Clinical cases : medical and surgical / by the late John O. Stone.

Dr S. Cabot.
with the regards of
C. C. Stone
March 30th 1878.

CLINICAL CASES

MEDICAL AND SURGICAL

BY THE LATE

JOHN O. STONE, A. M., M. D.,

FORMERLY SURGEON TO BELLEVUE HOSPITAL; FELLOW OF THE ACADEMY OF MEDICINE

MEMBER OF THE NEW YORK COUNTY MEDICAL SOCIETY, ETC., ETC.

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PREFACE

Throughout his professional life Dr. STONE kept a careful record of all cases occurring in his own practice, or those he saw in consultation. During the last year of his life he wrote out such of these cases as seemed to him of interest, and worthy of record, intending to publish them together with some contributions he had made to *The New York Medical Journal.* After his death the manuscript was found almost ready to go into the printer's hand. This volume is now issued at the urgent request of some of his medical friends in the hope that its perusal may not prove entirely devoid of interest to the profession at large. Had the author been permitted to supervise the issue of this volume no doubt many changes would have suggested themselves to him, as it was his intention to have given the cases a careful revision. But few alterations have been made in the manuscript, only a word here and there, or a sentence has been changed—it having been thought best to leave the cases as narrated by him. With these few remarks the volume is submitted to the profession.

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CLINICAL CASES

MEDICAL AND SURGICAL

PUERPERAL CONVULSIONS—DEATH.

Feb. 9th, 1856. Mrs. H. had just reached the seventh month of pregnancy. She had twice aborted at two and a half months. When three months advanced with the present pregnancy, she was taken ill with remittent fever caught at Staten Island, which lasted several weeks. From that time I have not seen her until to-day, when at 7 A. M., I was sent for to attend her. I was informed that she had been seized with a convulsion and that Dr. Davis, who had been called in, had, upon its repetition, bled her to the extent of a quart. Since I had last seen her, she had grown large and stout, and her whole body was œdematous. Her figure heretofore has been slight and spare. Two or three days previous to this convulsion, she had been affected with severe headache, which had compelled her to retire to bed, and this had returned every day. She did not, however, take any medicine for its relief, or resort to medical advice. When I saw her at seven o'clock, she was calm and reasonable.

At eight o'clock, she had another convulsion. Finding that the convulsions would be likely to be repeated, I requested Dr. I. E. Taylor to attend the case with me.

Oil had been taken, and we directed an enema to hasten its operation, and chloroform was used whenever a convulsion was threatened. The urine was tested and found to be nearly solid with albumen. The specific gravity was 1020. The bowels were finally moved by a repetition of the enema. The convulsions were averted, on their approach, by chloroform, and by night time they ceased, and she obtained some quiet sleep.

2d day. Feb. 10th. She was well and without convulsions, although much enfeebled and fatigued.

3d day. Feb. 12th. She has continued for an interval of nearly three days without a convulsion, but has now been afflicted with them again. The urine, which on the day of the first seizure was strongly albuminous, on the following day contained barely a trace of it. To-day there is no albumen.

6th day. Feb. 15th. To-day she died, exhausted. The convulsions continued every hour to the minute since the last date. Labor did not commence until the 13th, four days after the first convulsion. The membranes were then punctured in hopes of hastening the labor. The child's head did not pass through the os uteri until five o'clock of the 14th, when the forceps were applied, and the child extracted. As soon as the head escaped through the os, it was noticed that the convulsions immediately ceased. On the return of convulsions on the 12th, the third day, chloroform and assafœtida were resorted to without benefit, and subsequently opium, without producing sleep. Nourishment and stimuli were given by the mouth as long as she would swallow, and then given by the rectum.

The points most notable in this case, were the albumen, immediately after the first convulsion and its disappearance afterwards; the absence of the convulsions for nearly three days, and their return; the influence of the chloroform in controlling the convulsions in the first

attack, and its inefficiency in the second, and the cessation of the convulsions when the head escaped through the os uteri.

During the first, and the interval between this and the second attack, we had hopes of carrying her safely through, until the full period of pregnancy was completed. But hardly any efforts were made by nature to dilate the os uteri and bring on labor. No expulsive efforts appeared until quite late in the case.

LABOR WITH HYSTERICAL CONVULSIONS.

July 28th, 1846. Mrs. H. has been for a number of years subject to attacks of hysteria. For the last year she has had three attacks. She had a constant tenderness about the seat of the left ovary. In a previous labor, she had convulsions and lost much blood, after the delivery of the placenta.

The membranes broke two days before the present labor, which was easy and natural. So soon as the child's head was born she was seized with a convulsion which was arrested by sprinkling water in her face. I hastened the delivery of the placenta, in hopes of stopping the convulsions, but without effect. The uterus did not contract well and there was considerable hemorrhage. By means of friction the uterus would be made to contract, but every contraction brought on the convulsions. When the uterus dilated again the convulsions would go off and consciousness would return. I gave ergot, and when it began to act, several convulsions followed. Pressure, especially upon the left ovary served to promote them. I finally gave assafœtida, and they ceased. She did well.

CONVULSIONS DURING LABOR.

DELIVERY BY THE SHORT FORCEPS.

June 30th, 1857. Dr. G. was attending Mrs. C. in labor with her first child. She had three convulsions before I saw her, and she had been bled by her physician about a quart. The membranes were broken and the head high up. This was at 5 P. M. The physician was exhausted, and I sent him away to obtain some refreshment, greeaing to stay during his absence, with the understanding that he should return at eight o'clock. The labor was making progress and it was concluded not to interfere at present.

At eight o'clock, she had another convulsion just as the head was pressing upon the perineum. An ear could be felt under the pubes, the occiput was turned towards the left side. Dr G. arrived at this moment, but declined to act. I delivered with the short forceps. The child was living.

This woman was very œdematous and had frequently complained of headaches. On testing the urine, immediately after the delivery, it was found loaded with albumen. The next day it was less so, but its specific gravity was 1009.

Two days have now elapsed and mother and child are doing well.

CONVULSIONS AFTER LABOR.

June 6th, 1857. Mrs. D. was confined with her first child after a labor of thirteen hours duration. During its progress she complained of headache. The following morning, twelve hours after the labor, she had convulsions, one at 5 A. M., another at 10 A. M., another at 3 P. M. and another at 5 P. M. The last was the only one that I witnessed. I attempted to move the bowels by senna and salts and croton oil, but failed. The stomach was irritable and she vomited the medicine. I bled her to the extent of twelve ounces.

There was no œdema of the limbs nor any suspicion, from her appearance, of albuminuria. No urine could be obtained for examination, because it was passed in the bed, during the convulsions. After the venesection, I gave twelve grains of calomel, and three hours afterwards, an injection of one ounce of oil of turpentine. The injection operated promptly. There were no more convulsions after this. She did well.

TEDIOUS LABOR. DESCENT OF THE CORD.

VERSION. MOTHER AND CHILD DID WELL.

Feb. 27th, 1857. Mrs. W. had been in labor thirty-six hours with her third child. The progress was slow. Not waiting for my return, the friends had sent for a midwife. Finding on my next visit this woman in attendance, I left, directing that I should be called if my presence was needed.

At 10 P. M., I was sent for. The pains were extremely slight, the waters drained away, and the patient exhausted. The cord was protruding from the vagina, and the child living. The head presented. The mid-

wife proved to be very ignorant, and urged the patient to make voluntary efforts to expel the child prematurely, declaring to her that the labor would terminate every moment. This was the conduct pursued by her throughout the day. She had not recognized the prolapsus of the cord, and had moreover adapted a sort of harness to the patient, which embraced the feet and made strong pressure on the abdomen. After the dismissal of the midwife, I told Mrs. W. that she might choose one of the two following courses. Take an opiate now, go to sleep and have a return of the pains in the morning with a delivery probably of a dead child, or to take chloroform now and have the child turned, which would enable me to terminate the labor at once and probably with safety to the child. The parts were well dilated. She chose the latter course. The turning was made with great care and in fifteen minutes the child was born alive. Both did well.

PRESENTATION OF THE LEFT HAND AND SHOULDER.

TURNING OF CHILD. RECOVERY OF MOTHER AND CHILD.

June 30th, 1857. Mrs. R. attended by another physician, during a labor of seventeen hours. The membranes had broken and the waters drained away. The left hand was presenting with the shoulder. The head was towards the left side of the mother. The pains were feeble. I turned without giving chloroform. The left knee was brought down, and after a short delay occasioned by the difficulty in making the head and shoulder ascend, the delivery was affected with safety to the child. The patient did not utter a complaint during the operation, and had a good recovery.

PRESENTATION OF THE RIGHT ELBOW.

TURNING OF CHILD. SAFETY OF CHILD AND ULTIMATE RECOVERY OF THE MOTHER.

Dec. 20th, 1867. I was requested to meet Dr. Stout, who was in attendance upon Mrs. M. The pains had commenced several days previously; but the labor was active to-day. The membranes had been broken seven hours before. The right elbow was presenting and brought down by Dr. Stout, and the left hand delivered. He then sought for a foot, and with some difficulty, on account of the uterine contractions, brought down a foot which proved to be the left. A loop was placed upon the ankle and efforts made to raise the shoulder and head, but unsuccessfully. I then introduced my hand, passed the head, which was towards the right ilium, then the neck, and found the right foot thrown over the left shoulder. This was brought down with some difficulty, and the labor easily finished.

The child was born alive and did well. The mother had peritonitis but recovered. The milk never became established.

LABOR OF FOUR NIGHTS' AND THREE DAYS' DURATION.

USE OF LONG FORCEPS. DEATH FROM PURPURA AND FEVER ON THE 21ST DAY.

Aug. 2d, 1856. I was called to attend Mrs. D. in her confinement with her first child. She was thirty-three years old, had always enjoyed good health, was a little below medium height, and of good muscular development. Last year she had an attack of intermittent fever when at Bergen Point. She was then two months advanced in pregnancy. Nothing noticeable was observed during

pregnancy, excepting the above illness, and an extravagant appetite, which she indulged at her regular meals, and at late suppers at night.

The pains commenced last night and continued through to-day, very irregular and weak, and with so little effect that at 9½ P. M., the os uteri was just dilated enough to allow the entrance of the point of the finger. There was no prospect of a speedy termination of the labor, and I left for the night.

