital, the most perfect instrument that I have yet seen, its working is admirable.

Dr. Reddy attended throughout as consulting surgeon. I am deeply indebted to him for many valuable hints, culled from many years of very active professional life.

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Progress of Medical Science.

ON THE VALUE OF KOUMISS IN THE TREATMENT OF NAUSEA, VOMITING AND INABILITY TO RETAIN OTHER FOOD IN THE STOMACH.

BY N. JAGIELSKI, M.D., M.R.C.P.L.,

Physician-in-Ordinary to the Infirmary for Consumption, Diseases of the Chest, &c.

The author selected ten remarkable cases on this subject that had come under his own observation, five cases successfully treated with koumiss by other medical practitioners, whose names are given below.

The first case described by Dr. Jagielski was a patient of Mr. Wallis Mason and Mr. B. Floyer, a very anæmic lady, who was confined with twins at full term. General paralysis followed, her prostration had become extreme in six days after the confinement in consequence of her inability to retain any food on her stomach; and when seemingly dying the koumiss was given to her in small quantities at frequent intervals. All nausea and vomiting had disappeared during the exclusive treatment with koumiss, which proved, besides to nourish the patient alone sufficiently, to increase her strength and bodily weight in a very short time. The three medical attendants were firmly convinced that in this case life was saved by the koumiss.

2. A case of pregnancy with hæmoptysis, subsequent vomiting, and inability to retain anything on the stomach, in which the treatment with koumiss allayed the vomiting speedily, and enabled the patient to come safely over her confinement, her health remaining very good afterwards.

3. Acute attack of chronic bronchitis, with excavations in both lungs, &c., in a gentleman 78 years old, whose hapless condition on the sixth day of his severe illness caused Dr. Jagielski to give him the sparkling koumiss, under the influence of which the constant vomiting was readily overcome, and the rapidly declining strength renewed. His excessive expectoration diminished, his sleep returned, and his relative health was soon restored.

4. A case of most obstinate gastric catarrh, with all the appearance of a carcinoma pylori, complicated by very distressing vomiting and consecutive exhaustion, which resisted all drug treatment, and all varieties of dietetic food, soon yielding to the exclusive use of koumiss.

5. A case of uninterrupted hæmoptysis during nine weeks, with vomiting and inability to keep down any food, in which the styptic treatment was continued all the time with no good results. The koumiss treatment was followed by rapid improvement and complete recovery.

6. A case of pleura-pneumonia dextra followed by intractable vomiting and inability to retain food in the stomach, treated successfully

by the koumiss. Equally favorable results, by the sole use of sparkling koumiss, were quoted by Dr. Jagielski in the following cases:

7. A lady, 66 years old, with pleuritis exudative dextra, a long sufferer from chronic bronchitis, with very severe vomiting, and scarcely any food in the stomach for ten days.

8. A case of old mitral incompetency, with anasarca and gastric catarrh, with constant vomiting.

9 and 10. Two cases of diabetes mellitus. Almost in a dying state from inability to retain food on the stomach and consecutive irritation.

Further, Dr. Myrtle's, of Harrogate, four cases described in the *Lancet* of December 12th, 1874, one of marasmus in the adult, with unchecked vomiting—successful; one of pyæmia, with sickness and unchecked vomiting—successful; one of phthisis (advanced) with ulceration of mucous membrane, diarrhœa and hectic—successful; one of rheumatic fever, with gastric irritability of a most formidable nature—successful; and Mr. Carter Wigg's case, of Southminster, Essex [see the *Lancet* of January 9th, 1875], of heart disease and albuminuria, with constant sickness, retching, and vomiting, likewise successfully treated with koumiss.

In concluding, Dr. Jagielski recommended the koumiss treatment as harmless at the worst, and the more rational means with which to commence the early and primary treatment of disease for which it is suitable.—*Dublin Med. Press*, April 10, '78.

DIARRHŒA OF INFANTS.

Dr. René Blanche (*Bull. Gén. de Thérap.—Phil. Med. Times*) urges that whenever diarrhœa occurs in young infants it should be checked immediately and not allowed to make headway. The medicine he employs is the same in every case, though modified somewhat according to the circumstances. In order to prepare for this, diminution of the ordinary diet is directed, and appropriate enemata after each passage, with cataplasms to the abdomen. Then every morning a small teaspoonful of an emulsion made of equal parts of ol. ricini and syrup acaciæ is given and repeated every day for three, four or five days. For infants under six months ℥j ol. ricini is enough; from six months to two years, ʒss to ʒi. If after a day or two the stools improve, the dose is maintained, but if they are still fetid and glairy an equal dose may be given in the evening as well as in the morning. When the passages are very frequent, one to three drops of laudanum may be added in the course of twenty-four hours. Blanche thinks enemata very important. A large enema of infusion of chamomile may be given at the outset, followed by a smaller one of starch, twenty minutes later.

ON THE TREATMENT OF DIPHTHERIA BY LARGE
DOSES OF CALOMEL.

By M. C. REITER, M.D.

A very considerable number of the younger physicians of Pittsburg having formed themselves into a club for mutual improvement, under the title of "The Academy of Medical Science." They took up the subject of Diphtheria for discussion at their last regular meeting.

Being known to differ *in toto cælo* as to its nature and treatment from my *confrères* I was kindly invited by a good friend and member, Dr. James McCann, to be present at that meeting.

A paper was read by Dr. Smith on this disease, in which he adopted the popular and prevailing opinion as to etiology and treatment. When he had done, I was invited to address the society, and did it; but so disconnectedly and lamely that I feel constrained to arrange my views in order, so that my position may be clearly defined and substantially stated.

In the epidemic of diphtheria of 1863, it was my misfortune to have my first severe case in the person of my grandchild and namesake, a boy of two and a half years. The mischief fixed itself on the Schneiderian membrane of both nostrils, reaching into the pharynx. Inside of forty-eight hours, the common treatment then in vogue being followed, the entire surface became gangrenous. The glands in the neck became enormously swollen, and the poor boy died "none too soon." In watching this case, I became convinced that the disease is not a *poison* of the blood or in the blood, but an excess of *fibrin*, called, in old times, the inflammatory diathesis.

The glandular swellings are not diphtheria, but a sequence, the fibrin having not only transuded but mechanically closed the capillaries, gangrene or else a slough ensues; and these glands are poisoned, as other glands are, from a virus conveyed to them by the lymphatics in the structure; as fatally killed and lifeless as a crushed hand or foot over which the wheels of a railroad-train have passed.

I have never yet seen glandular enlargement usher in an attack of diphtheria. On the contrary, the transudation has changed from a clear white to a dirty grey, a portion has been thrown off with the epithelium, and some underlying tissue has putrefied, before adenitis manifested itself.

Many years ago—I am now a physician of many years' active professional life—I became dissatisfied with the old combination of nitrat. potass., calomel, and ipecac in treating the inflammatory diseases incident to the mountain region in which my lot was cast, and, after bleeding and cupping, had trusted to large doses of calomel alone, with either liq. ammonii acetatis or potassii bicarb. in interval.

The readiness with which patients take this tasteless stuff called calomel, and the satisfactory results from its administration, have, year by year, moulded me into a calomel doctor. The sad, melancholy and

heart-rending scene of "Willie Winkie's" last hours made me *vow* I would give calomel largely to my next diphtheritic patient.

The cases reported need no comment; they are accurately given; but the *modus operandi* of calomel, for which I had conjured up a hypothesis, is now clearly demonstrated in the invaluable work of that profound and industrious physician of London, Dr. Murchison. His teaching is not only making the pathway to success more plain and clear to the faithful and earnest student in the art of healing, but he is casting a grand halo of glory on his profession. His last work, "Functional Diseases of the Liver," has solved every obscurity in understanding how calomel cures diphtheria. I would say to every young physician embarked in the perilous enterprise of fighting disease, *Read this book, STUDY THIS BOOK*, ponder its doctrines, and pray Almighty God, the Source of all light, truth, and power, to enable you so to appreciate its teaching that you may go forth to your fearful, solemn, and responsible work at the bedsides of the suffering, armed with the panoply of truth, and with a bold and fearless heart.

Those who oppose the doctrine and resist my conclusion may say, "Have you never given quinine, iron, stimulants, beef-tea, etc., in diphtheria?" I say, emphatically, "No!" I have relieved patients suffering from the sequelæ with this plan of treatment, as I have treated successfully nephritis or phrenitis following scarlatina with venesection and other antiphlogistic remedies.

One case reported, No. IV, followed No. III, and the subject was the servant-girl in the family. Her throat was intensely red, without any tumefaction. A spot of exudation, very thin, was on the right tonsil; but the history of the case shows she had hot skin, a small, frequent, quick, and hard pulse, and complained of distressing pain in occiput and down the spine. I feared the force of disease was tending to the meninges of cerebellum and cord, and, confident in my sthenic conception of diphtheria, I bled her to syncope, and gave calomel as narrated. On the fifth day of convalescence I was sent for to treat acute rheumatism of the right wrist, which yielded to acetate of ammonia, tr. rad. aconiti, and colchicum vin. (British), together with a dose of pil mass hydrarg cum comp extract colocynth in thirty-six hours.

To all who will try this plan I would only say, give calomel freely and boldly every hour until the intestinal discharges resemble the fresh-water polyps in water-troughs, gelatinous, and of a bright dark-green hue; then your patient is safe; and, if you fear salivation, administer a dose of castor oil. I have never seen ptyalism in a single case, and seldom give any laxative. The calomel purges, but not excessively, even in children of three or four years who have taken a half-ounce. Should prostration follow these heavy doses, you can rely on the fact that you have been mistaken in your diagnosis, and pronounced a case of follicular tonsillitis diphtheria, and can quit your remedy without any

rious results. Cases I., II., and IV. show this fact clearly.

I insist on giving calomel in ice-water in summer, and cold water in winter. Fill a teaspoon half full of water, and drop the powder in it; get the patient to open the mouth, and tumble it in; then wash down with fresh water.

Calomel should be given in its purity.

The hypothesis which I had adopted for years was as follows: The functions of the abdominal organs in inflammatory diseases were suspended for want of an influx of the *vis-vitæ*, which was largely eliminated by the breaking down of tissue, which is rapidly destroyed in disease. The resulting compounds which should be thrown off by the liver, kidneys, and intestinal mucous surface were retained in circulation, and then became poisonous blood-elements, fearfully increasing the danger of the sufferer. I supposed each particle of calomel to exercise the power of the point of a needle on the electric fluid, and attracting vital force to restore functional activity.

This may be called a mysterious hypothesis. To the student of natural science profound mystery attends every step of his progress. Catalysis is certain, but very mysterious. Optics demonstrates that we never see anything, but discern an image on the retina of our eyes. No study is so awfully mysterious and strangely perplexing as the minute anatomy of the ear. What was it that in the cochlear and semicircular canals in Mozart's and Beethoven's ears, and interpreted the impressions made by the aqua Cotunnii on the gossamer threads of the auditory nerves, woven into a film and suspended there? Science leads to mystery deep, unfathomable, and awful. I knew an old veterinary surgeon for many years, and have seen him cure relaxed and distended capillaries in the conjunctivæ of horses' eyes, remaining after the reduction of acute conjunctivitis, in a few hours by blowing calomel under the lid from the cylinder of a goose-quill.

Calomel should be given in large doses, and repeated every hour until the bile in the defections assumes the appearance described. Then you are done with it, and run no risk of pytalism. When given at long intervals you do not secure free and frequent evacuations, and it may have had the specific effect you desire long before you can discern it. A liver relieved and acting healthfully and vigorously, portal veins readily emptying their contents into this organ, may be attended by lively action of the lacteals, which would convey calomel into the blood.

I permit my patients to take cold water and lemonade *ad libitum*, and insist on their drinking frequently mucilaginous fluids. I prefer barley gruel, but give gum-arabic water, flaxseed tea, and slippery-elm water, and nothing else,—*no food whatever*. During convalescence in the feeble I give small doses of quinia. With the calomel I give every third hour chlorate of potash. It has never done injury, but I doubt if it is needful.

The metamorphoses which are brought about by

and in the liver, as shown by that excellent compilation of experiments and their results, published by Dr. Murchison, make it very easy to understand how a liver, to-day ceasing to destroy fibrin, may in a few days hence permit the blood to be surcharged with lithic acid, as happened in Case IV.

I have notes of many cases recorded, but have only transcribed as many as I thought needed to explain my hypothesis.