Aug. 3d. The same feeble pains continued through the day and night. At 7 P. M., the membranes broke, when the os was of the size of a quarter of a dollar. By midnight the pains ceased, when I gave thirty drops of laudanum.

Aug. 4th. The laudanum procured six to eight hours' sleep. Pains of a strong character commenced at noon, and continued with moderate force and with very little effect until 6 P. M., when twelve ounces of blood were taken from the arm, in hopes of overcoming the rigidity of the os uteri. The pains were teasing and not violent. The patient is worn and wearied,

Aug. 5th. At noon, Dr. I. E. Taylor met me in consultation, and it was decided to try the ergot in one grain doses every five minutes. Finding this ineffectual, ten grains were given every five minutes until two drachms had been taken. This did not increase the strength of the pains, and at 3 P. M., it was determined to deliver by the forceps. The os was not fully dilated. The scalp of the child had begun to swell into a tumor. On endeavoring to evacuate the bladder with the catheter we failed. Chloroform was administered, and the long forceps applied. Great force was needed to bring down the child. When one of us was exhausted the other took his place at the truction. In about fifteen minutes the child was born insensible, with great deformity of the head, but in a short time was revived by the alternate use of hot, and

cold water. There was a bloody tumor on the child's scalp the size of one's fist. The perineum was torn to the sphincter muscle.

The patient continued to do well, and in a few days had an immense flow of milk and nursed her child. She was composed, and never had any pain since her delivery. The lochia disappeared at the end of a week, but there were no symtoms of illness. She was calm and composed, skin cool, and she was allowed to eat meat.

Aug. 14*th. 9th day.* She had not yet sat up, on account of the laceration of the perineum. She had eaten peaches of doubtful ripeness the day before, and was vexed that she was not allowed to get up.

Aug. 16*th.* 11*th day.* I was sent for. She had vomited six times the previous night, and this had been followed, just before my arrival, by a free and loose evacuation from the bowels. Pulse was quick and skin hot. By noon, the bowels had moved several times, and the evacuations were watery and bilious, and were restrained by small doses of laudanum. The fever was attributed to the intermittent she had last Autumn, and one grain of quinine was directed to be taken every three hours. Being obliged to leave town suddenly, I left her in charge of Dr. S. C. Foster.

Aug. 17*th.* 12*th day.* She had great heat and quickness of pulse, but no pain anywhere. Delirium the night before. Had a decided chill at 2½ P. M., of a half hour's duration.

Aug. 18*th.* 13*th day.* I returned to town and saw her at 10½ A. M. She had vomited and purged many times during the preceding night. The laudanum was repeated, also quinine continued every three hours. She slept most of the day. Examined per vaginum to ascertain if there was any abscess to account for the fever. None discovered. She has no pain. Not even headache. P. 120 and skin hot. She is at one moment dry and then

breaks out into perspiration. There was a slight dullness of hearing—is cheerful when spoken to. For the last three days is adverse to nursing the child. Slept most of the day without vomiting or purging. At 10 P. M., P. 120 and is variable, sometimes 100 and 105. Takes no account of time. Mistook the evening for the morning. Is confused in her mind, but rather more collected to-night. Has taken forty-five drops of laudanum to-day. The quinine to be continued every four hours. Is allowed beef tea. She says she has a rumbling in her ears which she attributes to the quinine.

Aug. 19*th.* 14*th day.* Slept well all night. P. at 8½ o'clock, 96. No pain, no delirium, or incoherency. Is to have wine and water, beef tea and quinine. Asked to be allowed to sit up. 5½, P. M. Has sat up for a half hour without fatigue. At 2½ o'clock, had a slight chill which passed off in a few minutes. P. 100 to 110. Head hot, easily excited. The heat of the body varies much. Had vomited after the chill, and since then, has had three rather watery evacuations from the bowels. Her thirst is great, but from fear of promoting emesis drinks only a few tea spoonsful at a time. Tongue is natural, and has always been so. Has not slept to-day. Directed twenty drops of laudanum, and two grains of quinine every four hours. Is cheerful when spoken to, but has visions of men and elephants over the bed. The presence of her husband excites her, that is, she is annoyed by his solicitude. Hearing continues dull, but not so much so as yesterday.

Aug. 20*th.* 15*th day.* 9½ A. M., P. 95; at 7 P. M. 105. Had one dejection, watery, at 2½ P. M., when she took two drops of laudanum. At 5 P. M., sat up for half an hour, and immediately fell asleep. Has slept a good deal in the course of the day. The temperature of the skin more uniformly cool and even. Hearing is a little improved. There has been a slight watery discharge from

the ear. No pain, with the exception of a slight soreness in the left shoulder. No headache. Tongue slightly coated. No chill. Is to continue the camphor water with ten drops of laudanum every four hours. It was observed that there has been a chill, or an attempt to one, every other day, and we expect a recurrence of a chill to-morrow.

Aug. 21st. 16th day. Pulse at 9½ A. M., 95. Slept. 95,° more uniform temperature of the skin. The pain in the left shoulder continues. She had an operation from bowels more consistent, and natural than usual. Mind is clear. Does not ask for her husband or friends, however much they may absent themselves. The milk, which has been deficient lately, is abundant this morning. Nurses her child. Is to take two grains of quinine now, and at 1½ o'clock, for fear of a chill. Continues somewhat deaf. 7½ P. M. Has had a comfortable day, with the exception of being disturbed by the crying of the child, and at 1½ o'clock, a tremor which she says was not a chill, but a nervousness caused by the crying of the child. P. 105. Is to take laudanum every four hours, and a half ounce of tincture of rhubarb to-morrow morning. Does not desire the presence of her husband, and takes no correct notice of the lapse of time. Seems to be gradually improving.

Aug. 22d. 17th day. Early morning, sitting up and has been out of bed three quarters of an hour. Has had two operations of fair character. Took the tincture of rhubarb, but it had not operated. Looks fatigued; face and head cool. P. 100; hands hot. Is to go to bed and take quinine and camphor water with five drops of laudanum every four hours. 8 P. M. P. 96, soft. Nurse says she has a slight cough. I have never heard it. No râles on auscultation. Had considerable fullness of bowels, tympanites, yesterday and to-day. Has slept a good part of the day. Has eaten clam soup, and a quart of milk with relish. No movement of the bowels since

early morning. Milk in the breasts not so freely secreted as yesterday.

Aug. 23d. 18th day. Has taken a half ounce of the tincture of rhubarb, and the bowels have moved five times. Dr. S. C. Fisher saw her with me. She did not recollect him, although he had attended her five days ago. Seems to have a perfect loss of memory. Has passed a restless day, much thirst, vomited several times, hearing duller. Is to take two grains of conium with one of camphor, and, if not asleep in two hours, ten drops of laudanum. She has taken to-day a pint of milk, rice jelly with milk, and 1¼ grains of quinine every three hours.

Aug. 24th. 19th day. P. 108. Tongue clean. There is an eruption on the face, of an indefinite nature. Slept well last night—great heat of skin. The fever is supposed to be of a malarius character. A half ounce of camphor water with five drops of laudanum every four hours, ¾ of a grain of quinine every six hours. Has eaten a slice of bread and beef tea twice with rice jelly. 7 P. M. P. 110, soft. Eyes injected. The eruption on the face is like that of the measles; on the neck and chest, like purpura; very little of it on back; some on the hands. Deafness the same. Asked for cider; it was allowed. Has slept most of the day. No vomiting, or movement of the bowels. Has nursed the child several times. There was a small clot of blood in one nostril.

Aug. 25th. 20th day. P. 120. Intense fever all night, skin very hot, eruption the same, breathing quick. She rarely notices anything and is disposed to sleep. Tongue, this morning, for the first time, has a thick, black coat. Had, between 8 and 11 A. M., six evacuations from the bowels, and one in the afternoon. At 2½ o'clock, had a convulsion, a trembling and a stiffening of the limbs. It was repeated twice afterwards. They were not severe or durable. On the supposition that the first one, coming on at the time of a chill, might be a chill, I gave, in three

hours 20 grains of quinine. Pulse, during the day, reached 150. Intelligence left her gradually, although this morning, she took notice of her child. Great sensibility to light, and eyes injected. A blister was applied to the neck. Milk punch freely given until the latter part of the day, when she could not swallow.

Aug. 26th. 21st day. She gradually declined. The eruption spread to the hands and feet, sprinkled here and there with purpura. Vomited black matter at 11 o'clock, and died at noon. She had some bloody discharge from the bowels.

Examination, post mortem one hour. Head was not examined, which is to be regretted. Lungs and heart sound. On incising the skin, some fluid blood was found in the cellular tissue. The stomach was of a dingy pale color and contained several ounces of black fluid simular to what was vomited; small intestines healthful, containing yellow bile; large intestines strewed with bloody points of purpura. The uterus contained a slight bloody fluid, and blood exuded from the cut surfaces. The colon was contracted to one half its calibre for the space of six inches; kidneys sound. No peritonitis, or fluid in the cavity of the peritoneum. Spleen, to appearance, healthy; liver of a light purple color.

Remarks. The difficult, and prolonged labor was not attended with any inflammatory symptoms which caused her death. This event does not seem to be connected with the confinement. There probably was some malarious influence prevailing in her constitution, but the measily eruption cannot be accounted for on the supposition of there having been typhus fever. The suspicion of the presence of typhoid fever is also not supported by the other symptoms. The eruption of purpura seems to have heen different from the other eruptions, and had much to do in causing a fatal termination to her disease. If the head had been examined perhaps we might have

found something to account for the sudden change which took place the day before her death. The case was obscure and perplexing at every step, and not, even now, easily understood.

PUERPERAL FEVER. RECOVERY.

April 22d. 1836. Mrs. H. was confined April 20th at 11½ o'clock, A. M., was perfectly well until the 21st. Her age is 23. The disease began with chills about 11½ o'clock, last night. These chills were not observed by the nurse. Great pain followed, resembling after-pains, which increased rapidly, soon affecting the small of the back.