Case I.—September 23, 1863, 11 a.m., was called in consultation with Dr. Robinson to see the daughter of Mr. Beatty, aged 3 years, who became ill the day before. She was a beautiful child, fair hair and blue eyes, with good organization. Countenance was distressed; almost perfect aphonia; respiration slightly stridulous; pulse small, hard, quick, and frequent; the whole fauces of a bright red, and covered with slight patches of exudation. The doctor had given a very unfavorable prognosis (had only seen her a few hours previous to my visit), in which I concurred, as the mischief had fixed itself mainly in the larynx. His treatment was five grains of potass. chlorat. in solution every third hour, and pencilling throat with solution of nitrat. argenti in glycerin. I prevailed on the doctor to continue his treatment, and give ten grains of calomel in a little ice-water, and repeat five grains every hour until we should meet again the next morning. Diet: cold water, lemonade, and barley gruel.

September 24, 10 a.m.—Met the doctor, and found our patient very much improved; voice almost restored; had two dejections; continued treatment.

September 25, 10 a.m.—Patient cheerful and bright; voice restored; pulse soft and natural; no prostration; respiration normal. Continue calomel every third hour until stools appear like polyps in water troughs. Add syrup senegæ to potass. chlorat. solution to relieve cough.

September 26, 10 a.m.—Patient took castor oil at night, when stools manifested characteristic mercurial action. Had taken four drachms calomel, and no prostration. Is now a vigorous young lady.

Case II.—July 24th, 1865, 11 a.m., was hurriedly called to see a child of John Eicher. I could not go,—was an invalid, and had been already overworked,—but got Dr. James McCann to visit it, and promised to see it myself in the afternoon. Dr. McCann reported that the father, who went out with him, said that they had buried an elder child one week before from diphtheria, and that the babe (eight months old) was now suffering from the same disease, and the attending physician pronounced the case hopeless. The child was well formed and nourished; pulse small, tense, and so frequent I could not count it; respirations frequent, difficult, attended by croupal noise; and at intervals there was a short, hoarse, expulsive, breaking cough. The skin was dapp, face pallid and rather bluish in hue; the countenance had a worn, exhausted expression, and the eyes dull. The fauces had a glossy-red appearance, and the left tonsil had a diphtheritic film. Ordered three

grains calomel every hour; potass. chlorat., ʒi; aquæ destillat., ʒiii. M. A teaspoonful every three hours, and throat to be pencilled with nitrat. argenti, ʒi; glycerin, ʒi; barley gruel or gum water and ice water *ad libitum*. When I proposed to Dr. McCann, in the afternoon, to visit this child, he protested; told me I had better spare my strength and visit hopeful cases. I told him I had promised, and would go. Found the case as hopeless as the doctor had depicted it, and had no expectation it could recover. Doubled the calomel powders and gave six grains every hour. Continued other treatment. I found the spoon daubed with calomel; ordered another, and showed them how to give the powder. And this is important. A spoon half full of water, powder dropped in the water, and then tumbled into the open mouth. Then give a drink of water to wash it down. In this way it escapes the lips and teeth, and the whole dose is swallowed. It does not touch the spoon, and therefore cannot adhere to it.

July 25, 8 a.m.—Patient much improved; eyes bright; countenance calm, except when it coughs; then expresses pain. Cough still croupal; respiration slower, fuller, and freer, and some mucus in trachea when it coughs; pulse 130, fuller and softer; bowels have moved twice; dejections exceedingly offensive and black; throat not so red, and exudation passing away from left tonsil.

5 p.m.—Patient doing well. Two dejections since morning; dark green and oily; not offensive; think fetor in first was owing to putrefied caseine. Give three grains instead of six grains of calomel every hour. Up to this time this infant of eight months had taken one hundred and sixty grains of calomel.

July 26, 9 a.m.—Improvement very marked. Child inclined to be playful. Slept well all night; had to be waked to administer medicine. Respiration almost normal; pulse 110; skin natural; cough still troublesome. Bowels moved three times; dejections watery and very green. Fauces very much better. Give calomel every fourth hour, and potass. chlorat. in interval. Give beef broth, without fat.

July 27, 9 a.m.—Improvement manifest. Respiration perfectly free, but cough somewhat annoying, yet not frequent. Bowels moved three times,—a dark clear green, consisting of gelatinous masses. Omit calomel, and give ol. ricini, ʒij. Continue potass. chlorat. every four hours, and give gtt. xv, in interval, of syrup. polygalæ senegæ.

July 28.—Cough better; patient doing well. Continue treatment.

July 29 and 30.—Convalescence progressing happily.

This child was brought to the office about the third week of October, and an abscess was opened at the angle of the left jaw, which discharged laudable pus and soon healed. Dr. McCann reported this case at the time, and I have considerably cut his report, but cannot avoid quoting his remarks on it in full:

"In this case, a babe eight months old, which appeared moribund on first and second visits, took

at the rate of $3\frac{3}{8}$ grains of calomel every hour for sixty-eight hours, and instead of exhaustion the load was rolled off the vital organism, and it steadily attained its power and force of healthy vitality. In this case, as indeed in all the other cases we have noted, there was never a sign of mercurialism, no ptyalism, no ulceration of the mouth or throat, and, judging by the *physique* of the child when last seen, no injury had resulted to its organism from mercury or disease. Thus the bugbear of the injurious effects of mercury on the system may be laughed at as utterly ridiculous."

Case III.—Thursday, September 13, 1877, 9 a.m.—Saw a female child of J. Yarnells, aged 5 years,—a family in which I have been the sole physician for twelve years. Found the child feeble, with hot skin, frequent but feeble pulse, complaining of great soreness in throat; no glandular enlargement. On inspecting fauces, saw the tonsils thickly covered with a white exudation, which extended over palate, velum palati, and pharynx. The tonsils had the appearance of two small hard-boiled eggs with shell removed. On enquiry, learned the patient had been ill since Monday. Gave a fatal prognosis, and prescribed tonics, stimulants, etc., to support against gangrene of fauces, which I felt certain would occur. On visiting her in the evening, found parents much rejoiced at apparent improvement. Some portions of exudation had come away, one-fifth inch in thickness. Dr. McCann was with me, and I had intended to experiment with bichloride of mercury; but the doctor wisely admonished me not to change treatment in a case which, to an enlightened medical observer, must inevitably prove fatal, when the parents believed the patient improving on the remedies administered.

On the following morning, September 14, the patient was moribund, glands of neck immensely swollen, breath had a gangrenous fetor, extremities cold, pulse could not be counted, and she died at noon.

Case IV.—At ten o'clock on Tuesday, October 2, 1877, was called to see the housemaid in same family, aged 17 years, and of a vigorous organization; had but lately come from England. Had felt unwell for several days, but had worked until the afternoon, when she told the lady she could not work any more, but must go to bed. Found her with flushed face, hot skin, anxious countenance; complains of soreness in throat and severe pain in head, especially in occiput, extending down spine. Has aphonia; can only speak in whisper; pulse small, tense, quick, and 136 in minute. Tongue furred; throat of an intense glossy red, and a thin patch of diphtheritic exudation on right tonsil; pain from this tonsil extends into right ear.

Bled her to syncope (twenty-four ounces), gave twenty-five grains of calomel, and in an hour twenty more, then ten grains every hour; if she complains of weakness, extend to three hours. Give ten grains of potass. chlorat. in solution every third hour, and nothing to be taken but lemon water, cold water, and barley gruel.

October 3, 10 a.m.—Pulse 100, fuller and softer; slept so comfortably since 4 a.m. that powders were given only every third hour. Bowels moved but once, although two drachms of calomel have been taken, and there is no prostration. Feels much better; very slight pain in head, voice improved, and flu leaving right tonsil, but face is still too red. Continue treatment; if bowels are not moved at noon, give a teaspoonful of magnes. sulphat. in a cup of cold water. Eight p.m., condition comfortable; pulse 90; face paler; bowels moved once since she took the salts. Continue treatment.

Thursday, October 4, 10 a.m.—Had a good night; pulse small, quick and frequent,—a mercurial pulse I call it. Bowels had moved thrice, but the discharge, in color and consistence, did not warrant the omission of calomel. Continue treatment; touch right tonsil with solution of nit. argenti in glycerin, ʒj to ʒss. The exudation has passed off, and epithelium with it. Ordered the stools to be carefully observed, and if the bile floats in dark, bright-green gelatinous masses, abandon calomel and give ol. ricini, ʒ iss.

Was sent for to visit patient at 9 p.m. Messenger said that patient had been unable to swallow anything since 5 p.m. When I saw patient, found her and friends much alarmed, but she had comfortable skin, pulse, etc. Suspected the diphtheritic inflammation had reached upper portion of œsophagus, and loss of epithelium had induced spasmodic constriction of circular fibres,—the same condition I had once combated in an old lady who had swallowed her tea too hot. Called for a cup of warm gruel, and urged the patient to fill her mouth and make a strenuous effort to swallow it. She succeeded so well that the contents of the cup were soon transferred to her stomach. This difficulty of deglutition passed away in two days. Finding in dejections characteristic bile, omitted calomel and ordered ol. ricini, ʒ iss. Continue potass. chlorat. and touch tonsil, then pass brush into œsophagus.

October 5, 10 a.m.—Patient comfortable; all symptoms favorable; only complains of something in throat annoying her like a foreign body, but not painful. On inspection, saw that the uvula was about the size and shape of a marble, and had the appearance of a vesicle of water. Ordered it to be brushed frequently with a large camel's-hair pencil moistened with red-pepper tea. May take beef broth.

Saturday 6th, 9 a.m.—Patient quite well; palate nearly normal in appearance and size. Ordered one and a quarter grains, thrice daily, chlorat. potass. to be continued.

Sunday, 11 a.m.—Patient had some pain in wrist and shoulder of right side during night. Room has no fireplace, and nights are cool and weather damp. Prescribed blue mass, ʒss, and comp. ext. colocynth., ʒss, to be mixed and divided into four pills, to be taken at once. A half ounce spts. Mindereri, ten drops of wine of root of colechicum (British), and four drops of tinct. rad. aconiti, to be taken every three hours, and painful parts to be painted with Churchill's tinct. iodine.

Monday, October 8.—Patient to resume quinine. Rheumatism all gone; take Mindereri mixture thrice daily. In a week from this she went to her parents' home (thirty miles by railroad), and has been well ever since.

PITTSBURG, December, 1877.

WHEN NOT TO GIVE IRON.

Dr. J. MILNER FOTHERGILL, in an interesting article on this subject (*Practitioner*, Sept. 1877,) says: The conditions which call for the administration of iron are *par excellence* those where debility is combined with anæmia. In these conditions iron acts as a general tonic as well as increasing the number of the red-blood corpuscles. But there are certain circumstances which contraindicate the use of iron, and which are deserving of note and remembrance. It is not enough to say that in conditions of plethora and vascular fulness iron should not be given. There are other conditions in which it is well to resort to other tonics, and even to other remedial agents altogether. Pereira says that the contraindications are "great strength and activity of organs, excessive tonicity (characterized by a firm and tense condition of the solids), and redundancy of the red corpuscles of the blood—as in general excess of the blood (plethora), in fever, in acute inflammation, and in the sanguine temperament. To these may be added, congestion, or a tendency thereto, of important organs, especially of the brain and lungs, and intestinal irritation." Again he says: "administered in large quantities, or when the alimentary canal is in an irritable condition, all the compounds of iron are liable to excite heat, weight and uneasiness at the precordia, nausea, and even vomiting, and sometimes purging."

From the well-known action of iron in increasing the red-blood corpuscles no one would now think of giving iron in states of vascular fulness. It is unnecessary to say anything further on this subject. Then again conditions of vascular excitement are unsuited for the exhibition of iron. As long as there is rapidity of pulse combined with rise of temperature, so long must iron be withheld in the treatment of acute disease. When the convalescence is well established; when the pulse may be fast and small, but is without excitement; when the temperature is perfectly normal or below it; when the skin is cool, the face pale, and the tongue clean, then, and not till then, should the administration of iron be commenced. If it produce any gastric disturbance, or headache, or feverishness, it should either be totally abandoned for a time, or the dose be much reduced. Vegetable tonics, as quinine or strychnine, together with mineral acids, the hydrochloric, the phosphoric, or the hydrobro-

mic even in some cases, should be given instead ; and then the iron, in small doses at first—to be taken after meals, especially dinner. So administered iron can often be tolerated, when it disagrees given in the usual way in combination with the vegetable tonics. The same rule holds good of the resort to iron when the pyrexial stage of ordinary phthisis has passed away. The tonics and acids must be given before food, and the iron after, either as the tincture of the muriate in acetate of ammonia, the carbonate, or Niemeyer's pill of sulphate of iron with carbonate of potash in a drop of syrup. But as long as the tongue is thickly coated, or red and irritable, it is well to withhold chalybeates altogether.

This is very true of phthisis. However much the general pallor, the lack of tone and loss of power seem to call for iron, it is useless, and sometimes worse than useless, to give it unless the tongue be clean, without irritability. If the tongue be red and irritable, bitters with bismuth are to be adhered to, until all intestinal irritability has passed away, of which the condition of the tongue is the best index ; if the tongue is loaded with fur, bitters and acids are to be preferred with a little sulphate of magnesia, or a vegetable pill at bedtime ; or both if necessary. The gastrointestinal canal must be got into a normal condition, neither too irritable, nor sheathed with a layer of epithelium, as indicated by the fur upon the tongue, before either chalybeates or cod-liver oil can be satisfactorily prescribed. About this my experience at the Victoria Park Chest Hospital constantly makes me more and more positive.

In ordinary convalescence from acute conditions it is well to commence with the lighter preparations, the ammonia-citrate, the tartrate, or the citrate of iron and quinine ; afterwards the muriate or the sulphate will be tolerated equally well. But these latter forms often disagree during the early stages of convalescence. At times too the mixture of the sulphate of iron, with quinine, and a few drops of dilute sulphuric acid, is found to be heating, and each dose to make the patient uncomfortable, especially in warm weather ; here the addition of a little sulphate of magnesia, not necessarily to the extent of producing purgation, will at once remedy the uncomfortableness so induced.

In atonic gout also iron is commonly of no service, and makes the patient uncomfortable. In the sanguine and plethoric forms of gout, iron is never indicated. But where there is evidence of chronic renal disease with anæmia, and even with albuminuria, then it commonly seems desirable to administer iron in some form. Very often, however, it distinctly disagrees. It is well to see that there is no acute action going on anywhere, that the

joints are cool, even if still enlarged before commencing with chalybeates. The bicarbonate of potash, or the potassio-tartrate of soda, with a little nux vomica, in infusion of buchu, with a liberal draught of water after each dose, are the medicinal agents to be adhered to until all is perfectly quiet. When the tongue is clean, the skin cool, and there is no evidence of much acidity, then small doses of iron may be commenced with. But for some time the iron and the potash should be taken together ; if the potash is left off the iron disagrees. Especially is this the case with elderly persons. It may be laid down as a broad rule that the toleration of iron diminishes as the age increases. With old persons iron comparatively rarely agrees, and then only in very small doses ; while young children take iron well, and it often is well borne by them in conditions which in the adult distinctly forbid its use. But as age advances the system seems to grow less tolerant of the drug in any form ; and the dose must be much diminished. In advanced life, in convalescence after acute disease, or paroxysms of gout in any of its forms, chalybeates have often to be abandoned, and alkalies, as potash or ammonia, with vegetable tonics and bitters, substituted in their stead. It would seem that the power of the digestive organs to assimilate iron is strongest in infancy—except it be very young children and babies—and that it diminishes, until in advanced life the blood manufactured often appears to be interfered with rather than assisted by chalybeates. Consequently with old people it is often better to give them tonics with alkalies and easily digestible food than to give iron, when it becomes desirable to give a fillip to their nutritive processes.

There is one condition where iron is absolutely forbidden, and that is the condition known as biliousness. As long as there is a foul tongue, a bad taste in the mouth, and fulness of the liver, with disturbance of the alimentary canal, iron is to be prohibited ; it is not only that it is of no service, it positively does harm. It aggravates all the symptoms, and intensifies the condition. Iron undoubtedly increases the oxidizing processes, but somehow or other in biliary disorders it does not suit. Defective-oxidation is at the root of these states, and yet iron does not agree with such patients. As long as any of the symptoms remain, and there is any fur whatever on the tongue, iron must be withheld. The patient may be anæmic and iron seem to be urgently indicated, but it will do no good until the system is in the proper condition to receive it. Sir Joseph Fayer's Indian experience is in full accord with this expression of opinion. He kindly furnished me with some notes on Indian and tropical maladies for my recent work, *The Practitioner's Handbook of Treatment*, and

in speaking of the treatment of hepatic congestion, accompanied by anæmia, he lays stress upon the resort to purgatives and vegetable tonics, and the avoidance of iron, until the biliary congestion is removed. "*When the portal circulation is relieved*, some preparation of iron may be useful." (The italics are his, not mine.) The liver must be thoroughly unloaded by alkaline salines first; then some strychnia and nitro-muriatic acid may be taken in the day, the salines being only taken first thing in morning; and ultimately, when the liver is once more working efficiently, chalybeates may be prescribed. But it seems that the oxidizing power of iron embarrasses rather than aids the liver when working inefficiently; and when iron is given, the morning purgation by salines, mineral waters, or other means, should still be maintained. By attention to these points much may be done for bilious patients; aye! and much discredit avoided. Whenever, indeed, there is disturbance of the gastro-intestinal canal, bilious or other, chalybeates are contraindicated, and if given cause discomfort, nausea, and not uncommonly a pyretic condition. The digestive organs must be got into good working order before iron is administered, if it is to be properly assimilated. When given in large doses iron always blackens the stools, but if given in moderate doses and well assimilated this blackening of the stools is not so marked. The colour of the stools, then, may be utilized as an indication how far chalybeates are assimilated and are likely to be useful.

There are two different states found in women where iron is either totally contraindicated or to be given with great caution. The first is the condition of amenorrhœa in florid, plethoric persons. In such cases, especially if the patient be of tense fibre, depletory measures are to be resorted to, as local bleeding and free purgation. The other in the opposite condition of menorrhagia in certain females. Of course no one would think of resorting to any form of iron, however astringent, in these cases of menorrhagia which are due to a state of general plethora. But there are cases of menorrhagia associated with pallor and debility, where the usual compound of iron and extract of ergot is not so useful as is a non-chalybeate treatment. In these cases it is not any imperfection in the processes of blood-manufacture which is to be remedied, for the blood is made rapidly and quickly, only to be lost at each menstrual period. An irregular process of rapid blood-making with still more rapid blood-loss is established, and requires its appropriate treatment. It is undesirable to stimulate blood formation by chalybeates here, for the greater the increase in the bulk of the blood, the more excessive the catamenial loss; and to give iron is but to aggra-

vate the condition. It is here desirable rather to limit the rapidity of the blood formation, so that when the general vascular turgescence of the muscular period comes, it will not find the bloodvessels too distended with blood. This will lead to diminished catamenial loss, and so the blood-waste will be economized. For in these cases it is the proper practice to lessen the loss rather than to stimulate blood-formation. During the interval a little sulphate of magnesia, with dilute sulphuric acid, in some infusion of a vegetable astringent forms an appropriate medicinal agent, and should be given along with a restricted dietary. At the periods the dose might be increased and the patient kept quiet, while all aliment should be cold. By such a plan the irregular condition of rapid blood-formation and blood-loss will be converted into a steady state of slower blood-formation with diminished loss. The same rule holds good of other periodical hemorrhages, and especially of some forms of hæmoptysis.

Even in cases of menorrhagia where it is necessary to encourage blood-formation during the interval, it is often well to cut off the chalybeates a day or so before the menstrual molimen, and to substitute for it the mixture just mentioned above. By such plan the blood-waste by the catamenia is economized, and the necessity for great blood-formation minimized. "There is poverty from waste and poverty from want," as Dr. Mitchell Bruce pithily puts it, and each requires its own appropriate treatment. At times with women there is both, and then combined measures are required.

Finally, the consideration of iron here is confined to its use as an hæmatic, its use in pyrexial affections as erysipelas or scarlatina not being included. When used as an hæmatic, it is clear that certain points must be kept in view. First, that the digestive organs be in fair working order, and second, that certain precautions be taken as to its administration when it is necessary to resort to it.

Since writing the above, Dr. Hughlings Jackson tells me that at one time he did not acquiesce in Brown-Séguard's idea, that iron does not suit epileptics, but that a more extended experience has convinced him that it is so. When iron is given to epileptics who are anæmic, it may improve the condition of the blood, but that while doing so, it increases the tendency to fits. It may improve the general condition, but it aggravates the epilepsy.

CURE OF EPILEPSY.

In the opinion of Kunze we possess in curare a remedy by means of which we may cure cases of epilepsy of long standing. He employs a solution of seven grains of curare in seventy-five minims of water, to which he adds two drops of hydrochloric acid. At intervals of about a week he injects be-

neath the skin eight drops of this solution, and in various cases in which convulsions had occurred for several years he obtained a complete cure after eight or ten injections.—*Canada Jour. Med. Science.*

CLINICAL LECTURE ON THE FORMS OF DYSPEPSIA AND THEIR TREATMENT.

Delivered by WILLIAM PEPPER, A.M., M.D., at the University Hospital, Philadelphia.

CASE I.—P. Mc., forty-seven years of age, a laborer, had malarial fever some twenty years ago, with derangement of intellect. Has lately been in the habit of tending brick-kilns for thirty-six hours at a time. Swells up after eating, feels drowsy and heavy, and belches wind. These spells come on at any time. His tongue is large and flabby, and its papillæ are enlarged. The man has not indulged in any intoxicating drinks for the last ten years, but still smokes a great deal, and drinks three large bowls of coffee daily. You will meet with a great many cases of this kind in your practice. There are very evidently two elements which we have to deal with here—(1) torpor of digestion; and (2) very marked sympathetic nervous disturbances. The dyspepsia may result either from the fact that the food merely goes through the stages of digestion slowly, and so ferments and evolves gas, or it may come from a defective supply of gastric juice, or from defective peristaltic action. In other cases there will be marked nervous disturbances. These are very marked in the present instance, and may therefore co-exist with the gastric symptoms. The man has gastric vertigo, headache, and neuralgic pains.

The man has evidently brought on this condition by his constant exhaustive attendance upon the brick-kilns and by his overuse of tobacco. Indeed, his symptoms are just those which we would expect to find in a case of chronic tobacco poisoning. The patient must be put upon a very careful diet of skimmed milk, from two pints up to two quarts daily, must give up his coffee and tobacco altogether, and, if possible, change his occupation, for the present, at least.

CASE II.—The patient was a car driver until two years ago, when he gave up that business and became a night watchman. Three or four years ago he was frequently intemperate. He also chewed a great deal at that time, and drank much coffee. His sleep was insufficient, and his work hours were from six in the morning until after twelve at night. He has suffered from much the same symptoms as *Case I.*

Nearly all cases of dyspepsia have some well-defined cause. You see at once what the cause has been in this instance. We cannot have, as physicians, too clear ideas of the action of certain substances. The baneful effects of intemperance upon the coating of the stomach

are too well known to need mention. My constant, every-day experience is proving to me that in the immoderate use of tobacco, coffee and tea, we have another most fruitful source of dyspepsia and nervous derangements. When taken into the stomach several times daily, and in large quantities, they make the nerves of the stomach more sensitive, and increase the amount of the gastric juice, rendering it much more liquid and watery in consistency, and diminishing the proportion of pepsin. They also act as sedatives to the muscular wall of the stomach, thus impairing its power of peristalsis, and producing, when absorbed, a state of nervous hyperæsthesia. Tea and coffee in particular, when taken upon an empty stomach, are exceedingly injurious. None of these three articles in overdose make people violent; but they cause just as much unhappiness as does alcohol when taken immoderately. Just as there are many grave diseases following chronic alcoholism, so the overuse of tobacco, coffee, and tea gives rise to a horrible amount of functional disturbance.

I repeat, therefore, my statement made above that very many cases of dyspepsia depend upon the excess of some particular article of diet, joined perhaps, as in the present case, with some irregularity of meals. How must such patients be treated? In the first place this man must give up absolutely his tobacco and coffee, and place himself upon a plain diet. His stomach is weak, its muscular action impaired, and its nerves over-sensitive, giving rise to reflex disturbances, such as giddiness and palpitation of the heart. Our patient must not take much food at a time into his stomach. The best diet for him will be one of skimmed milk—one half pint every four hours.

* * * * *

Our patient comes back to us to-day, showing the excellent results of our treatment. He has given up tobacco and coffee, and has not touched a morsel of solid food since you saw him last, and has not had a single attack of pain or indigestion. Sometimes milk is not well digested, when such is the case, I generally combine lime water with it. I begin with three ounces every two hours, until as much as three pints is taken in the course of the twenty-four hours. Another sovereign article of diet is buttermilk. In buttermilk the casein of milk is coagulated and broken up, so that the stomach is spared two steps of the regular process of digestion. Still another excellent preparation of milk is koumyss. This is now made in America. It contains a good deal of carbonic acid. Milk is mixed with brewers' yeast, then corked and put on ice. Koumyss is a sparkling drink, very sedative and palatable.

Among drugs, arsenic, in small and gradually increasing doses, is a remedy of extreme importance

I have found the following prescriptions of great use in certain forms of dyspepsia:

(1.) Sodæ bicarb., three drachms; acidi hydrocyani dil., forty-eight drops; tinct. valeriani, one ounce; syrup zingiberis, two ounces. *Misce.* Sig. a teaspoonful, thrice daily, in water.