At 10 A. M., was in the greatest suffering: pulse small, thrilling, and not to be numbered for frequency. She was bled from a large orifice, in cups holding five ounces each, to the extent of thirty ounces. Pulse fell to 80 and 85, full and strong, fainted a little after the fifth cup. 1½ P. M., the pain returned about the pubes a little, no thirst, some milk, in the breasts. 1.40 o'clock, the first three are buffy and beginning to cup, less buffy in each succeeding cup. 1.50 o'clock, pulse smaller, 112, affected by the pains which are returning. Says she has something very hot within her, and puts her hand over the uterus as the place. 2.15 o'clock, says knives are passing through her, and that somebody is drumming on her spine. Has great, steady pain in the back, with frequent exacerbations. Pulse getting to be more and more frequent, is small, thirst greater, blood in first cup coagulated, and buffy, but less so in the other cups, gradually diminishing from the first. 2.40, o'clock, by Dr. Thompson's advice, twenty more ounces of blood were taken. The pulse, which could not be counted before the bleeding, fell to 70

a minute, was faint, face pale (in health florid), expressed herself as feeling relieved by the V. S. Has but little pain, thirst increasing, free perspiration, skin cool. At 2.50 o'clock. is free from pain except a throbbing of the back, as if some one was breathing there, slept well, pulse 90, is comfortable ; 3.40 o'clock, blood in the last cups a little coagulated, she is free from pain and pallid, pulse fuller and better, does not complain, is to take two grains of calomel and a half grain of opium every three hours. 7 o'clock, pulse 108, full, somewhat hard. She says that everything looks yellow to her. Was bled again to faintness. The quantity taken was ten ounces. This will make sixty ounces of blood which have been taken in nine hours. 7¼ o'clock, P. 85, full and and equable, skin cool, color returning to cheeks.

April 23d, 7½ A. M. A blister 12×9 was applied to the abdomen. 7.45 o'clock, P. 78. 8 o'clock, P. 104. Better feeling, thirst less. 9 o'clock, P. 106, after-pain. Took a powder. 6½ o'clock, P. 106. 10 o'clock, P. 108. 10½ o'clock, P. 106. Much less pain the past than the preceding hour. Cuticle raised in several places. 11 o'clock, P. 108 after a nap of sixteen minutes. 11½ o'clock, P. 102. 12½ o'clock, P. 108. Took a powder. 1 o'clock, passed urine. 1½ o'clock, took sulphate of magnesia. 1¾ o'clock, P. 118. Starts while sleeping. 2 o'clock, P. 114. Complains of headache, eyes suffused, 3½ o'clock, P. 110. Much perspiration. 4 o'clock, P. 120. Skin hot, complains much of blister. 4½ o'clock, took salts. 5 o'clock, vomited. P. 120. 5½ o'clock, vomited. 6¼ o'clock, P. 130. Complains of great burning inside and outside ; speaks of her state without excitement. Says she does not know if she is very sick, or not. 9¾ o'clock, P. 118. 10 o'clock, P. 120, of good feeling.

April 24th, 7 A. M. P. 108, softer, of good feeling. Skin perspirable. Says she is every way better. In the

night passed water freely. One stool. 8¼ o'clock, P. 108. 8½ o'clock, P. 102. Milk subsided after 9 A. M. yesterday, and returned after 10 P. M. (as she says). The breasts are now full. 10¾ o'clock, P. 102. Tongue slightly coated, and she has a bitter and slimy taste, she says it tastes of the opium she has taken. Tongue until now has been clean. 2 o'clock, has nursed her child. Had some pain through her back to her stomach. Passed urine twice. P. 110. Is to take a half ounce of castor oil every four hours until it operates. 8 oclock, has had three copious, substantial, and natural stools. P. 120. Has nursed her child with but little fatigue. Complains of flatus. No swelling of abdomen. Feels very comfortable. 8¼ P. M., P. 120. Disposed to sleep.

April 25th, 8½ A. M. At ten last night, had no pain, took ten drops of laudanum, slept well, had one stool, large and natural. Pulse 130, quick and vacillating, not in accordance with the other symptoms. Has complained of cold feet, while warm to others, mustard paste to be applied. Has complained of thrilling, fierce pains running through her, particularly along the spine. 10½ o'clock, poultices on the feet are irritating. P. 134. reports comfortable. 2 o'clock, P. 126, feels well. Respiration natural, 24 a minute. Has had two dark and slimy stools, fourteen ounces in amount. 5 P. M., P. 136, delirious, more thirst and heat of skin, one more stool, dark, and offensive. 7 o'clock, P. 128, two dark and slimy stools, very offensive, not delirious. Blister discharged well through the day. No swelling of the abdomen.

April 26th, 8 A. M. P. 120, reports better. Has heat over the abdomen. Says that now she has no bitter taste in the mouth, took castor oil, 3 drachms. 11 o'clock, one stool of eight ounces, containing natural fæcal matter with oil swimming on the top. P. 116. Says the oil passed up and made her sick, but did not vomit—fatigued—has had a slight chills running over her, as she

says. 3 o'clock, P. 120, three more stools. 9 o'clock, has passed urine freely during the day. P. 120. Lies on the side with the arms under the head, says she is every way better.

April 27th. Slept well, yet troubled with bad dreams. P. 108. Tongue becoming coated with white. Passed urine twice. 8 P. M., P. 103, feels better. 9 P. M., P .120, comfortable. Has been moved to new bed.

April 28th. Slept but little. P. 105; feels well. No stool. Tongue and mouth sore. Redness, like scarlatina, to be seen through white coat on tongue. 10 o'clock, tongue more red, parched, but feels comfortable. Has slept some. P. 112. 7 o'clock P. M., skin well. Tongue glazed, red and parched, whiteness disappearing.

April 29th. Says she has slept well all night. Reports better. P. 112. Tongue has lost its whiteness, is glazed, and less dry. No stool. Urine free. No pains or aches. 10 A. M., complains of risings in her throat.

April 30th. Tongue clean and moist. P. 102; good in feeling. Skin well. Every way promising. 7 P. M., P. 112; no stool; blister discharges; feels well.

May 1st. P. 102. Feels well. Tongue clean and moist. Take castor oil, 2 drachms. 8½ P. M., P. 102. Tongue clean, glazed and moist. No operation from medicine. Feels well.

May 2d. P. 90. Tongue lighter colored, moist. Medicine did not operate. Slept but little. 8 P. M., P. 90. Medicine had operated freely.

May 3d. 10 A. M. Sitting up in bed. Feels well, comfortable. Says she has heat and soreness in the left side, that her bowels fall from side to side, as she turns over in bed. The patient recovered.

Remarks. This case, noted with so much minuteness, was copied from the minutes kept by my fellow student and friend, Mr. Morril Wyman, to whom was assigned the duty of watching the patient, and who was in almost

constant attendance at her bed side. I report it here, because it gives us an excellent outline of a very dangerous disease with its varying phases and anxieties, and especially because I would call attention to the fact, that puerperal patients were treated, thirty-eight years ago, in a manner quite different, and almost in direct contrast, to what they are to-day, and yet they recovered, and the recovery did follow upon, and did seem due to the treatment.

On reviewing the case, we find that this woman who had, indeed, well declared, and very prominent symptoms, was bled in the course of nine hours to the extent of sixty ounces of blood; that a blister large enough to cover the whole abdomen was applied; that purgatives such as castor oil, epsom salts, &c., were given in a way that would be considered reprehensible at the present day; that calomel with a small quantity of opium was prescribed every three hours, and, under this treatment, the disease subsided, and that on the ninth day the patient sat up in bed, convalescent—certainly a rare history of recovery from a fatal disease.

In contrast with this treatment we have the modern method which, almost, if not entirely, omits the means detailed above, and trusts exclusively to the quieting effects of opium.

Cures have undoubtedly followed both modes of treatment, but we may well ask the questions whether the new course offers a greater number of recoveries than the old method. Upon this subject I have great doubts. It is not to be believed that every novelty offered is an advance in knowledge; certainly not to the degree of excluding all that the past has handed down to us. Medical experience, according to this theory, would be of no value. Such a denial would be as absurd as to deny that swimming was of any use, because some person who had fallen overboard, and who was ignorant of the art, had reached

the shore alive. It may well be asked if there was not something valuable in the old treatment which we have unfortunately discarded, and also something vauable in the new which ought to be added to the old. The constitution of the patient, that is his power of endurance, must always influence diseases. Modern pathology has served to discriminate between the different affections, such as metritis, peritonitis, phlebitis of the uterus, or of the ovaries, &c., which come indeed under the head of puerperal fever, and perhaps when these diseases are more clearly discriminated during life, the treatment will be better adapted to each. Blood letting, in some modified and suitable form will not, probably, be relinquished. Blistering too, formerly was done in a very thorough manner, and perhaps a return to this may be expected. Opium must be regarded as of established value, and following venesection, may, in most instances be conceived to be invaluable.

But I do not desire to enter into the whole question of treatment. I only wish to protest against the idea that what is old is useless, because a novelty is in temporary ascendency. Medical knowledge is proverbially of slow growth. It oscillates backwards and forwards, and is influenced by every new impulse; but true wisdom is to be found in the combination and resultant of all these forms, and not of one in particular.

The conclusion of the whole matter is that medical treatment is not certain in these diseases, and requires to be studied anew.

PUERPERAL PERITONITIS, PHLEBITIS AND INFLAMMATION OF THE LYMPHATICS.

On Saturday, July 13th, 1844, Mrs R., aged 31 years, walked from the Quarantine landing at Staten Island to New Brighton, spent the night there, and next day returned to the city, walking nearly three miles to her home through a drenching rain. The next day, July 14th, in early morning, the membranes broke during her sleep. The pains were momentary only. She remained without pain until the 21st, an interval of six days before the child was born. The child was premature about a month. Nothing of importance took place during the labor.

2d day. July 22d. 9 A. M., doing well. P. 70. All she complains of is a sense of lameness generally. Had passed water. Lochia sufficient. 4½ o'clock, was informed that, one hour after I had seen her in the morning, she had had a chill which lasted two hours. P. 95. Slight pain on pressing the uterus, especially on the left side. Some little thirst. Lochia sufficient, so is the secretion of urine. Slight nausea, but no vomiting. 9 o'clock, she was sleeping, the nurse also had gone to bed. Has had no new chills, but feels as if she might have one. Some slight pain in moving and on pressing the uterus. P. 108, and rather difficult to compress. Bled from the right arm, and took away about twelve onces. She had then fainted. Applied hot bran over the uterus.