(2.) Quinæ sulph., sixteen grains; strychniæ sulph., one-third grain; acidi muriat. dil., one and a-half drachms; syrup zingiberis q. s. ad., four ounces. *Misce.* Sig. two teaspoonfuls in water, right after meals.

This is a case of flatulent dyspepsia, with impaired digestion and considerable accumulation of gas. There has been no coffee or tobacco poisoning in this case. The man is a sailor, forty-two years of age. For the last five months he has suffered from gastric vertigo and slight pains after eating. His bowels are costive. The epithelium of his tongue is rough and its papillæ enlarged. Bread and tea do not affect him, but anything greasy does. Last spring he was in bed seven weeks with typhoid pneumonia, and dates his dyspepsia from that time. Here you see that the dyspepsia has been brought on by a prostrating illness.

The treatment in this case is very simple, for there has been no grave error of diet which needs correcting. We must make the stomach's work lighter by placing the patient on a carefully selected diet. This is very hard to do in the case of patients in this class of life. Such patients have to take what is put before them, or nothing at all. I will tell the man, however, to avoid heavy foods, fried foods, sweets, pastry, rich pudding. His diet should consist of such articles as eggs, milk, starchy vegetables, stewed fruits, a little butter with stale bread. After meals, I would advise him to take a ten grain pepsin powder, or better still, a couple of teaspoonfuls of prescription No. 2—(see case II.)—thrice daily, after meals. I say right after meals, for we want this recipe to be taken in the acid and not in the alkaline stage of digestion. Where there is marked hepatic disturbance, the following prescription is an excellent one:

(3.) Muriat. acid. dil., one-half drachm; tinct. nuc. vomicæ, one-half drachm; comp. infus. gentianæ, q. s. ad., four ounces. *Misce.* Sig. a dessert-spoonful after meals in water.

(4.) Also the following: Bismuthi subnit., one and a-half drachms; pepsin., one and a-half drachms; strychniæ sulph., one grain; tinct. cardamomi comp. q. s. ad., four ounces. *Misce.* Sig. a teaspoonful, thrice daily, in water. If there is much flatulence, increase the amount of bismuth and pepsin; if the case is merely one of gastric atony, increase the amount of strychnia.

CASE IV.—The patient is an hostler, thirty-four years of age, and married. Has suffered

from fullness in the stomach after meals since 1865. For the last seven months has complained of severe shooting pains in the pit of his stomach. These pains extend through to his back and up to his shoulder blades. His bowels have always been costive. The pains in his stomach come on about three hours after meals. The pains are relieved temporarily by eating, but come on again with renewed vigor. Has palpitation of the heart after any excitement. Occasionally has spells of giddiness. Urine is normal.

What is the cause of this man's attacks of gastralgia? There is no gastric ulcer, for the pain is not localized, and there is no vomiting and no hematemesis. There was, no doubt, originally some subacute gastritis which passed away, leaving behind a chronic gastralgia. This gastralgia follows the ordinary law. The pain comes on at the close of digestion, because the ingesta are then acrid and fermenting. The spells of pain last as long as there is any acrid matter in the stomach. This man has, therefore, a state of slow digestion, complicated with a pure neuralgic condition of the stomach.

I find that he is at present very careful as regards his diet, but that, two or three years ago, he used a great deal of tobacco, and drank a large quantity of coffee daily. His occupation at that time was a most exposing one.

I will tell this patient to limit his diet to a gill of skimmed milk every two or three hours, at first, then a-half pint six times daily. He must also take from two to five drops of Fowler's solution when the paroxysm of pain overtakes him. Prescription No. 1—(see Case II.)—will be of great benefit to him. If the Fowler's solution does not control the pain, let him use over the epigastrium, first, a blister two-inches square, then a belladonna plaster six inches square.

CASE V.—This man has dyspepsia, urticaria, and post-nasal catarrh. He is a miner, and is at work in the mines ten hours daily. He has suffered from attacks of hives for the past four years. For over a year he has had the post-nasal catarrh. There is plenty of yellow, thick phlegm in his posterior nares, his appetite is irregular, his tongue thickly coated, his bowels either very costive, or very loose, and his urine high colored.

Upon examining the man's throat I find a red, swollen mucous membrane on each side of the pharynx. The post-nasal space is filled with a purulent discharge.

Urticaria is one of the most obscure and interesting of cutaneous affections. It is generally sympathetic of some digestive or nervous derangement. The effusion under the skin is usually reabsorbed by some reflex mechanism when the source of irritation is removed. While the eruption lasts, the burning and itch-

ing are intolerable. The urticaria has brought on a state of increased sensibility of the mucous membrane of the throat, stomach, and intestines; a sort of confluent catarrh of the alimentary canal.

Treatment must be twofold—(1) The diet must be regulated. Milk is the best food. This man had better use prescription No. 3. If his bowels are costive I shall order some laxative—some sulphur with molasses, or put up with confection of orange, or given in wafers. (2) As a local application for the throat I would advise iodine, or, better, nitrate of silver. The brush by which this latter salt is applied must be so arranged that it can be touched to both of the nares separately. We must insist upon it that our patient give up his habit of constantly hawking and spitting.

[The man has now been under treatment three weeks. He has made very marked improvement in that time. His dyspepsia is all gone, and there has been no eruption of hives since you last saw him. The catarrh is gradually getting well.]

NOTES OF A CLINICAL LECTURE ON ACNE.

By Jonathan Hutchinson, Esq., F.R.C.S., Senior Surgeon to the London Hospital; Surgeon to the Moorfields Ophthalmic Hospital.

When the face is covered with pimples, some of which are red, some contain pus, and others show only black points in their centres—all kinds being present, and all slow in progress,—it is commonly agreed to call the condition acne. If the spots are angry and suppurate quickly, it is acne pustulosa; if they are small, very florid, and not prone to suppurate, it is acne rosacea; if there is great thickening about them, and again little tendency to suppurate, it is acne tuberculata; if there are numerous black points to be seen, it is acne punctata; lastly, if no one of these features be in excess of the others, it is common acne—acne vulgaris. Now, let us first understand clearly that these various adjectives do not denote different diseases, but merely different conditions of the same disease, which may be frequently met with in one and the same case. Next, we will observe that all forms of acne are inflammations of sebaceous follicles. I have already said that, when a follicle inflames, three results ensue—a thickening of its gland tissue, deposit and congestion of the cellular tissue around it, and accumulation of its secretion in its interior. Now, we have in acne all shades of variety as to these three results. Everyone is familiar with the little black dots so frequent in the skin of the face of those who have rather coarse complexions. In degree they may perhaps be found in the skins of most persons, especially about the nose. If you squeeze them, little black-headed “maggots” are ejected. These maggots, or grubs, are not living, but consist

of half-dried sebaceous matter, which had accumulated in the cavity of the gland, and which has been moulded into the pellet form in passing through the constricted opening. The black head is the end of the pellet which, having been long exposed at the mouth of the duct, has gathered soot.

It is not always that the end of the pellet gets blackened; sometimes, and especially in young persons, the mouth of the follicle is closed by a delicate membrane, and then the secretion collected beneath it is seen under its transparent covering, and remains quite white. In infants this distension of closed follicles constitute what used to be known as strophulus albidus; in adults it is more frequently seen on the eyelids than on other parts.

Sometimes the interior of the follicle suppurates, and, after removal of the pellet, pus escapes. This constitutes pustular acne.

It is a peculiar feature of the condition known as acne, that at one and the same time, in the same patient, you will find the follicles in all stages of disease, some simply distended and free from material irritation, others congested also, others suppurating. In this it differs much from lichen.

Acne is emphatically a disease of coarse skin; or rather, perhaps, we ought to say that the term “coarse skin” usually applies to integument in which the sebaceous follicles are larger than ordinary, and have gaping mouths. This causes the skin to look rough and pitted. It is a state of skin the tendency to which is often hereditary, and it is thus often seen in several members of the same family.

Acne spots cause more annoyance on the face than elsewhere, and hence an exaggerated impression as to their great relative frequency on this part. Although there is no doubt that the face and shoulders are their usual sites, yet, if you will examine the general surface of acne patients, you will very frequently find the spots, in smaller numbers, on the trunk and upper arms also.

Having asserted that all persons of coarse skin are liable to have their sebaceous follicles take on occasionally the acne inflammation, we may suitably ask what are the causes which induce the more severe forms of the disease. For clinical purposes we may recognise acne chiefly in two forms—first, the acne of young persons; and, second, the acne of those past middle life. It is in young persons that we meet chiefly with the pustular punctate, and vulgaris types, whilst in the elderly we encounter the acne rosacea and tuberculata. Respecting the acne of the young, there is a very widespread opinion that it is usually the result of sexual disturbance. I have no doubt that this belief is well founded to some extent, but we must beware of exaggerating it. The eruption is chiefly met with in young celibates,

whilst it is very rare under the age of puberty, and is often benefited by marriage. It is possible, however, that its comparative rarity in the married may after all be a coincidence and not a sequence, and that we ought to consider it not so much as a disease peculiar to celibacy as to the special age at which a large majority of the population are celibates. It may certainly occur before puberty. I have seen it not very infrequently in children, and once in a very marked form in the face of an infant of six months. It is also frequent in married persons of both sexes, and sometimes originates after marriage. I have known it to occur in ladies who were bearing children, and in whom the sexual functions appeared to be in perfect activity.

Making full allowance for a considerable number of acne cases in which there appears to be no sexual cause, there are yet, I think, good grounds for accepting the general belief that in a majority of instances such is the fact. The remarkable influence which the sexual functions exercise upon the general health and upon the state of the nervous system is amongst the secrets known unto all men. That they should have the power of making the sebaceous glands of the skin enlarge and suppurate is certainly, if thought about, one of the most strange. I suspect that, when it occurs, it is brought about through the agency of the nervous system rather than of the blood. Women who are not liable to acne at other times sometimes have a few spots appear at each menstrual period, and that whilst in excellent general health. I have been assured by gentlemen liable to nocturnal emissions that they invariably had an increase of acne spots after such occurrences, and sometimes so immediately that it was impossible to believe that any material change in the blood had occurred. In other cases sexual intercourse may produce the same result.

It is certainly not in cases of extreme sexual exhaustion that acne is most common. I have seen many such patients, both with and without spermatorrhoea, who had not a spot of acne but, on the contrary, had skins which were perfectly smooth—in some instances florid, in others earthy pale. It is, perhaps, rather a condition of sexual irritability than of exhaustion which produces acne. I do not think that the severity of the acne eruption bears any relation to the degree of sexual disturbance. In the worst cases that I have seen the patients often seemed to be in good health.

To dismiss this subject, we may remark that the prescriber ought, in respect to the acne of celibates, to bear in mind the possibility of a sexual cause. He will advise the adoption of measures likely to improve the general vigour, he will caution against any possible cause of debility, and he may, in some instances, suggest

matrimony as the remedy most likely to prove successful. Derangements of stomach and liver stand in about the same relation to the acne of middle-aged persons that sexual causes do to the acne of early life. Manifest dyspepsia (often the result of intemperance) is present in perhaps half the cases of acne rosacea, whilst in the other half it is exceedingly difficult to assign any cause. The same remark applies also to the indurated and tuberculous form of acne, which produces the thickened, bossy condition of skin familiarly known as "grog-blossoms," and usually considered to be proof of intemperance. In many cases such suspicion is most unjust. At any rate, of this you may be sure—that in persons congenitally of coarse skin very slight indulgence at the table may produce results in the way of acne, which would not ensue in others, whatever the amount of provocation afforded. As I asserted in reference to sexual exhaustion, so I may say here again, it is common enough to see the most intemperate escape scot-free. Nothing would be more unjust than to allow ourselves to entertain the belief in the one form of acne, that it is certainly due to sexual causes, or in the other that intemperance or gluttony is the cause. We will freely admit a frequent connection, but strongly deny that it is invariable. For the worst forms of acne of either variety you will be able to discover in the patient's state of health or antecedents no cause whatever, and you will be compelled, in considering your measures of treatment, to regard it chiefly as a local disease.

The rules for the constitutional treatment of acne patients follow easily from what we have said. If the patient be young he should be made to use a cold bath every morning, to take plenty of exercise, to live liberally as regards meat diet, with a fair allowance of stimulants; and he should be cautioned or encouraged, as the case may be, in reference to sexual matters. As to medicines, a long course of small doses of arsenic will often be of great use. If constipation be present, the habitual use of a chalybeate-aperient should be prescribed. You may do all this, however, most sedulously, and gain nothing whatever, if you neglect local measures; whilst with the latter only, and without any change in the patient's habits, you may often get an acne eruption so nearly well that he will regard it gratefully as a cure. The chief local measure consists in destroying, by means of a fluid caustic, the inflamed follicles. With a fine-pointed glass brush, or a bit of soft wood cut to a point you may touch the inflamed spots from day to day. Take great care not to apply too much. In the left hand should be a roll of blotting-paper with which to absorb the fluid if it has been deposited too abundantly.

The best fluid to use is the acid nitrate of mercury. It will usually be necessary to re-

peat the touching once a week for a month or two, carefully seeking out every fresh spot. After that the patient should still see you once a month, in order that the cure may be kept up. The acid thus used does not leave larger scars than the spots would themselves do.

In acne rosacea the use of the caustic will again serve an excellent purpose. You may not only touch the spots themselves, but also pencil out the stray vessels which add so much to the patient's disfigurement. He, or more usually she, will gladly exchange a few slight and scarcely perceptible scars for the angry and very suspicious-looking redness of face which the disease causes.—*Medical Times and Gazette*.

THE USE OF DIGITALIS AND STRYCHNIA IN DISEASES IN WHICH DEATH TAKES PLACE BY ASTHENIA.

A Case in Illustration. By S. G. ARMOR, M.D.

The relation of local to constitutional states has long been a subject of fruitful speculation to the pathologist. To the therapist these relations are of equal interest, and may be studied, perhaps, with even greater profit. I submit the following case as a brief contribution bearing upon this point.

Miss J., a maiden lady, aged about 35 years, was attacked on the 14th of December with what seemed to be intestinal obstruction. She came under the care of Dr. Geo. K. Smith, of this city, to whom I am indebted for most of the facts of the case.

At an early period an abdominal enlargement was detected to the left of the median line. It was doughy on feel, tender on firm pressure, and disappeared after full evacuation of the bowels. The inference was that it was a fecal tumor. Following the evacuation of the bowels, the tenderness increased rather than diminished. It gradually extended, the bowels became tympanitic, pain was increased by deep inspiration, by coughing, by all bodily movements, and there was more or less elevation of temperature. The symptoms, in brief, were those of peritoneal inflammation, and the patient was at once put on opium in full and repeated doses, and the bowels kept quiet. The diet was at first mainly milk and lime-water.

December 21st, Dr. C. H. Giberson was called in consultation. Symptoms as above described. Temperature, 102°; pulse, 112. Opium treatment continued and quinine added.

December 25th, the twelfth day after the attack, I first saw the case in consultation with Dr. Smith. I found temperature 103½°, pulse 125, with very low blood pressure; mind clear, local tenderness measurably gone, tongue moist and clean, stomach retaining nourishment well. But notwithstanding the liberal alimentation, in addition to the quinine, opium and stimulants which the patient was taking, the circulation was evidently failing.

In consultation we agreed to continue the treatment, giving the morphine hypodermically in smaller

doses, and at regular and shorter intervals, for its sustaining action on the nervous system. We added, also, to the brandy, aromatic spirits of ammonia; and agreed, in addition, to give her tablespoonful doses of the infusion of digitalis every two or three hours.

On the 27th (about twenty-four hours after commencing the digitalis, and apparently the result of it), the temperature fell to 102°, and the pulse to 100.

I saw her again on the 28th, at which time the pulse was 80, and the temperature 101°; capillary circulation good, tongue moist; but, for the first time, patient inclines to reject both nourishment and medicine. Regarding the stomach as of vital importance in the critical condition of the patient, we decided to withhold all medicine, continuing only the stimulants, nourishment, and morphine hypodermically administered. At no time did the patient exhibit any symptoms of opium poisoning.

On the 29th, stomach better, patient retains food and well; pulse, 95; temperature, 101½.

On the morning of Jan. 1st I was hastily summoned to see her again, and learned that during the after part of the night the temperature suddenly rose, without any apparent cause, to 103½°, and her pulse, when I saw her at nine o'clock, was 156, "thready" and uncertain. There was also general "atonic congestion" of the capillaries; the face presented a dusky hue, the skin was bathed in cold, clammy sweat, respiration was superficial and feeble, the eye dull, listless, partly closed and fixed, the mind aroused to consciousness with difficulty, and the reflex function of the spinal so greatly depressed that liquids were scarcely recognized when placed in the mouth. The patient had, in brief, the physiognomy of approaching death.

With this condition of things we administered, as a *dernier ressort*, the forty-eighth of a grain of strychnia, according to the following formula:

Strychnia sulphat., 2 grains;

Aqua destil. (warm)—1 ounce. Mix.

Five minims contain one forty-eighth of a grain. This dose was repeated every two hours hypodermically during the day and following night, continuing stimulants, milk and beef-juce as the patient could be induced to swallow, supplementing deficiency of stimulants by the mouth by occasional hypodermic injections of brandy. Stimulating frictions were also applied externally, and everything was done to rouse the flagging condition of the nervous system.

Very remarkable improvement almost immediately followed. The dusky hue of the face disappeared, the eye became brighter, the mind clearer and more cognizant of surrounding objects, deglutition less difficult, the perspiration warmer, and the temperature once more came down to 102°, and the pulse from 156 to 120.

This condition of things did not last many days, however, until another class of symptoms, more alarming to the friends than the first, manifested themselves—namely, delirium, with greatly increased

sensibility of the surface and of the organs of special sense. The reflex function of the spinal cord became so exalted, that the slightest peripheral irritation produced marked disturbance of the system. Hypodermic injections had to be abandoned for a time. Sleep, however, of several hours, which the patient had not had for some days, caused the delirium to subside, and produced general quietude of the nervous system.

Jan. 3rd, patient was seen by Dr. Hesse, who advised the gradual lessening of the dose of morphine, and that muriate of quinine be administered hypodermically.

Jan. 14th, I learn from Dr. Smith that the patient continues to improve, and that the probabilities are she will make good recovery.

This case has been one of peculiar interest to me, for it involves questions of vast importance in practical medicine. The two points to which I desire to specially attract attention in this case are:

First. The great necessity of sustaining the heart and general nervous system in a large class of affections which terminate in death by *asthenia*.

Second. The manifest action of digitalis and strychnia in meeting these indications in the case reported. The improvement that followed was so rapid and unmistakable, that there could be no doubt on this point.

And their action in this case was such as I have frequently observed in similar cases.

In many cases of local inflammatory diseases (not dangerously involving vital organs) the patient often dies, I doubt not, from failure of heart action, before the local disease can run through its natural history. In all such cases time becomes an important element of cure, and the way to get such time is to guard well the "dead point of danger"—a weak, and failing heart.—*Proceedings, Medical Society Kings County, N. Y., Feb. 1878.*

LETTER FROM LONDON.

To the Editors of the Louisville Medical News:

The successful treatment of opium-poisoning by the subcutaneous injection of a grain of sulphate of atropia was the subject of a communication made to the Medical Society of London by Dr. J. Milner Fothergill, whose researches in therapeutics are not unknown to us.

The patient was a woman of forty-seven, living at a public-house, who took, at 11 a.m. on February 14th, three drachms of laudanum, representing thirteen grains or so of opium. On recovery she said she had had more. Be that as it may, she was at death's door. In half an hour she had an emetic of sulphate of zinc and ipecac., and vomited. She was then sent to the West London Hospital, where another emetic was administered, and the vomited matter still smelt of laudanum, showing that the first emetic had not got rid of all the poison. She grew worse, was walked about, but the narcosis deepened, and the respiration had nearly failed when Dr. Fothergill, on his

usual visit, arrived at the hospital at 2 p.m. He at once had a grain of atropia dissolved and injected under the skin of the forearm. His reasons for such a bold procedure were the state of the patient and his familiarity with the treatment of failing respiration from his experiments on the antagonism of aconite and digitalis, aconite and belladonna and aconite and strychnia, performed for the British Medical Association. (See the *British Medical Journal* for August 4, 1877.) In this patient the respiration was distinctly the source of danger, as the pulse was rhythmical and steady, though small. For a few (ten) minutes the failure of the respiration went on, time being required for the absorption of the belladonna.

The patient was fast losing heat, for the chemical interchanges are small when the respiration fails so markedly; so she was put into a warm bed with a hot bottle to her feet. In another ten minutes the respiration was recommencing, with five or six shallow respirations a minute and a long-drawn sigh-like respiration at intervals. At 4.30 the patient was sleeping calmly, breathing thirteen to the minute, the respirations being steady and deep. Her pulse was 132, full, but compressible. Her temperature was then only 97.5° in spite of the warm bed, the bottle, and the action of the belladonna, which raises the temperature. The heat-loss in opium-poisoning has not yet been sufficiently recognized. At 8.30 the pulse was 128, the temperature 100.4° Fahr., and the respirations twenty-four per minute. She slept deeply, but could be roused. She was rather restless at times through the night, but slept till 10 a.m. on the 15th. She was then conscious and thirsty, but did not complain of much dryness of the throat. There was no marked reddening of the skin. The pupils were natural; the recovery was complete.

This case teaches a lesson in the treatment of opium-poisoning. Dr. Fothergill's practice here was no sudden thought, but the outcome of the careful study of the mode of death in opium-poisoning given by Wood in his work on Therapeutics, and of the effects of belladonna in arresting the failing respiration in aconite-poisoning in animals. He had long worked the matter out in his mind as to what he should do if the opportunity of treating a case of opium-poisoning came before him, viz., not to give the belladonna in small, divided doses, but to give at once, as in the experiments on animals, and to take the consequences of secondary belladonna intoxication. However, in this case, no evil consequences followed, and the only mishap was a blister on each calf from the effect of the hot bottle.

It would appear that the true treatment of opium-poisoning is to empty the stomach thoroughly, and then inject a third of a grain of atropia before the breathing has markedly failed, and next to put the patient to bed, and, if necessary, inject some more atropia. If not seen until the respiration has all but stopped, a full dose of atropia should be injected at once. The contrast between the poor woman being dragged about, gradually chilling to a point incompatible with life, and lying in the bed calmly sleeping her poisons off, was very striking. The treatment of

opium-poisoning in the future will be influenced by this case. The subject of heat-loss in opium-poisoning has here been properly investigated.

Dr. Fothergill has paid great attention to the subject of physiological antagonism, and has just had awarded to him the Fothergillian gold medal of the Medical Society of London, for 1878. The subject of competition was, The Physiological Antagonism of Therapeutic Agents. In his essay he pointed out especially the potent influence of drugs upon the respiration and circulation, and their antagonism.

After showing how experiments elucidate the action of remedial agents, he went into the subject of the utility of this knowledge in actual poisoning. A still more interesting subject, he holds, is the utility of this knowledge in ordinary practice. We may use certain drugs freely, knowing their antagonists if alarming symptoms appear, as, for instance, the well-known antagonism of strychnia and chloral, some instructive cases of this antagonism being already on record. Further, by such knowledge we may get rid of and eliminate certain actions of a drug that we do not want. Thus, in the terrible night cough of some cases of phthisis, he gives a pill containing a third of a grain of morphia with one thirtieth of a grain of atropia in aloe-and-myrrh pill. The atropia prevents the sweatings and the depressant action of the morphia on the respiration and circulation. He holds, with the conclusion of Weir, Mitchell, Keen, and Morehouse, that atropia does not antagonize all the actions of opium, least affecting its effects upon the hemispheres. In this poisoning case this was well borne out, for while the pulse, the respirations, and the temperature rose, the woman slept on. From this it would appear, he holds, that in cases where large doses of morphia are indicated, much larger medicinal doses than those at present in use may be given without anxiety, if the effect of the opium upon the rhythmically discharging centers of the circulation and respiration be blocked off by combining with the morphia a full dose of atropia. He does not regard the effects upon the pupil of much importance as a guide to the action of these two agents; the state of the respiration is the true guide.

THE USE OF CAPSICUM WITH QUINIA.

It is not generally known that either capsicum, ginger, or other aromatics, combined with quinia, will make the patient more tolerant of large doses of this medicine, and obviate some of the disagreeable head-symptoms apt to arise from its administration, moreover, as Prof. Wm. H. Thompson has remarked, "a good dose of capsicum combined with twenty grains of quinine will act as well as thirty grains of quinine without the capsicum. Spices in general stimulate the portal circulation and promote the flow of bile, and hence their universal use in hot climates. There is a tendency on the part of quinine and capsicum to purge, and sometimes to purge violently. In such cases the purgative action is caused by the increased flow of

bile produced by the capsicum. Ginger and quinine when combined do not purge, and it makes a very good combination. The proportions should be one grain of capsicum to three of quinine; with ginger, one grain of each." In malarious climates capsicum should, if possible, be preferred, as it is in itself a good stimulant, and possesses antiperiodic properties. For years we have been in the habit of prescribing a little tincture of capsicum in an ordinary quinine-mixture, with the view of preventing any slight giddiness or headache that might otherwise arise from its administration.—*Med. Press and Circular.*

TO PROMOTE THE DIGESTION OF COD-LIVER OIL.