3d day. July 23d. 5 A. M., P. 96 to 100. Had slept well all night, pain not diffused, and she thinks it has diminished. 9 A. M., P. 108. Pain limited to the region of the lateral legaments. Bled again to fourteen ounces, when the pulse faltered and she became faint. 12 o'clock, P. 95, soft. Lochia moderate. Milk secreted, but watery. 4½ P. M., moves better in bed, but there is considerable pain on pressure. The uterine discharge is sufficient to

wet a diaper, but is mostly colorless. Took to-day one and a half grains of calomel with one half grain of opium every three hours.

4th day. July 24th. 4½ A. M., has slept well, three small evacuations from bowels. Expression of face good, and natural; the gums are sore, and there is mercural fœtor in the breath. Abdomen slightly tympanitic, less pain on pressure. The breasts are distended with milk. P. 108. I supposed that the disease was in a measure subdued, and that the quick pulse might be due to the distended breasts and to the mercurialism. 11 o'clock, P. 120, soft. Some, but not great soreness on pressure. Lochia watery and scanty. In the afternoon a consultation was held with Dr. F. U. Johnston. He thought that inflammatory action was now subdued, and advised that hot poultices should be applied over the uterus, and frequently renewed, and that five grains of Dever's powder should be given every three hours. In his opinion, irritation rather than inflammation was present. 6 P. M., milk is being secreted, and she had the breasts drawn.

5th day. July 25th. 6½ A. M., P. 120. Easily shed tears, disturbed by noises, tympanites lessened, pain less. Another consultation to-day. Dr. Johnston regards the case in a favorable light, although he admits that there is too much heat of the skin and a too frequent pulse. P. 120. She has no pain except in rising in bed to pass water.

6th day. July 26th. P. 120, bowels free from pain, bears pressure well. She coughed to clear the throat from mucus, and this cause pain in the bowels. She says she is doing better. Lochia are scanty and pale; milk the same in the breasts. Pulse during the day has been from 108 to 120.

7th day. July 27th. Disposed to talk. Bowels not tender on considerable pressure. P. 130. Lochia very pale and scanty. The breasts still contain milk, but in

diminished quantity. Has had a tolerably comfortable night. Breathes heavily when asleep, and sighs frequently when awake.

8th day. July 28th. In the morning, P. 120, tympanites increased. She continued about the same as yesterday until noon, then was siezed with great heat, flushed face, and the pulse to 130. This state continued until 4 P. M., when the extremities grew cold, and she was covered wlth a cold sweat. Nose pinched. The pulse increased in rapidity and fullness with indications of sinking, when I gave a tablespoonful of oil of turpentine. This stimulated her, and she slept during the night more than usual.

9th day. July 29th. Dr. Johnston attended with me. In the course of the morning she vomited some green fluid. At 4 P. M., P. 140, very hot, and flushed. As the heat subsided the pulse grew more rapid, and extremities cool. Her restlessness increased, and she died a little after midnight.

Examination post mortem. Dr. John A. Smith assisted me in the examination. A pint of fluid was found in the abdominal cavity, and consisted of dirty red serum. The whole peritoneum lining the parietes, including the diaphragm and intestines, was injected with blood. Between the convolutions of the intestines small specks of lymph were deposited. The upper surface of the uterus was a little red, but its under surface was not injected. On cutting into the uterus, the muscular fibres were distinct, pale and healthy. The inner surface was covered with a bloody mucus, but appeared to be normal. There were hardly the usual appearances perceptable at the place where the placenta had adheared. The ovaries were small, natural. The ovaric veins were diseased, Some of them contained coagula, varying from a half inch to an inch in length. There were one or two vessels with pus in them to the extent of several inches. Dr. Swett regarded these vessels as lymphatics, from their appearance,

and because the vessels that had coagula in them did not contain pus. There was one large lymphatic gland with pus in it. The coats of the veins were not, with one exception, red or pink colored. The os uteri had a slight laceration in it; but this is not an uncommon event in puerperal woman, and no inference could be made from it. The stomach was natural, with the exception of one spot at its upper curvature, which was of a dirty red color, and where its mucous membrane was soft, and broke easily on being raised. Liver natural. Lungs the same. There was considerable fluid in the cavities of the pleuræ.

This case was attended with less declared symptoms than the one before reported, and of so mild a character, that it would, if it had not been for the examination after death, been thought to be a case of simple irritation, rather than one of pure inflammation. Yet it ended fatally in spite of active treatment. There was a lull in the disease at one time, as if convalescence was about to commence, which lasted only a short time. This will show the treacherous nature of the disease.

I cannot but think, that if the patient had been put under the modern treatment of large doses of opium after the first, or more certainly after the second venesection, that she might have stood a better chance of recovery.

PERITONITIS.

In the year 1858 I was called to a young man, aged 22, in an adjoining street, who had been seized with pain in the abdomen, after a chill. The next day peritonitis was recognized, and he was put under the opium treatment, and on the fourth day his fever had subsided, and he remained quietly in bed as if the danger was over. On this day his father came to New York and staid with him two days (during which time the patient was doing well), and then left without seeing me, no doubt thinking that I was over-careful, or had mistaken the disease. Two days after his father left town, on the eighth day of the disease, I was still in attendance, and had enjoined upon him the importance of keeping in bed, and living upon a closely restricted diet; but as soon as I had left the house, he arose, washed and dressed himself, eat a hearty breakfast of bread and chicken, and then had a movement from his bowels. He was seized with acute pain in the bowels, and had just strength to ring the bell for aid, and crawl into bed. Inflammation started anew, and he died about midnight. An examination after death showed the evidences of acute inflammation all through the abdomen. The intestines were glued together by effused lymph. The theory of his death was, that having had an inflammation which had glued the bowels together, and had arrested the disease, the efforts he had made, especially in strain ing to evacuate the bowels, had broken these adhesions and started inflammation anew, which extinguished life in about sixteen hours.

PERITONITIS—ABCESS IN THE PELVIC CAVITY.

Oct. 13*th*, 1867. Mr. R. sent for me. He complained of pain situated at the navel, which had come on during the night. Pulse was not accelerated. His face was dingy, and expressive of pain. I gave three compound cathartic pills, and directed, if they should operate more than twice, to take one grain of opium in a pill every two hours until he slept. By bed-time he had two operations from the bowels, and had taken five opium pills. The pulse had reached 100, but the pain had moderated.

2*d day*, *Oct.* 14*th*. 8 A.M. Directed the opium pills to be continued. At noon he sent for me, complaining of severe pain in the penis. I now determined to put him under the full influence of opium. The pulse had risen to 120; pain about navel continued; the abdominal muscles rigid; some tympanites.

3*d day*, *Oct.* 15*th*. 8 A.M. P. 96. At noon it was 84; at 7.45 P.M. 84. At this time the tympanites had diminished. From 8 A.M. until midnight he took 100 drops of Magendie's solution of morphine.

4*th day*, *Oct.* 16*th*. P. at 8 A.M. 84. At 12 M. 80. At this time he was in a deep sleep, having been restless before. At 2 o'clock took some wine whey, the only nourishment he has had since he was taken ill. In the evening he had a slight chill, and the pulse rose to 94. To-day he took forty drops of Magendie's solution of morphine.

5*th day*, *Oct.* 17*th*. Beef tea given to-day. The morphine was continued, taking in the 24 hours fifty-one drops of Magendie's solution. P. 84. In the evening he was distressed, and prevented from sleeping by hiccough, which was arrested by ten drops of chloroform.

6*th day*, *Oct* 18*th*. Early morning P. 96, and he was restless. He slept occasionally from one to two hours at a time. At 4½ P.M., pulse rose to 120. Beef tea and milk punch for diet. The catheter was used twice to-day

to draw off the urine. Twenty-two drops of Magendie's solution given to-day. Two grains of quinine were given, to be repeated every six hours. He had visited a malarious district on Long Island shortly before his illness, and it was suspected that he might have contracted disease there.

7th day, Oct. 19th. P. at 1¼ A.M., 120; at 6 A.M. 100; at 8 A.M 106; 10 A.M. 96; 4 P.M. 94; 6¾ P.M. 104. Beef tea and milk punch were given. Five grains of quinine every four hours, and twice a day eight drops of Magendie's solution to procure sleep.

8th day, Oct. 20th. Just after midnight P. 94. Shortly after this time he had a chill, which lasted twenty minutes. During the chill he took thirty drops of chloroform. At 3 A. M. P. 110; sweating profusely. At 10 A. M. had another chill, which lasted fifteen minutes, during which he took a wine-glassful of whiskey in some water. The bowels moved naturally to-day, the first time since the commencement of his illness. Beef tea and stimulants continued. The bowels had become soft and flexible under pressure. Still suspecting that the chills might be owing to some malarious poison, the quinine was given in five grain doses every four hours. The urine was passed without the aid of the catheter.

9th day, Oct. 21st At 6 A.M. some nausea; at 7 A.M. a chill with nausea and vomiting. The quinine pill was also vomited. Fearing that the nausea might have been caused by the quinine, it was given in twenty grain doses every six hours, in a suppository.

10th day, Oct. 22d. Pulse varied during the morning from 96 to 124. Diet and stimulants given freely. At 2 P.M. he fell into a collapsed condition, with cold hands and feet, and was bathed in perspiration. He never rallied from this state.

11th day, Oct. 23d. Refused to swallow anything after two o'clock in the morning. Recognized his friends who surrounded him, and died at 5½ o'clock.

Dr. Austin Flint attended this case with me, and was present at the examination after death. Peritonitis was manifested by the fullness of the vessels of the omentum, and mesentery. The intestines had lost their natural polish, were vascular, and sticky from effused lymph, not abundant, but was enough to glue the intestines together; nor was there any effusion of serum. The peritonitis, as the symptoms indicated, had probably reached its height on the third day. In the right pelvic cavity there was discovered an abscess large enough to contain nearly an ounce of pus. The wall of this abscess was the peritoneum. No perforation of the appendix, or of the bowels could be discovered. The chills, in all probability, were occasioned by this abscess.

After his death, his colored servant told me that on the fourth day he arose from his bed and shaved himself, and then fell backwards exhausted upon the bed. He had charged the servant not to tell the doctor what he had done.

The disease seemed to be ending, and this imprudence may have reproduced the inflammation.