One difficulty has always been felt, and it is this: Even cod-liver oil is not always digested, and therefore something else was wanting. Dr. Balthazar Foster, of Birmingham, conceived the idea of utilizing Bernard's hint, and so combined ether with cod-liver oil. The increased flow of pancreatic juice so induced led to assimilation of the cod-liver oil, and thus another step forward was made in practical therapeutics. Another effect noticed by Dr. Foster was the return of a liking for fat under this plan of treatment, where previously a strong distaste to it had existed. One method is to give from ten to thirty drops of ether (sulphuric) in the dose of oil; or the ether may be given in water immediately before the oil. In private practice Dr. Foster prefers to give the following mixture:

Potassæ bicarb	2 drachms.
Acidi hydrocyan. dil.....	16 drops.
Spt. ætheris.....	3 drachms.
Aq. ad.....	8 drachms.
Misce.	1 ounce <i>ter in die sumat.</i>

This method of adding to the usefulness of a course of cod-liver oil deserves wide and general attention.—*Dr. Fothergill's Hand-book of Treatment.*

TREATMENT OF CHRONIC SORE THROAT.

In obstinate cases of this complaint, the local application of a saturated solution of nitrate of silver in glycerine once in ten days has been recommended. —The theory is, that an acute inflammation has a tendency to get well, whereas a chronic inflammation has no such tendency. The object is, to substitute an acute for a chronic inflammation, and the inflammation caused by nitrate of silver recovers much quicker than that caused by most of the other caustics. Then use a spray or gargle of common salt-water three or four times a day. Occasionally an antiseptic should be added, and the best is said to be oil of cinnamon, winter-green, pepper, etc. These oils all contain carbolic acid. Twenty drops of the oil of cinnamon added to a carbolic acid solution, destroys the smell and rather increases its efficacy; certainly does not detract from it.—*Medical Brief.*

THE CANADA MEDICAL RECORD

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MONTREAL, MAY, 1878.

MEDICAL ALUMNI ASSOCIATION OF BISHOP'S COLLEGE.

During the past fall an association with the above name was formed in this city, when the following officers were elected: President, Dr. Wm. MacDonald, Montreal; 1st Vice-President, Dr. A. Latour, Montreal; 2nd Vice-President, Dr. Webber, Richmond, Que.; 3rd Vice-President, Dr. Davis, New Amsterdam; British Guiana, W. I.; 4th Vice-President, Dr. Lanouette, Gentilly, Que. Council, Drs. Nelson and Slack, of Montreal; Honorary Treasurer, Dr. Hart, Bedford, Que.; Secretary, Dr. C. A. Wood, Montreal.

During the Winter Session, monthly meetings were held—open to all graduates and under-graduates of this University—when the following papers were read—Stricture of the Urethra, by Dr. C. A. Wood; Puerperal Mania, by Dr. Wolfred Nelson; Insanity, by Dr. T. E. Hayes; the Endoscope and its uses by Dr. F. W. Campbell; Diphtheria and its treatment by Dr. Donald Baynes. Pathological specimens were also exhibited by Dr. Wolfred Nelson. The meetings were well attended and very interesting, and have fully met the end for which they were intended.

CEYLON MEDICAL SCHOOL.

The prospectus of this school has been placed in our hands. The Rules and Regulations of the Faculty seem thorough, and eminently fitted to carry out the desired end. With men of Dr. Vanderstratten's known ability, and zeal for his profession, it cannot be otherwise than a success.

MCGILL UNIVERSITY.

The Medical Faculty of this University held its Convocation for conferring of degrees on the 30th of March. The attendance of friends was very large. Hon. Judge Day, Chancellor of the University occupied the chair. Dr. George W. Campbell, Dean of the Faculty, read the following report:—

The total number of students enregistered in

this Faculty during the past season was 161, of whom there were from Ontario, 90; Quebec, 47; Nova Scotia, 4; New Brunswick, 3; P. E. Island, 4; West Indies, 1; United States, 12.

The following gentlemen, 40 in number, have passed their Primary examinations on the following subjects: Anatomy, Chemistry, Materia Medica and Pharmacy, Institutes of Medicine and Botany and Zoology. Their names and residence are as follows: Brown, J. L., Chesterfield, O.; Burwash, Henry J., St. Andrew's, Q.; Butler, Billa F., Stirling, O.; Carman, Philip E., Iroquois, O.; Carman, John B., Iroquois, O.; Chisholm, Murdoch, Loch Lomond, N.S.; Feader, Henry C., Iroquois, O.; Gray, Thomas, Brucefield, O.; Groves, George H., Carp, O.; Gurd, David F., Montreal, Q.; Hart, George C., Osna Brook Centre, O.; Hanna, Franklin, Harlem, O.; Heard, Charles D., Charlottetown, P. E. I.; Henwood, Alfred J., Brantford, O.; Imrie, Andrew W., Spencerville, O.; Inksetter, David G., Cope town, O.; Jackson, Joseph A., Lawrence, N. Y.; Jamieson, Charles E., Ottawa, O.; Lawford, John B., Montreal, Q.; Lefevre, John M., Toronto, O.; Lloyd, Hoyes W., Strathroy, O.; Lyford, Charles C., Roscoe, Ill.; McArthur, John A., Underwood, O.; McCully, Oscar J., Sussex, N. B.; McCullough, George, St. Mary's, O.; McEachran, William, Montreal, Q.; McGuigan, William J., Stratford, O.; McNee, Stuart, Perth, O.; Menzies, John B., Almonte, O.; Scott, John G., Ottawa, O.; Seymour, Maurice M., Chesterville, O.; Shaw, William F., Ottawa, O.; Small, Henry B., Ottawa, O.; Smith, John, Torbolton, O.; Spencer, Richmond, Montreal, Q.; Smiley, Jonathan, St. Lambert, Q.; Stevenson, Hans, Wakefield, O.; Sutherland, William R., Montreal, Q.; Weagand, Clarence A., Dundas Co., O.; Williston, Hedley V., Newcastle, N. B.

The following gentlemen, 27 in number, have fulfilled all the requirements to entitle them to the degree of M.D., C.M., from this University. These exercises consist in examinations, both written and oral, on the following subjects: Principles and Practice of Surgery, Theory and Practice of Medicine, Obstetrics and Diseases of Women and Children, Medical Jurisprudence and Hygiene,—and also Clinical Examinations in Medicine and Surgery conducted at the bedside in the Hospital:—Beckstead, Morris, Grantly, O.; Beil, Robert, Montreal, Q.; Cameron, John D., Glengarry, O.; Chisholm, Alexander, Lochiel, O.;

Collison, Robert, Matilda, O.; Faulkner, Daniel W., Holloway, O.; Fortier, Louis A., Philipsburg, Q.; Fraser, John R., Hawkesbury, O.; Gardner, Henry H., Orillia, O.; Gibson, William B., Dunham, Q.; Greenwood, Fred. S., St. Catharines, O.; Guerin, James F., Montreal, Q.; Hutchinson, John A., Bluevale, O.; Howey, William H., Delhi, O.; McCann, John J., B.A., Millbury, Mass.; McCrimmon, John, Woodville, O.; McCrimmon, Milton, Ancaster, O.; McKinley, John K., Perth, O.; McNeil, Ernest, Montague, P. E. I.; Mills, Thomas W., M.A., Hamilton, O.; Neilson, William J., Perth, O.; Setree, Edward W., Prescott, O.; Smith, Daniel F., Listowell, O.; Stafford, Fred. J., Montreal, Q.; Vineberg, Hiram N., Montreal, Q.; Webster, Arthur D., Kentville, N. S.; Wright, John W., B.A., Cressey, O.

Of the above named gentlemen, Messrs. Greenwood and Gardner are under age. They have, however, passed all the examinations and fulfilled all the requirements necessary for graduation, and only await their majority to receive their degree.

A number of gentlemen also passed in Chemistry, Physiology, Materia Medica and Botany.

The Holmes Gold Medal was awarded to Hiram N. Vineberg, of Montreal.

The prize for the Final Examination was awarded to Thomas W. Mills, M.A., of Hamilton.

The prize for the Primary Examination was awarded to William R. Sutherland, Montreal.

The Sutherland Gold Medal was awarded to John M. Lefevre, Toronto.

The following gentlemen, arranged in order of merit, deserve honorable mention.

In the Primary Examination: Messrs. Lawford, J. L. Brown, Imrie, Shaw, Stevenson, Gurd, Lefevre, Gray, Williston, J. Smith, McCully and McGuigan.

In the Final Examination: Messrs. Neilson and Gibson.

PROFESSOR'S PRIZES.

BOTANY.—Rodgers and Gordon, 1st.; Carson, 2nd.

Special Prize for collection of Plants, Beaumont Small.

PRACTICAL ANATOMY.—SENIOR CLASS.—Prize.—JOHN B. LAWFORD.

The following gentlemen deserve honorable mention in order of merit: Lyford, Small, Im-

rie, McArthur, Grey, Stevenson, Smith, J. Sutherland, Gurd and Brown, (J. L.)

JUNIOR CLASS.—Prize.—WILLIAM L. GRAY.

Honorable mention in order of merit: Beer, Joseph, Moore, Harvie and Cormack (equal), Ross and B. E. McKenzie (equal), Rodgers, Heyd and McLain (equal), Struthers (R. B.) and Laurin (equal).

PRACTICAL CHEMISTRY.—Prize.—A. D. WEBSTER.

MEDICO-CHIRURGICAL SOCIETY.

MONTREAL, March 22, 1878.

A regular fortnightly meeting of the Medico-Chirurgical Society was held this evening in the library of the Natural History Society, Dr. Henry Howard, 1st Vice-President, in the chair.

Dr. OSLER exhibited a foot which had been amputated for disease of the bones of the tarsus. The patient, *æt.* 25, had had an attack of diphtheria last winter. Seven weeks ago he sat upon his foot. Dr. Osler thought he had merely suffered a sprain. The case went from bad to worse, until finally it became evident that extensive bone disease was going on. Syme's amputation was performed. All the synovial membranes in the vicinity were involved, as well as smaller bones. The case was remarkable for its rapidity, and the question was raised as to whether diphtheria had anything to do with it.

Dr. FENWICK thought that the disease had originated in a strain, and that its rapidity was due to the fact that the patient was debilitated by the attack of diphtheria. He stated, in answer to the question whether a free incision might not have saved the foot, that, according to his experience, such cases went on from bad to worse, and that amputation had to be performed some time sooner or later. Incisions about the joint would prevent the performance of Syme's amputation.

Dr. LOVERIN mentioned a case in his practice where he regretted the postponement of amputation. There was ankylosis and a most unsatisfactory result.

Dr. HAYES exhibited to the Society a cancerous mass, which had been in connection with the peritoneum and was situated behind and above the pubes. Dyspeptic symptoms with pains in the bowels had existed before death.

Dr. TRENHOLME exhibited a tumour weighing 15 lbs. formed of cysts attached to the uterus by a central mass. The organ itself being about the size of a cocoanut.

Dr. BULLER read a paper on keratotomy.

Dr. FULLER related a case of his own, bearing on the subject of Dr. Buller's paper. A piece of iron had entered the cornea and had lodged in the iris. He made an attempt at removing it, which was unsuccessful, because the anterior chamber became filled with blood. Dr. Proudfoot removed some of the iris with a view of removing the iron with it, but, not finding the iron, he and Dr. Fuller thought it expedient to keep the iridectomy wound open. In a few days the effused blood was absorbed and the iron removed with a small forceps.

Dr. PROUDFOOT said he had seen Dr. Buller's first case twice at the Montreal Dispensary. The patient when first seen had a small central ulcer of the cornea. He applied atropine, warm fomentations and a bandage. The ulcer increased rapidly, and in two days he was sent into Hospital. Dr. Proudfoot had often seen the operation done, and had on several occasions done it himself with the happiest results. He had never observed any tendency towards staphyloma of the cicatrix. Had first operated four years ago. The ulcer was large, and had crept almost all around the cornea. There was intense pain and increase of tension in the globe. Iredectomy was performed and the pain subsided for a day or two but the cornea did not improve as soon as the wound healed. He therefore performed Saemisch's operation and kept the wound open for about ten days. In that space of time, the ulcer in the cornea having closed up, the wound was allowed to heal. The result was most satisfactory, enough of the cornea remaining to form an artificial pupil. He had met with as good a result in three or four other cases. In two of them slight leucoma remained, but in no case was there staphyloma. He believed the proper treatment of ulcer of the cornea was puncture through the centre, whenever perforation threatened. A very fine needle should be used and the aqueous humour be let run off slowly; occasionally the iris might become attached to the edge of the perforation, but the attachment was small, and could always be broken up by the use of atropine.