In reviewing cases of peritonitis, as well as most acute inflammations, such as that of the lungs, for instance, there seems to be an effort made by nature after a few days, to establish convalescence which may lead on to health, or which, from neglect or imprudence, may light up the disease anew and terminate fatally. This period then is to be regarded with anxiety, although the subsidence of the bad symptoms may lull us into repose and carelessness.

Peritonitis in its earliest stage is at its onset often difficult to diagnosticate, and its course is full of stratagem and treachery.

The thermometer, of late days, is an invaluable aid to us in foreshadowing the coming changes before they really appear.

RETENTION OF THE MENSES SIMULATING PREGNANCY.

Oct. 1853. Mrs. G. has been married several years, but she has never become pregnant. Her age is 24. She has suffered much from painful menstruation, so that she looks upon its return with dread, and on these occasions always takes to her bed.

By means of bougies, sponge tents, and leeches, she, after three months, was enabled to menstruate without pain. She then menstruated in a very slight degree. The next month she suffered much pain, went to bed and took pretty large doses of laudanum, but had only a show of blood, and so it went on up to the seventh month. The abdomen began to enlarge, and she was believed by her friends to be pregnant. She was obliged to loosen her dresses as her size increased. At the fifth month the uterus reached the umbilicus, but there was no placental souffle, or pulsation of the fœtal heart to be heard. The breasts enlarged a very little. Every month, at the time corresponding with the monthly function, she had pain with a slight discharge. After the fifth month she did not increase in size. At the seventh month a large flow took place, and the whole uterine tumor disappeared.

Since then she has menstruated twice without pain, so that we presume that the dysmenorrhœa is completely cured.

I never committed myself so far as to declare that she was pregnant, and because I would not give her a positive assurance of the fact, she neglected to make the usual preparations for the reception of the child. A few months after the above occurrence she became pregnant, and is now the mother of one, if not more, children.

DIABETES.

Dec. 10*th*, 1870. Mr. M., from Long Island, made to me the following statement of his case. He supposed, during the month of June, that he had diabetes, from his great thirst, and the large quantity of urine that he passed. He now passes more than two gallons a day. He has a stickly taste in his mouth, which often becomes offensive, and pains at the pit of the stomach, which he attributes to indigestion. The weight of his body had diminished twenty-five pounds. He does not drink during the night, but is obliged to rise two or three times to pass water. During the day, he urinates every one or two hours. Pain exists over the kidneys. Has consulted no physician, and taken no remedies for his complaint. His complexion is pale; skin dry and harsh. He never perspires, and not even during the excessive heat of the past summer. Bowels rather constipated. Pulse feeble. All venereal appetite has left him.

The specific gravity of the urine is 1040, and, with Trommer's test showed the presence of sugar, but much more distinctly with Fehlings liquid test. On adding yeast, to cause the disappearance of the sugar, the specific gravity was reduced to 1005, a diminution of 35 degrees. This showed 35 grains of sugar to the ounce, and if he passes two gallons of urine a day, the large quantity of 18⅓ ounces of sugar is passed in the twenty-four hours.

The color of the urine was white, shining and sparkling, and it deposited sugar on the sides of the vessel when allowed to dry. He was directed to use bran bread, to avoid all vegetables, and to restrict himself to milk, eggs, meat, soup, cabbage, cauliflowers, lettuce, tea, coffee and a glass of brandy and water with his dinner, and to report to me in a week. The medicine prescribed was fifteen drops of liquor potassæ three times a day.

Dec. 16th. He reported that on the day following the one when he made his last visit, there was an improvement in the symptoms, which he attributed to the medicine and diet. His urine has now diminished to two quarts a day. He has no thirst; the sticky secretion in his mouth has left him; so also has the pain at the pit of the stomach. Having used sugar in his tea and coffee, he was directed to omit it for the future.

The urine passed in my presence was of the natural straw color, and he had not urinated for six hours previously. The specific gravity 1029. He brought me a specimen of the bran bread he used, which was made of cream and eggs, and was very palatable. His bowels were constipated; for this, he was directed to take a dinner pill night and morning. A pill containing one grain of sulphate of iron and a half grain of powdered opium was also prescribed to be taken night and morning.

Dec. 27th. Has very much improved since the last visit. The specific gravity is 1021. There is not a trace of sugar in the urine. Has no thirst, and has restricted himself to the diet prescribed. Since his first visit to me, a period of seventeen days, he has gained eight pounds in weight. His face is full, and he has, occasionally only, the dyspeptic pain at the pit of the stomach. The following is the record of the fluid drunk and the urine voided since the last visit:

Dec.	Pints drank.	Pints of Urine passed.
17	3½	3¼
18	3½	3
19	4, (Diarrhœa.)	2¼
20	5	3¾
21	3¾	3¼
22	3¼	3¼
23	3½	3
24	3¼	2¾
25	3¼	3
26	2¾	2¾

He is fond of walking, and was advised to prolong it every day until he perspired. Especially was this urged, because no proper conveniences existed at his house for preparing a warm bath. The opium and iron pill with the liquor potassæ are to be continued as heretofore.

Jan. 6th, 1871. His usual weight is 175 pounds. He weighs now 165 pounds; has gained since the last visit, which was ten days ago, five pounds. Since the treatment was commenced, a period of twenty-five days, he has increased in weight thirteen pounds.

The urine to-day has a specific gravity of 1020. Color of it is a dark straw; no sugar is found on testing it. He is to discontinue all medicines, and was allowed to take, once a day at dinner time, two inches of white bread from a French roll. The diet, in other respects, is to be continued.

December.	Pints drunk.	Pints of Urine passed.
28	3	$2\frac{3}{4}$
29	$3\frac{1}{4}$	$2\frac{3}{4}$
30	$3\frac{1}{4}$	$2\frac{1}{4}$
January, 1871.		
1	3	$2\frac{3}{4}$
2	3	$2\frac{1}{4}$
3	$3\frac{3}{4}$	$2\frac{3}{4}$
3	4	$2\frac{3}{4}$
5	$3\frac{1}{2}$	$2\frac{1}{4}$

He exercises briskly every day and perspires freely.

Feb. 4th. Having been allowed to take a small allowance of wheat bread, he was tempted by the taste to indulge freely in the use of it. He says that he is stronger than ever. The urine is straw colored; the specific gravity, 1028. On testing it, a decided yellow color indicates the presence of sugar. The following record, kept by him, will show that, when the diet was *unrestricted*, he lost weight, and when *restricted*, he gained weight:

JANUARY.	PINTS DRUNK.	POUNDS.	PINTS OF URINE PASSED.
7	2½	163	3 Diet unrestricted.
8	4		3 "
9	5		4½ "
10	4¼		3 "
11	3¾		2¾ "
12	4¼		2¾ "
13	5¼	159	4½ "
14	3¼		2¼ Diet restricted.
15	3¾		2¼ "
16	4	Slight cold,	2 "
17	3½		2 "
18	3¾	161	2¼ "
19	3		2¼ "
20	4		2½ Diet mixed.
21	5		3¼ "
22	3		2¾ "
23	3		2¾ "
24	4	162½	4¼ "
25	3½		2¼ "
26	3½		3 "
37	3¼	161½	2¼ Diet restricted.
28	3		2¼ "
29	3		2¼ "
30	3		2¼ "
31	3		2¼ "
FEBRUARY.			
1	3		3 "
2	2¾	164½	2¾ "

The quantity drunk was greatest when the food was unrestricted. He was directed to take fifteen drops of the liquor potassae twice a day, and persist in the restricted diet steadily for a month.

His venereal appetite, which was lost, has returned. Convinced by his experiments with himself that the management of the case was in his own hands, he did not continue under my charge.

I have not seen him for nearly two years; whether he recovered I cannot say. It may be that the case has ended as usual, in consumption, but I can hardly believe that he could have grown seriously ill without calling upon me, or sending for me.

COLD AND HOT WATER IN THE CONVULSIONS OF SCARLATINA WHEN THE ERUPTION HAS RETROCEDED.

It occasionally occurs in scarlatina that the eruption will suddenly disappear, and convulsions will follow. This is regarded as very dangerous to the patient, unless prompt and efficient measures are used to save the brain from congestion, and to bring back the eruption to the skin.

The means used by me in several instances, with success, are, at once to place the patient's head over a tub, or some receptacle, and, while standing on a chair, to pour cold water in a thin stream upon it, and at the same time, to send for a small blanket and a pitcher, or what is better, a hand basin of hot water. The blanket is to be soaked with hot water and wrung out, so as not to drip, and when the patient is stripped of clothing he is to be enveloped in the wet and hot blanket, with a dry one wrapped around on its outside. If the child is young, diapers are to be left on, because the bowels are likely to be evacuated.

It is not always convenient to obtain a hot, general bath at all times without the sacrifice of valuable time, therefore I have restricted the quantity to a hand basinful. Sometimes, during the cold douche to the head, the patient will cease to be convulsed and recover consciousness, or he may not recover it until he has been in the hot blanket some considerable time.

The above expeditious way of obtaining a hot bath, was learned from my friend, the late Dr. J. G. Treadwell, of Salem, Mass. It may be used in a variety of affections.

I will illustrate my method of proceeding in scarlatina.

In 1856, I was requested by a neighbor, the father of a young lad about 12 years of age, to go immediately to his assistance. He had scarlatina, and was in convulsions.

The late Dr. Jackson Bolton was in attendance, and I immediately sent for him. The child was in violent convulsions, and the eruption had disappeared. I stood on a chair and poured cold water upon his head, and ordered a blanket, and basinful of hot water to be procured. Before the hot water could be obtained he had come out of his convulsion, and resisted the use of the cold water. He was then enveloped in the hot blanket, and was immediately seized with a second convulsion. Cold water was poured as before upon the head for about eight or ten minutes. The convulsion ceased, consciousness returned, and he fought to get away from the cold water. By this time Dr. Bolton had arrived, and all that remained to be done was to give warm drinks plentifully, to promote diaphoresis, and allow him to sleep, if he would, one, two or three hours in the hot blankets. After this, directions were given to remove the moist blanket, and envelope him in a warm, dry one.

The eruption returned to the skin; no more convulsions followed, and he advanced steadily towards recovery.

In 1862, I attended two brothers with scarlatina of the respective ages of 12, and 14 years. The younger of the two was seized with convulsions on the second day of the eruption, and the rash had disappeared.

The cold and hot water were used as above detailed, but not with such striking and immediate results. The cold to the head had a manifest control over the convulsions, but consciousness did not return upon their termination. The convulsions frequently recurred, and as often as this happened was the cold water poured upon the patient's head. He finally became quiet, somnolent, and remained in this state for about eight hours, when consciousness returned. During all this time he was enveloped in the moist blanket.

The eruption reappeared, and without delay he made the usual progress of a favorable case towards recovery.

SCARLATINA ON THE SECOND DAY AFTER CONFINEMENT. DEATH OF THE PATIENT.

Mrs. H. was delivered of her second child, on the 30th of January, 1868. Everything was favorable until the second day after the confinement, when scarlatina showed itself. The milk did not come in the breasts to a greater extent than a few drops, and the lochia were suppressed. Great prostration followed upon the scarlatina, and free stimulation was resorted to, which seemed to be of advantage. She was never made aware of the disease with which she was attacked. In truth, she was indifferent to her condition; not delirious, but in a dreamy state which prevented her from noticing the lapse of time, or attending to her feelings. In the second week, she had a very severe sore mouth from apthæ; she also had diarrhœa to the extent of from three to five discharges from the bowels a day. The sore mouth prevented her from taking any food, except fluids such as milk and soups. The catheter was used to draw off her urine for nearly a fortnight after her confinement. After the scarlatina, came rheumatism, which prevented her moving, and added essentially to her sufferings.

About three weeks after the scarlatina, came the congestion of the kidneys, manifested by albumen and casts in the urine.

Hopes entertained of her recovery during the second week diminished on the appearance of the albumen. She became somnolent, but never insensible, or convulsed. The pulse varied frnm 84 to 130. Most of the time, during the last week of her life, she was bathed in perspiration, and the looseness of the bowels continued. These symptoms were regarded as the efforts of nature to get rid of the uræmic poison. She gradually sank, and died on the 24th of February, twenty-five days after her confinement.

The treatment was chiefly food stimulus, iron, quinine, and when the kidney trouble was indicated, acetate of potash, and tincture of digitalis.

There are no statistics, to my knowledge, which give the proportion of deaths in scarlatina coming on during child-birth. But they are regarded as being all, or almost all, fatal. Dr. Alonzo Clarke said they were always fatal. Dr. James Crane, of Brooklyn, has seen three cases, and all of them died. Dr. Austin Flint, who attended this case with me, never had a case before, but looked upon them as nearly always mortal. Dr. Parker regarded them in the same light, but mentioned that he had seen one case of small pox, which recovered after parturition, which set at defiance the general law of fatality usually met with in these eruptive diseases. But Dr. I. E. Taylor mentioned that he had seen several cases of scarlatina, coming on shortly after child-birth, in Bellevue Hospital, which recovered.

To continue the interesting history of this family: the husband took the disease from his wife, in the second week of her illness, went through very well, and recovered. The new born baby took the disease betwecn the third and fourth weeks, recovered, and died of pneumonia when about two months old.

DIPHTHERIA.

Dec. 15*th*, 1866. The family of Mr. H. has been severely afflicted by diphtheria, during the space of three months. Three of his children have had the disease, but all of them have recovered.

His daughter aged four years, was first attacked. She had great enlargement of the tonsils with deposit of membrane upon them, and on the inner side of the cheeks. She was left with an affection of the eyes, so that she saw indistinctly, and would walk around staring, and peering about, owing to this defect of vision. She recovered perfectly after several months.

The eldest son, aged ten years, was next attacked as severely as the sister, with the exception that the eyes were not affected, but he had considerable huskiness in the cough.

Next, the second son, aged seven years was attacked with the disease. He had hoarseness for two days without cough, and then the membrane appeared on the tonsils and pharynx, followed by cough of a croupy kind, and stridulous breathing which rendered his life precarious for three days. Then the symptoms moderated, the breathing became easy, the membrane disappeared from the throat and he was believed to be convalescent.

These favorable symptoms lasted only four days, when the croupy breathing and cough returned. Chlorate of potash, iron, quinine, and good nourishment were constantly administered, but without success, and he became so ill that it was believed that he would not live through the day. The question arose whether tracheotomy should be performed, and a consultation was held with Dr. Willard Parker. The same unpromising view of the case was entertained by him, but the operation was discouraged because it was considered useless. Two grains

of calomel were directed to be given every three hours, with Dover's powder, until twelve grains were taken, and we decided to make use of hot steam in as thorough a manner as possible. For this purpose four uprights were affixed to the corners of the bed, and a cloth, which was ordinarily used to cover a billiard table, was thrown over these, so as to perfectly enclose the bed. Steam was generated by hot bricks which were continually deposited in a foot tub half filled with water. The atmosphere of steam thus generated was intense, and was deservedly thought to be more instrumental than all things else in promoting his recovery. A few hours use of it seemed to restore him from a condition of immediate danger to one of comparative safety. The cough, which had been hoarse and ringing, became moist and loose, and the breathing, which had been very much embarrassed, became quiet and easy. The skin of the face was reddened, and almost blistered by the hot steam. The membrane disappeared from the throat, becoming gradually thinner as if worn away by attrition. He steadily improved and gradually advanced towards a full recovery.

WHOOPING COUGH IMMEDIATELY AFTER BIRTH. DEATH.

Mrs. H. was confined on the 5th of August, 1855. two days previous to her accouchment, she had a cough which proved to be whooping cough. On the tenth day the child took whooping cough, and died on the 21st of August, exhausted after six days illness.

The mode of the attacks was peculiar. The child, between the intervals of the cough, would seem to be perfectly well, and lie in a placid sleep. It would then grow dark about the lips and cheeks, and finally the whole head would become blue, and in this condition it would remain apparently without breathing at all. The breathing would finally return and then the cough, and it would require five to ten minutes before quietude could be restored. Remedies of an antispasmodic nature were tried without any alleviation, and the child died exhausted. This was the youngest person I have ever met with whooping cough.

CROUP TREATED BY THE PROBANG AND CAUSTIC. RECOVERY.

Mr. C's. child aged 18 months, and still nursing arrived from Charleston after a boisterous and wet passage. Immediately after landing she had symptoms of croup, which were treated by her friends with Hives' syrup. The symptoms increasing, I was sent for two days afterwards.

June 8th 1848. I commenced immediately with 1½ grains of calomel every three hours, and every hour and a half after the calomel, an emetic of syrup of ipicac. The cough was hoarse, and on examination I found on the right tonsil a patch of membrane, a part of which was removed by the handle of a spoon.

2d day. Saw her twice, and applied nitrate of silver by means of the probang, to the throat. The false membrane still adhered to the tonsil.

3d day. She was so much better to-day that I made but one visit. The membrane is still on the tonsil, but the breathing is not so hoarse on inspiration. Omitted the treatment with the calomel.

4th day. Made but one visit. She is quite as well as yesterday. Pulse about 100.

5th day. The pulse had risen to 120; increased hoarseness; cough sonorous, and breathing accelerated. Gave two grains of calomel every four hours, and two hours after the colomel, an emetic. The caustic, forty grains to the ounce, twice to the throat. Saw her four times to-day.

6th day. Made five more visits. Still quite ill. Continued yesterday's treatment with the addition of the warm bath.

7th day. Four visits. Continued the same treatment for the same symptoms. Free, green evacuations are produced by the calomel.

8th day. P. 98. Hoarseness lessened. The calomel given every six hours. Caustic applied twice. Some pieces of false membrane coughed up after the application of the probang and caustic.

9th day. Symptoms milder. Treatment the same.

10th day. Omitted the calomel. She is the same. The emetics not given regularly, but only two or three times a day. She takes nearly two tablespoonsful of Hive syrup before vomiting is produced. Caustic is applied to the throat. There is some difficulty in swallowing and in nursing.

11th day. The child was in an uncertain state, same as yesterday, and I was not disposed to continue the active treatment. Dr. Cheeseman met me in consultation; he agreed with me as regarded the nature of the disease,

but suspected that the caustic might have caused the difficulty in swallowing, and thought that *it*, with all active treatment might now be suspended. Seven drops of syrup senegæ were given every three hours. In the evening the child became hot, and had rapid breathing with sonorous cough. The caustic had heretofore seemed to me to be useful, so that I was not willing to withold it under this return of the croupy symptoms. I therefore gave an emetic of ipecac, applied the caustic, and staid in the house all night. After the action of the emetic, two drops of laudanum were given, and a poultice applied to the neck.

12*th day.* More comfortable than last night, with much oppression of the breathing towards evening, when I gave ten drops of sulphate of zinc, followed by Hive syrup, to the extent of more than half an ounce before vomiting took place. The child was prostrated, and slept. Two hours after this she vomited again. In the matter vomited, some broken pieces of membrane were recognised. There is considerable difficulty in swallowing, and every attempt to suckle is attended with a cough. The caustic was applied twice to-day, and two drops of laudanum given at night time.

13*th day.* Is much better; coughs less, and breaths well when quiet. Has nursed with some cough, and has drunk some milk and water, and eaten a small bit of bread. Skin cool. Pulse about 80. No caustic to-day. All medicines omitted excepting syrup senegæ. To night is to take two drops of laudanum, and if bad symptoms should arise to give an emetic, and use the warm bath.

14*th*, 15*th*, *and* 16*th days.* The throat symptoms are improved, but the back of the mouth, and surface of the palate are covered with a florulent aphthous looking exudation, and the lips are sore, so as to prevent suckling. To-day, the 16th of the disease, the mouth has improved so that she can suckle somewhat. Night before last she

took three drops of laudanum, but none last night, which, probably from the omission, was restless.

I feared that this appearance of the mouth might have been caused by the mercury, but there was no mercurial odor in the breath. I would hardly attribute it to the caustic, but more to the Hive syrup, or sulphate of zinc.

This child slowly convalesced, and became fully restored to health.

Remarks. The alternate treatmemt with calomel and emetics was taught me by what I had seen successfully pursued by the late Dr. F. U. Johnston. He had more confidence in it, in membranus croup, than in anything else. The probang and caustic was suggested from the practice of Dr. Horace Green, and it is worthy of remembrance, that Dr. William H. Maxwell had reported a case to me, where he attributed the recovery to the probang and caustic. I cannot say that the caustic was injurious; on the contrary, I am disposed to believe that it was useful; but yet, I am inclined to the opinion that the probang alone was as useful as the caustic.