Dr. HENRY HOWARD, as an old ophthalmic surgeon, said that keratotomy was new to him in the treatment of ulcer. He used to puncture the cornea in hypopion.

Dr. Loverin proposed, and Dr. Proudfoot seconded, a vote of thanks to the reader of the paper.

The meeting then adjourned.

RICHARD MACDONNELL, B.A., M.D.,
Secretary.

MONTREAL, April 5th, 1878.

A regular meeting of the Medico-Chirurgical Society of Montreal was held this evening in the library of the Natural History Society.

The President, Dr. F. W. Campbell, took the chair. There were present: Drs. Shepherd, Henry Howard, Bell, Armstrong, Ross, Loverin, Fenwick, Parks, Proudfoot, Edwards, Nelson and Donald Baynes.

Visitors.—Dr. Black and Mr. Dunbar of Mount Forest.

The minutes of the previous meeting were read and confirmed.

Dr. TRENHOLME read a paper on "Excision of the Uterus" (this paper was published in last number.)

Dr. Ross thought that great credit was due to Dr. Trenholme for bringing forward an unsuccessful case. He asked whether bulging of the upper part of the vagina had been noticed. He looked on the fatal result as being due to hæmorrhage.

Dr. PROUDFOOT mentioned a case of ovarian tumour, where the adhesions were so strong that the operation had to be abandoned.

Dr. TRENHOLME stated that it was quite impossible to diagnose clearly the nature of abdominal tumours, until the peritoneum had been opened. The vagina did not bulge at all.

A vote of thanks to Dr. Trenholme was moved by Dr. Howard, and seconded by Dr. Loverin.

Dr. TRENHOLME related a case of acute hydrocephalus, in which he had punctured the meninges. This case was published in last number.

Dr. F. W. CAMPBELL introduced the question "was chloral a safe remedy always in delirium tremens.

Dr. HENRY HOWARD considers chloral to be dangerous in all cases of delirium where fright is a prominent symptom.

Dr. Ross drew the attention of the Society to

the fact, that in cases where delirium tremens complicated rheumatism and pneumonia, there was a tendency towards sudden death.

Dr. PROUDFOOT has given 60 grains of chloral every hour for five hours, without producing an effect. The patient was suffering from delirium tremens.

It was moved by Dr. PROUDFOOT, seconded by Dr. FENWICK:—

I. "That the Medico-Chirurgical Society of Montreal desires to place upon record the very high estimation in which they held the late Dr. John Bell, whose sudden death occurred under circumstances so peculiarly sad in their nature.

II. "That by the death of Dr. Bell the Medico-Chirurgical Society has lost one of its most active members, who, for two years, had acted as secretary, to the great satisfaction of its members.

III. "That his sudden death at comparatively an early age has cast a gloom among his numerous professional friends and associates, all of whom feel that, had he lived, a bright future was before him."

The meeting adjourned.

RICHARD MACDONNELL, B.A., M.D.,
Secretary.

PERSONAL.

W. B. Malloch (M.D., C.M., McGill College, 1867,) will shortly return to Canada after nearly ten years service as surgeon to the Hudson Bay Company at Moose Factory, N. W. T.

Richard Markell, (M.D., C.M., McGill College, 1867) who went out to California three years ago on account of delicate health, has quite recovered, and is practising very successfully at Cacheville, Yolo Co., Cal.

Matthew Gardner (M.D., C.M., McGill College, 1871) has settled in Davisville, California.

Dr. J. W. McDuffee of Stanstead, after six months regular attendance at the Medical Faculty of Bishop's College (in compliance with the By-laws of the College P. and S. of Quebec) has returned to his home, and resumed practice. We understand he has been warmly welcomed back by his patients.

Dr. Valmore St. Germain, (M.D., Bishop's College, 1874,) has settled in St. Norbert de Arthabaskaville.

Dr. C. W. Covernton, of Simcoe, has removed to Toronto.

Dr. McDonald, of Guelph, has removed to Toronto, occupying the premises of the late Dr. Hodder.

Dr. A. M. Ross, of Toronto, has settled in Montreal, as a Consulting Physician.

Dr. R. A. Kennedy and Dr. Wolfred Nelson have resigned their appointments as Attending Physicians to the Montreal Dispensary. They have both been elected members of the Consulting Staff. Dr. Richard MacDonnell and Dr. F. J. Shepperd have been elected Attending Physicians to the Montreal Dispensary in place of Drs. Kennedy and Nelson resigned.

Dr. Oliver C. Edwards has been elected an Attending Physician to the Montreal Dispensary in place of the late Dr. Bell.

Dr. Stevenson, of Iroquois, has removed to Montreal, and commenced practice.

Dr. Slack, formerly House Surgeon at Charing Cross Hospital, London, England, has been appointed Professor of Surgery in Bishop's College Faculty of Medicine,

Dr. Kennedy has been appointed Professor of Midwifery in Bishop's College Faculty of Medicine.

Dr. George E. Armstrong has been appointed Lecturer on Anatomy in Bishop's College Faculty of Medicine.

Dr. Ritchie (M.D., McGill College, 187) has returned to Montreal, after a lengthened absence in Europe.

Dr. Guerin (M.D., McGill College, 1878) has settled in Montreal.

Dr. Fuller, of Montreal, has removed to Grand Rapids, Michigan, where he proposes to enter into practice. He leaves our city, where he had achieved an excellent professional position, carrying with him the heartiest good wishes of the entire profession for his future welfare and success.

Dr. Belle (M.D., Bishop's College, 1878) is at present in Paris, attending the Hospital St. Louis.

MEDICAL NEWS.

The Toronto Physicians are about to organize a Medical Society; a preliminary meeting has been held.—A new Journal called "Brain," edited by Crichton Browne and Hughlings Jackson, and several others, is about to be published by MacMillan of London.—There are 305 students up for examination in Toronto before the Ontario Medical Board, of this number 89 are finals.

BIRTHS.

In Montreal, on the 5th of April, the wife of W. H. Hingston, M.D., of a son.

In Ottawa, on the 4th of April, the wife of Dr. Sweetland of a son.

DIED.

In Belleville, on the 23rd of March, James Lister, M.D., aged 65 years.

In Montreal, on the 23rd of March, Dr. A. A. Duhamel in his 38th year.

Pharmaceutical Department.

A. H. KOLLMYER, M.A., M.D., Editor.

PHARMACEUTICAL ASSOCIATION EXAMINATIONS.

At the annual examinations of the Pharmaceutical Association of the Province of Quebec, held in this city, in the rooms of the Association, on the 25th and 26th of April last, the following candidates obtained the requisite marks to entitle them to be placed on the Register of the Association, those for the "Major" Examination being entitled to receive the Diploma and Licence of the Association, qualifying them to practice Pharmacy in this Province, the "Minor" candidates receiving certificates duly qualifying them to occupy the position of Druggists' assistants. The successful candidates are here named in the order of merit, namely:—For "Major" Examination,—Frederick Morris, J. R. Wright, Andrew Henderson, Joseph Seguin, T. M. Henderson, F. F. Gauvreau, Joseph Goulden. For the "Minor" Examination:—Wm. S. Kerry, W. A. Farwell, J. E. Wright, J. Sutherland, Joseph Seguin, A. Henderson, R. S. Chesnut, E. E. Hepburn, W. J. B. Brunet, J. H. M. Harte, James Christie.

One applicant for the "Major" and two for the "Minor" Examinations were referred back for further study.

PHARMACEUTICAL NOTES.

By H. R. GRAY, MONTREAL.

The late George Cruikshank regularly attended the annual conversaciones of the Pharmaceutical Society of London.

The Pharmacists of Montreal have among their number, one Bell Gold Medallist, one ex-president of the Pharmaceutical Society of London, one ex-member of the Board of Examiners of the same society, besides several Pharmaceutical Chemists and Licentiatees, all of whom graduated at Bloomsbury Square.

The Pharmaceutical Society of Melbourne, Australia, has arranged to present each of its members monthly, with a copy of the *Chemist and Druggist* of London, to be bound up with a supplement to be published in the Colony.

HYDRATED OIL is the latest thing for consumption and wasting diseases, and as Dr. Overend Drewry, of the Dispensary for Diseases of the Chest, Great Gower St., London, says in a pamphlet on the subject, for those "who insensibly are drifting towards degeneration of nerve tissue." It is composed of oil, water, pancreatin, soda, boric acid and hyocholic

acid. A firm in London is already making a specialty of it. The formula of hyocholic acid is $C_{25}H_{40}O_4$. The hydrated oil is easily digested, and its use is quickly followed by increase in weight. The usual dose is a dessert-spoonful 3 times a day. When phosphorus is indicated, it should not be given with the oil. It is better to give the phosphorus at different hours.

In Bengal they have 1,900 acres devoted to cinchona cultivation, yielding annually 366,000 lbs. of dry succi-rubra bark.

Dr. Selly, of Madrid, in a communication to Dr. Julius Althaus, who writes to the *British Medical Journal* on the subject of repeating prescriptions, says he has found many English travellers come to him with a pocketful of receipts from London physicians, and a plan of treatment laid down sufficient to last them a lifetime, and he thinks the members of the medical profession are as much to blame in this matter as the patients or pharmacists.

The retail price of dried vipers, according to an old supplement to the *Pharmacopœia*, published in London, was one shilling per ounce. Quinine, in more recent editions of the same supplement, is quoted at £3 sterling per ounce; bicarbonate of soda, 7s. per lb.

The first "Pharmacopœia" published in May, 1618, and distributed to the apothecaries by the London College of Physicians, was so full of errors, that it was found necessary to call in the whole edition. A fact not to be wondered at when we take into consideration the frivolous and complicated nature of some of the popular remedies of that day. Methridiatum Damaricis, the Methridate (or electuary) of Damaricrates, contained fifty-one different ingredients.

According to L. Sonnenschein, ceric oxide is the best re-agent for strychnine. The alkaloid being covered with concentrated sulphuric acid, and a small quantity of the sesquioxide of cerium being stirred in, the fine purple color which is obtained with bichromate of potash is instantly developed. It is asserted that this re-action detects the one-millionth part of a grain of strychnine.

It would appear that Persian opium is likely to become an important competitor with "Turkey Seconds." The growth from Northern Persia is improving every year, and from some parcels a yield of morphia has been obtained equal to that from "fine Turkey." In Persian opium the whole parcel is invariably uniform in quality, while no two pieces of "Turkey Seconds" are equal.

Ergotine as found in pharmacies is simply a watery extract of ergot. But the name has been also applied to another and very different preparation, made by exhausting powdered ergot with rectified ether, filtering the solution thus obtained, and the ether withdrawn by distillation, when a peculiar oily substance remains, which is supposed by some to be the active

principle, whilst others consider it to be a poisonous constituent. Experience shows, however, that a well made watery extract possesses all the medicinal properties of fresh ergot.

NOTES ON THYMOL.

BY H. R. GRAY, MONTREAL.

Thymol, or thymic acid, has recently attracted attention as an antiseptic and disinfectant. It is obtained from the essential oils of common garden thyme, *Thymus Vulgaris*; ajowan fruit, *ptychotis ajowan*; American horsemint, *monarda punctata*; and probably other plants. So far, the essential oil of thyme is the only source from which thymol is procured by chemical manufacturers.

Thymol is a crystalline, colorless body, formula $C_{10}H_{14}O$, with an odor resembling oil of thyme, and a burning aromatic taste. It dissolves readily in alcohol, ether, bisulphide of carbon, chloroform, fixed oils, glacial acetic acid and vaseline. It is soluble in water in the proportion of 1 in 1000. It is analogous with carbolic and cresylic acids and creosote, and isomeric with cuminic acid and carvol.

Thymol may be readily prepared by treating the volatile oil with an equal volume of a 20 per cent. solution of caustic soda, and neutralizing it with hydrochloric acid, when the thymol will rise to the surface in transparent rhomboidal plates. It can also be made by exposing the oil to prolonged refrigeration, under the influence of which the thymol readily crystallizes and floats on the surface. Wood states that there are two isomeric forms of thymic acid,—one crystalline, and the other liquid. The latter, however, is not obtainable commercially, consequently the crystalline is the kind which has, so far, been experimented with. Bouilhon, a French pharmacist of Lille, first suggested its use, to deodorize unhealthy wounds, to Dr. Paquet of that city, who states, as the result of his experiments, that thymol is adapted to all those purposes to which carbolic acid has been hitherto applied as a disinfectant and deodorizer. Lewin reports that thymol has greater power than either carbolic or salicylic acids in arresting fermentation in solutions containing sugar. It undoubtedly retards the coagulation of milk, and, in a concentrated state, its caustic properties are sufficiently powerful to destroy the dental nerves. Several German surgeons consider it much more powerful, under certain circumstances, than carbolic acid, while its pleasant odor on dressings is a decided advantage with sensitive patients.

Mr. Gerard, member of the Pharmaceutical Society of Great Britain, Pharmacist to the University College Hospital, London, has worked out the following formula, approved by Dr. Crocker, of the same Institution, who has instituted a series of experiments, and who has already had much success with this new anti-

septic, especially in skin diseases:—Two grains in one ounce of spt. vini rect. is miscible with water in any proportion. A solution of 7 grains of caustic potash in $1\frac{1}{2}$ drams of water will take up 15 grains of thymol.

LOTION.

℞ Thymol..... grs. v.
Spts. vini rect.
Glycerine, of each.... ̄j.
Aqua distil. ad..... ̄viij.

OINTMENT.

℞ Thymol grs. v to xx
Vaseline ̄j.

When required stronger than 20 grains to the ounce, it is better to dissolve the thymol previously in alcohol.

Dr. Crocker has not as yet had occasion to use stronger lotions than the above.

Professor Volkmann, of Halle, has substituted thymol for carbolic acid in the antiseptic treatment of surgical cases by Professor Lister.

FOR THE SPRAY SOLUTION.

℞ Thymol..... 1 part.
Alcohol 10 "
Glycerine 20 "
Aqua distil 1000 "

FOR THE GAUZE DRESSINGS.

℞ Spermaceti 500 parts.
Resin 50 "
Thymol..... 16 "

A form for pills prescribed by a London physician is as follows:—

℞ Thymol grs. iij.
Sapo Castil..... grs. viij.
Conf. rosæ ʒ ss.
Mx. et divid. in pil. xx.

One three times a day, followed each time by a draught of milk.

In France, it is used in the hospitals according to the following formula:—

℞ Thymol..... 1 part.
Alcohol..... 4 "
Aqua..... 995 "

ERYTHROXYLON COCA.

BY DONALD BAYNES, M.A., M.D., MONTREAL.

This plant belongs to the order *Erythroxylaceæ* (sapindales). There are several species, some of them yielding useful products, as for example:—*Erythroxylon suberosum*, from which is obtained a brownish dye. The young branches and leaves of the *Erythroxylon areolatum* are said to be cooling, and when mixed with benne oil form a refreshing liniment for the head. The bark is also used as a tonic. (Ainslie ii. 422.) The bark of the *Erythroxylon anguifugum* is thought to be an antidote against snake-bites in Brazil, and that the *Erythroxylon campestre* is employed in the same country as a purgative. (Martin's Mat. Med. Bras.)

But the *Erythroxylon coca*, so called from the Indian "Khoka," signifying a tree or plant, is by

far the most important plant of the order. It is a shrub from 5 to 10 feet in height. The leaves are a delicate bright green, lighter on the under surface, usually smooth, alternate, from one to three inches in length. The distinguishing characteristic of the leaf is, however, two arched lines, one on either side of the midrib, which meet at each extremity; these marks or lines are caused by the folding of the leaf in the bud. The flowers are small, whitish or greenish, and the fruit is a one-seeded, oblong berry about the size of a pea. This plant is found wild, and is cultivated in several of the South American States, notably in Peru, Bolivia, Equador, Brazil, etc. The leaves are the part used, either chewed or taken in the form of infusion as tea. The gathering, curing and packing requires great care, as they lose their active properties when bruised. When dry they are packed in parcels of about 24 pounds weight, and are worth about 25c. a pound. The Indians, the chief consumers of this drug, formerly held it in superstitious reverence, calling it the divine plant, and consider it as a sort of sanctuary of their God; they put the leaves in the mouth of the dead as a propitiatory offering. Formerly it was only used by the kings, priests, and those whose virtues or actions in war, or otherwise, rendered them worthy to be thus rewarded. By degrees, however, this plant came into general use, and is now the chief stimulant and narcotic of the Indian, and one much used by him. Like tobacco and alcohol, it may be, and indeed is, useful and healthful in moderation, but very disastrous in its effects when taken in excess. Those who use the coca generally chew the leaves, rolling them up in a ball, and adding a little quick lime or wood ash to them, by means of a slip of wood or needle carried for the purpose. This addition brings out the taste, strength and flavor to a greater extent. The chewing is speedily followed by a copious supply of greenish saliva, part of which is swallowed and part ejected. When one lot of leaves is exhausted, a fresh ball is prepared. The Indian lies down, or rests in some other way, during this process of chewing, which usually lasts from ten minutes to half an hour, according to the quantity of work to be done, or the amount of fatigue undergone; his period of rest is taken two or three times a day. After finishing the chewing the Indian gets up, lights a cigarette and returns to his labor, strengthened and refreshed. An Indian chews about an ounce of leaves in the 24 hours. There is no doubt that this plant, used in moderation, is most useful in enabling a person to endure prolonged exertion, fatigue, hunger, and cold; many would perish on the march across the Andes were it not for this drug. Like everything else, the use of coca may be abused, and in that case has very disastrous results, and, curious to say, the abuse is generally seen among the whites (if so you may call the swarthy Brazilian, Bolivian, or Peruvian, etc.). As it is an Indian habit, it is not considered genteel, so that the Bolivian or Peruvian gentleman is ashamed to indulge in it before others, he therefore retires to

his room and chews his coca in solitude. If the habit grows upon him, and he gives himself up to excess, he retires for days to the woods, and chews his beloved drug. He is now considered as lost by his friends, and is looked upon as an irreclaimable drunkard is with us; any one giving up in this way to the habit soon leaves the towns and societies of civilized men, and betakes himself to the woods and Indian villages, there to drag out the remainder of his miserable existence. He is called a "coquero," and becomes an object of contempt and loathing to his friends. The result of chewing to excess is an abominable breath, pale lips, yellow skin, sunken eye, an unsteady gait, distressing dyspepsia, and, eventually, dropsical swellings, boils and death. On the other hand when taken moderately it is harmless, and even conducive to health, especially to those living in want and exposure. Coca chewers are usually very long-lived. Coca has two very important properties: 1st. It lessens the necessity for food, and gives great endurance in fatigue. The Indian toils day after day in the tropical sun, or carries heavy burdens long distances, having only a handful or so of maize as food; he however works well, and is cheerful, if he be not deprived of his coca. In fact, it may almost be made a substitute for food. 2nd. The leaf, either chewed, or taken as an infusion, prevents the difficulty of respiration felt in ascending the Andes. This fact has led to its trial in some forms of chest complaints. It has been tried with much benefit in emphysema, pulmonary œdema, in the dyspnoea of functional heart disease, asthma, consumption, various forms of dyspepsia, etc., etc.

Though it is true that all writers, and all those who have either used the drug, or seen it used in its native clime, abundantly testify to its wonderful powers in assisting respiration while crossing the Andes, etc., in supporting and sustaining the vital powers while undergoing severe and protracted exposure and labor without sufficient food or rest, yet experiments tried in England and elsewhere go to prove that the wonderful powers attributed to it are nearly all, if not entirely, wanting. Weston, the pedestrian, in a letter to the *Lancet*, states that in his case it was worse than useless, and, in fact, attributes to trying it a fit of vertigo which seized him during one of his feats.

Mr. Dowdswell made some very extended experiments with it at the laboratory of the University of London, and concludes that his results are at the best negative. On the other hand, some claim to have seen benefit follow its use. One gentleman, in a letter to the *Lancet*, although disclaiming any benefit from its use in increasing his powers of endurance, states that it had a wonderful action on his nervous system. It seems this gentleman was extremely nervous while shooting, and usually missed his bird, however, after taking the coca his nervous system seemed so fortified that his game bag, instead of remaining empty as usual, was soon well stocked. Now how can these discrepancies be explained, that in Peru, Bolivia, etc., the results are so marvellous,

while in England and other places they are, at best, but slight and generally negative.

The following two causes will, I think, account for the difference :

1st. That the Peruvians and other tribes keep the best leaves for themselves, and export the inferior ones, as is well known the Chinese do in the exportation of tea.

2nd. That the sea air must in some way affect its efficacy, as it is supposed to do in the case of the *canabis indica*, the value of which in tetanus is strikingly impaired.

To get the full benefit of the coca leaf in Europe or here I should be inclined to advise that an extract should be made of the leaves on the plantations, this, at any rate, would insure against any effect the sea air might have.

I will conclude this paper by giving some instances where in Brazil and Bolivia I have known benefit to follow the use of this plant.

It to a great extent replaces food. The Indian will take long journeys, carrying heavy loads, with nothing but a little maize and his coca leaves in his pouch. It acts as a stimulant, like alcohol, but is more lasting in its effects, and is not followed by depression. It is useful as a tonic, and may be employed when quinine and bark disagree with the stomach; it is very useful in convalescence after exhausting diseases; it is a powerful restorer of the vital forces; it has given much satisfaction as a curative in many forms of dyspepsia. It is said to have a special action on the vocal cords, strengthening the voice while singing. It is much used, and with great benefit, in various pulmonary affections, dyspnoea, etc.

QUERIES AND ANSWERS.—J. A. N. writes,—Would you kindly inform me of an unobjectionable anti-ferment for Hive Syrup, made according to the United States Dispensatory? I find great difficulty, he adds, in keeping it through the summer months, even in a cold cellar.

(M. Henri Lajoux asserts that the addition of salicylic acid in the proportion of one-tenth of one per cent. of the sugar contained in the Syrup will prevent its fermenting.)

RECENT EXPERIMENTS WITH ALCOHOL.—Prof. Binz, of Bonn, and some of his assistants, have recently re-examined the question of excretion of alcohol by the kidneys and lungs, using Geissler's vaporimeter for the detection of traces of alcohol. This instrument will allow of the detection of as little as 0.05 per cent. alcohol. They found that patients suffering from various febrile disorders, excreted by the kidneys during the eight or nine hours after doses of alcohol had been given not more than 3.1 per cent. of the total quantity, and in some cases no alcohol could be found. It also appears from these experiments that, practically, no alcohol escapes by the breath, even when large quantities

are taken, and hence it is concluded that by far the larger part of the alcohol is burnt up in the body in the processes of metamorphosis of the tissues. This is, of course, a well known fact, but its confirmation at this time is not inopportune.

COTO BARK.—In respect to this bark, which appears to be exciting some interest, a pertinent remark appeared in a recent number of the *Pharmaceutische Zeitung*. According to our contemporary, the "coto bark," originally examined by Jobst, and from which he isolated cotoin, is not met with in commerce, and the bark which came into the market last year under that name was exclusively "paracoto bark." If this be correct, it follows that the "cotoin" of some price lists must be represented by para-cotoin, which, as stated by Jobst, even when freed as much as possible from leucotin and other bodies accompanying it in the bark, is inferior in its anti-diarrhoeic action to the true cotoin.

PHOSPHIDE OF ZINC, in a granule of from one to two fifteenths of a grain, thrice daily, seems to have proved an effectual remedy for hysteria, in the hands of Dr. Gross.

IODIFORM.—Dr. Wyndham Cottle recommends the use of iodoform as a parasiticide, and for indolent and syphilitic ulcers and wounds, in the form of ointment of twenty grains to an ounce of lard. Dr. Lennox Browne recommends a solution in the proportion of one part of iodoform to ten or twelve of ether for local application in post-nasal catarrh.

IODIDE OF ETHYL.—This preparation has recently been employed by Prof. Lee as an inhalation in asthma, and is reported to relieve the paroxysms of difficulty of breathing very rapidly.

THE ACTION OF GLYCERINE.—Dr. A. Catillon has been investigating the influence of moderate doses of glycerine on the animal economy. He found that half a gramme of glycerine per diem caused an increase of one-tenth to one-fifth in body-weight in guinea pigs. Experiments on himself and on dogs proved that this increase was due, in part, to the formation of fat, and in part to diminished destruction of nitrogenized tissue. Some time ago Drs. Dujardin, Beaumetz and Andyé proved that the subcutaneous injection of eight or ten grammes of glycerine per kilogramme of body weight would kill a dog in twenty-four hours.—*Chemist and Druggist.*)

LOCUST OIL.—Analysis and examination of the dead Rocky Mountain locusts by the United States Entomological Commission show that these insects furnish a new oil which will be christened *caloptine*, and a very large percentage of pure formic acid. Though this acid exists in the ant and some other insects, it is with difficulty obtained in large quantities; whereas by the action of sulphuric acid upon the locust juices, it passes off with great readiness, and in remarkable quantity and gravity. The various uses of this acid as a therapeutic, etc., are capable of great and valuable extension, where it can be obtained so readily and in such quantity. (*Druggists' Circular.*)