In this case, probably the false membrane did not extend below the glottis, and the probang acted mechanically in breaking up, and detaching this membrane, so that it could be coughed up, or swallowed, and then thrown up when vomiting took place.

The case being closely observed, and the symptoms noted, is valuable in showing how persistent croup sometimes is, and how necessary it is to be constantly on the watch for the recurrence of bad symptoms, and not to abstain from active treatment so long as they last.

Perhaps no one who has attended a bad case of croup which has ended in recovery, but must have in reserve these questions which naturally arise, have my remedies done any good? Would not the child have recovered without them? Now this remark is applicable to all the means, medical or surgical, that have been resorted to.

To show how nice a thing it is to decide when tracheotomy should be resorted to, I would mention the following facts:

A number of years ago I was invited to attend a consultation over a child with croup, in the practice of the late Dr. Bulkley. Dr. Buck, and several other gentlemen had already assembled, and were debating what should be done. After much examining of the patient, and much discussion, the majority of opinions seemed to be in favor of tracheotomy, when the child suddenly coughed, and it was remarked that the cough did not sound very tight, but had rather a loose character. All present were struck by it, and influenced to postpone all thoughts of an operation for three hours, when the consultation should be held again. When they assembled again, the cough was decidedly loose. No operation was performed, and the child recovered.

Tracheotomy is a very useful expedient, and sometimes the only one that promises any chance of benefit; but no one would like to resort to it unnecessarily.

The false membrane of croup may begin on the tonsils, extend to the epiglottis, glottis, trachea, and smaller bronchial tubes, or it may, I believe, be arrested at any one of these points. The most dangerous place, and where most commonly it reaches, is probably the glottis, and the obstruction and spasm it causes is soon likely to be followed with congestion of the lungs. Now an operation, if it is to be of benefit, must be performed before this state of things is established. To be sure the membrane may extend to the smaller bronchial tubes, and extinguish life after the trachea has been opened. But I believe that generally it does not, therefore am convinced that the operation should be done early.

If after using emetics, calomel, and whatever other means are thought to be useful, we find that they have failed, and especially if there are threatenings of conges-

tion of the lungs, or of prostrated strength, from which the patient cannot recover easily, let us think of the operation and do it, if at all, early. If this rule should be followed, I feel sure that the list of recoveries from membraneous croup will be the greater.

A SCREW IN THE BRONCHIAL TUBES FOR THREE YEARS. FINALLY EXPECTORATED.

A son of Mr. T., aged about five years, had a small screw in his mouth from the hinge of his mother's work-box. It disappeared, and I was sent for. On arrival there was no cough, nor other symptom to indicate that it had passed into the trachea. It was supposed to have passed into the stomach and no more thought was given to it. He became however subject to cough, and the sputa was tinged with blood, yet so thoroughly had the mother, and myself forgotten the event of swallowing the screw, that we never alluded to it. I asked, if, from the recurrence of the symptoms, it were possible for him to have drawn a nut shell, or any foreign substance, into the lungs, but no reply could be given to the question. He had during the attacks of cough some fever, and there was a spot in the right lung just opposite the point of the scapula, where the air did not enter, and which was dull on percussion, including a space which could be covered with a silver dollar. At this place whenever there was cough a sonorous râle was audible.

After three years residence in the lung, he was siezed with a free hemorrhage and violent cough, during which the screw was expectorated. It was about one-third of an inch in length. It was swallowed in 1852 and expectorated in the Autumn of 1855.

Since then he recovered, and is still living a strong and healthy man.

CONGENITAL MALFORMATION OF THE HEART.

NO PULMONARY ARTERY.

1852. Mr. A's child had been known to have congenital disease of the heart. The skin was pale generally, but the tips of the fingers and toes were blue. Large veins were constantly visible over the forehead and neck, and the jugular vein on the right side of the neck pulsated. The action of the heart was excessive, and accompanied with a loud bellows sound. There was almost constant cough, and great difficulty of breathing. The head was well shaped, and the child appeared to be intelligent enough, but her distress seemed to absorb all of her attention so that she rarely smiled. She lived until she was nearly three years and six months old. The limbs were feeble and attenuated, and she never stood up, or walked. It is worthy of note that the teeth commenced to decay almost from the moment they made their appearance through the jaw.

Examination Post-mortem. The heart hypertrophied. The right auricle large, and the left very small. There was a communication between the two auricles. There was no pulmonary artery, or any trace of one, but the right ventricle communicated with the left by an opening as large as the tip of the index finger. This opening in looking into the left ventricle, was found to be just below the aortic valves. The blood must have been pumped from one ventricle to the other constantly. The heart from its free communication of the right with the left side, must be regarded as a single heart, and the only way by which the blood could have been oxygenated is by supposing that some branch was sent, from the aorta to traverse the lungs, and then the aerated blood was returned to the heart, by the veins. It would have been interesting, and more satisfactory if, instead of broaching

this theory, we had minutely dissected the lungs and traced this peculiarity of the circulation, but the circumstances attending the examination prevented its execution.

PHTHISIS. RECOVERY. VERTIGO A STOMACHO LAESO OF TROUSSEAU. RECOVERY.

DEATH TEN YEARS AFTERWARDS, AT THE AGE OF 84 YEARS.

July, 1850. R. S., of Salem, Mass., a man of spare but large frame, aged 73, was affected with obscure symptoms which will be spoken of after I have given a general outline of his early health.

When young he was delicate, and at 20 years had hæmoptysis, which continued repeatedly until he had passed the age of 50. These hemorrhages were occasionally very profuse, and reduced him, at three different times, so low that he was not expected to survive the day. At different times, he expectorated calcareous matter, which, in addition to the other symptoms, is good proof that he had consumption, and that the tubercles had degenerated. During the last war with Great Britain, he relinquished business altogether, retired to the country, rode on horseback, and lived, for about five years, on rye pudding and molasses. He was very fond of sweets, and often, during the day, would consume the contents of a sugar bowl. He was abstemious as to wine, or spirits, disliked them, and rarely if ever touched them.

After the age of fifty, he was not much troubled with cough, and has enjoyed almost uninterrupted health to the present time. The phthisical symptoms left him. In fact the consumption was cured.

In the autumn of 1849, he was in good health, and made me a visit in New York, but about the month of December following, he began to be affected with the obscure

symptoms above alluded to. He would be seized with a sense of constriction about the forehead, or rather along the coronal suture, and at the same time with an unpleasant sensation in the precordial region, so that one hand would be placed on the top of his head, and the other upon his heart. These attacks would vary in frequency, and in severity, sometimes very slight. At other times he would have fallen unless some one held him, or he would catch hold of a chair, a tree, or a fence, for support. He never lost consciousness, but his lower limbs seemed to give way, and to bend under him. At the time of these attacks, he would have eructations of wind from the stomach, and sometimes actual vomiting. Within a period of six weeks he lost fifteen pounds of flesh. The pulse was feeble, and in the left wrist was at times felt to be irregular. The pulsations of the heart were feeble, but have no abnormal sound. For some years, he has been under the impression that he had disease of the heart. The examination did not satisfy us as to the truth of this suspicion.

He had piles, which had bled, but he is not conscious of having lost any great quantity of blood at any one time. Iron was given, and against his wishes he was induced to drink wine, and occasionally a little brandy and water.

Latterly we have suspected the disease to be seated in the head, from his losing control over the lower extremities, his eructations and vomitings, and this idea derives some support from the fact that his father and grandfather, who attained to the ages of 72 and 76, died of paralysis. The clearness of his intellect, and his never losing consciousness are on the other hand facts which contradict this suspicion.

Latterly he has had several of his attacks while in bed, and although perfectly conscious, he would not divest himself of the idea that the room was turning towards the

left side, nor could he be assured that he was not falling out of bed, unless some one seized hold of him. In siting up, when the severer attacks came on, he would fall towards the left side.

His senses and intellect are perfect. He talked cheerfully of the events of the day, and of business matters with as much interest as ever. He usually spent much time in reading, but in March (I think) he lost for a time his ability to read and was confined, for the most part, to his chamber. Since then he has driven out almost daily, and has even walked a mile, sometimes alone, but generally attended.

His worst seizures will last fifteen minutes, but his ordinary attacks a few seconds only. The worst one that I have witnessed, lasted from two to three minutes. He was then seated at the dinner-table. He drank a little brandy and water, had a few eructations from the stomach, and was himself again.

For the most part he is pale, sometimes there is a slight flushing of the face. The attacks are sometimes numerous in the course of the day, then again he will go several days without them. He always carries a phial of brandy whenever he drives, or walks out.

Dr. Treadwell was his attending physician, and at his suggestion the following prescription was given him:

℞

Pulv. Ferri. Phosphas, ʒ ii.
Pulv. Gum Acaciæ, ʒ vi.
Tinct. Cardamom, ʒ ii.
Phosphorized oil, gtts xxx. (30)
Ol. Cinnamomi, gtts xv.
Sach. Alb. ʒ ii.
Aquæ, ℥ ii.

Mic et solve.

Dose—A tablespoonful three times a day.

It was observed after taking it, that he was every way better, and on several occasions, when he had omitted it

for several days, he was worse. On resuming its use, he could walk much more than usual, so that in the family it was designated his "walking medicine."

Dec. 21st, 1850. For more than two months he has had no ill turns. He has also regained his flesh.

The prescription written above was the first one used that contained phosphorus. Subsequently the following prescription was substituted for it. In this, it will be seen that the oil of Phosphorus was increased:

℞

R. Ferri. Phosph. ʒ ss.
Ol. Phosphorati, gtts xc. (90)
Acaciae Gum, ʒ iss.
Sarch. Alb. ʒ i.
Ol. Cinnamomi, gtts xxxv.(35)
Tinct. Cardamom, ʒ iv.
Aquae, ℥ iv.

The oil of Phosphorus was as directed by the Dispensatory for Ol. Phosphoratum.

Mr. S. perfectly recovered from these attacks, and for ten years had uninterrupted good health. He died at the age of 84. A few days before his decease he had complained of weakness and had taken to his bed. But, feeling better he decided to get up and to go down stairs, but was persuaded to postpone this intention. He asked for a basin of water to bathe his head, which was his usual habit in the morning, fell backwards and died, it is supposed, from faintness. His body was not examined.

PULMONARY HEMORRHAGE.

DETACHMENT OF THE PLEURA PULMONALIS, AND EFFUSION OF BLOOD BETWEEN IT AND THE PARENCHYMA OF THE LUNGS. FATAL.

Dec. 20th, 1855. I was requested to make an examination of the body of Mr. G., a student in Harvard University, aged 22 years, who was brought home to be buried, having died suddenly of hemorrhage after a short illness. He was a strong young man of remarkable muscular developments.

The history of the case was as follows: On Saturday he had walked in the evening, from Boston to Cambridge, had slipped on the ice and had fallen to the ground. When he reached the College, he made no complaint of any injury. On the following morning, Sunday, he declared to his chums that he felt unusually well. He dined heartily. In the afternoon he commenced to vomit, and vomited blood until six o'clock the next morning, Monday, when it abated. In a few hours the vomiting of blood returned, and he died early on Monday evening. The quantity raised is spoken of as a bucketful and a half.

The stomach was first removed. It contained air and a little blood, There was no ulceration, or abrasion of the mucous membrane. It appeared healthy throughout There was blood in the small intestines. The liver, diaphragm, lungs, heart and blood-vessels were removed together with the trachea and œsophagus. The aorta was laid open with its branches, and the heart examined. Nothing wrong was discovered. The left lung was adherent to the ribs by old pleuritic false membrane, throughout its whole extent. The right lung, at its upper lobe, was connected with the ribs by false bands, detached from each other, about an inch in breadth, and an inch or more in length. On separating the right lung from these ad

hesions, blood was found to become effused into the cavity of the right thorax. The œsophagus, on being opened, was found healthy. On opening the trachea and bronchial tubes, they were found reddened, and effused blood adhered to their mucous membranes. As we traced these tubes to the lung, they were found filled with blood. On incising the left lung, there was, what might be called, hypostatic congestion. On incising the upper lobe of the right lung, there was discovered just under the pulmonary pleura, a coagulum of blood, at least a quarter of an inch thick, which was the place into which the blood had been effused, before it was vomited, or escaped from the mouth as a hemorrhage. In the substance of this lung there was no coagulated blood, as is usually found in pulmonary apoplexy.

The source of the hemorrhage being discovered to be from that portion of the lung from which the pulmonary pleura had been stripped by the blood, it became apparent that the blood which had flowed into the right chest on separating the right lung from the ribs, or rather on breaking up the adhesions which connected it with the ribs, came from under the pulmonary pleura, which had been torn in the operation.

All things considered, death was not from the sudden rupture of any large blood-vessel, but from some slowly acting cause. It is probable, that the fall on Saturday night must have transmitted a violent jar, or jerk, to the loose false membranes which bridled the right lung to the ribs, and thus detached the pulmonary pleura from the substance of the lung, in a very slight degree; that the hemorrhage, once commenced, must have gradually increased, and dissected up the pleura until a sort of bladder, as it were, was formed under the pleura, and the hemorrhage increased more and more, as the pleura was stripped from the lung until life was extinguished.

No one could have imagined during life, that any per-

son could have died as this young man did; nothing but an examination of the body could have explained the cause of his death.

A statement of the facts established by the examination of the body was sent to Dr. M. Wyman, who had attended Mr. G. during his illness. His reply will show how difficult it was for an acute practitioner to comprehend the case where the cause of death was so unusual.

Cambridge, December 26th, 1855.

MY DEAR STONE,—

Your account of the examination of the body of William G. has been received, for which I am much obliged. It certainly renders the case very remarkable, that any considerable amount of blood should be found in the bronchial tubes, where during life, so far as I saw, and so far as I can ascertain from those around, there was no cough; and no dyspnœa up to 2 o'clock P. M. I auscultated him several times, and could discover no râles of any kind. Then again, the color of the blood was very dark, like that from the stomach, and clotted; in no instance was it florid or frothy, as is usual in hæmophthisis; after the effort of vomiting there was no cough, or attempt to clear the air passages, as we should suspect. I know well, in every free flow of blood from the lungs, there is a movement of vomiting, but after that there is coughing and hawking, as the quantity diminishes. The last was wanting in this case. Then the quantity—more than a pint in my presence, and not less than two quarts which I examined, besides that which I did not see—seems to be a very large quantity to throw from the lungs, and swallow without any quantity to escape from the mouth.

On the other hand, we have the evidence of blood beneath the pleura, and congestion to a greater or less extent, also blood in the bronchial tubes, and the reddened state of their living membrane. To have poured out the quantity thrown off, the orifice or orifices, one would suppose, must be pretty large, certainly large enough to be found with your careful examination, and yet it does not appear that any such were seen.

If we suppose the blood to have come from the stomach, the only evidence of disease is the distension of the veins with blood. You do not mention the condition of the intestinal canal. Was it distended with blood (perhaps it was examined) in the upper part, the duodenum, or just below? Could blood be regurgitated like bile through the piloric orifice? If there are points you have not touched upon, will you be kind enough to mention them. If you have leisure, will you turn to Rokitansky, vol. 4, part III., sect. 4, with reference to the lung, and also to Cruveilhier Livsaisin, XXXI,

with reference to the stomach, especially as to the existence of what Rokitansky describes as "hemorrhagic erosure," vol. II., chap. 1, sect. IV.

The more I reflect upon it, the more improbable it seems to me that the lungs should have poured out blood enough, and quietly enough to produce faintness, which was the first symptom, half an hour after a hearty meal; a faintness which came on while he was up moving about his room, and which some minutes after was followed by vomiting of blood in considerable quantity. May it not be that there were two sources of blood? A smaller quantity from the bronchial tubes late in life, and a much larger quantity from the walls of the stomach, or parts below, in the intestinal canal?

I should be glad to get your views upon any or all these points, now that more time has elapsed for reflection.

Yours truly,

M. WEYMAN.

DR. STONE TO DR. WYMAN.

N. Y. December 30th, 1855.

MY DEAR MORRILL:

Your letter of December 26th has been received, and in answer to your inquiry with regard to examination of the intestines, I beg to state that the intestines were *not* opened, and that there *was* blood in the duodenum. We inferred that it reached the duodenum from the stomach, and did not come up through the pyloric orifice to the stomach.

The examination was made by gas-light. Having found, as we supposed, a sufficient cause of death in the lungs, it did not occur to us as important, to look for another source of hemorrhage in the bowels. I regret now that this was not done in order to form a full history of this interesting case, and in order that there might be no question of the lesion which caused death.

I have, as you requested, looked into Rokitansky and Cruveilhier's plates, but I cannot think, after the examination of the stomach, that in a so healthy looking young man, that hemorrhagic erosion was to be suspected in the bowels.

The veins under the peritoneal covering of the stomach were congested, but the lining membrane was not eroded, nor did it present any points of dark coagula under the mucous membrane, to lead Dr. Beals and Sewell, who were present at the examination, to suppose there was any disease in the stomach.

You connot believe that the blood came from the lungs, because there was no cough, and because the blood was black, and not florid, or frothy. With regard to the absence of cough, it is indeed remarkable, but according to Laënnec, it is not always a marked symptom. As to the color of the blood, coming as it did, from the terminal branches of the pulmonary artery.*

it ought to have been black, and not florid, as in bronchial hemorrhage, Hasse, if not Graves, avows this opinion. Besides, even supposing it was red when effused into the lungs, on reaching the stomach, its color became changed by the secretions there met with. So also as to the quantity raised, great as it may have been, it does not preclude the possibility that it came from the lungs. I would urge that it is not necessary to suspect two sources of hemorrhage to account for the result.

I believe the case of Mr. G. was, as nearly as possible, a case of pulmonary apoplexy; that the blood was effused, not as is usual, into the aleolar tissue about the air cells, but under the pulmonary pleura, and that these vessels were too minute to be detected in a congested lung, on dissection.

Dr. Graves, in his pathology, states that pulmonary apoplexy may thus take place under the pleura, and sometimes break through the pleura into the cavity of the chest, and refers the reader to Dr. Casswell's plate. I have examined this plate, and confess that it resembles the present case with the exceptions, that in my case, the dissection of the pleura was much more extensive, and that there was no rupture into the cavity of the chest.

Finally, on turning to Laënnec, we find this remarkable language, which supplies all the information which other writers have omitted, and which was needed to make our case intelligible. He says, under bronchial hemorrhage, "Those profuse hemorrhages which are vulgarly called *vomitings of blood*, (the italics are Laënnec's) arise almost always from pulmonary apoplexy." Under pulmonary apoplexy he says, "Where hemorrhage is very great, it comes on sometimes with a moderate degree of cough, and is accompanied by a convulsive elevation of the diaphragm, like that which takes place in vomiting. This account for the expression, *vomiting of blood*, which is used by most persons who have suffered from a violent hæmopthisis, and I am of opinion that the expression is not improperly applied in such cases." Further on, he says, "The quantity of blood expectorated is sometimes enormous. I have known ten pounds lost in forty-eight hours by a young man who died under the hemorrhage, &c., &c."

The case to me has been a novel one, and very instructive, and your notes and criticism have awakened in me a wish to understand it fully. It is my intention to consult some of the pathologists here, and if they can throw any more light on the subject, I will let you know of it.

With best regards, truly yours,

JOHN O. STONE

TUMORS IN THE LUNGS.

THEIR NATURE NOT KNOWN EVEN ON EXAMINATION AFTER DEATH.

Sept. 12th, 1841. I made to-day an examination of the body of —— Adriance, aged four years. The symptoms during life were deceptive. He had always been spare in flesh, and when a young infant was very feeble, and required the most careful management. Two weeks before his death, he returned from the country with a difficulty of breathing. This peculiar breathing was noticed when he was in the country, and was supposed to be a trick that he had contracted. Soon after his return, he was placed under Dr. Mead's care. He then had asthmatic breathing, so much so, that the possibility of its being thymic asthma, suggested itself to Dr. Mead.

I saw him about six days before his death. He was in great distress for his breath, and very irritable. The right lung was very solid on percussion. The respiration purely bronchial. On the left side the percussion was also flat, and the respiration mostly bronchial, yet here and there we could catch the true respiratory sound. It was impossible to prolong the examination on account of his distress and irritability.

Three days after this, I detected a slight sonorous râle in the right chest. The mother stated that he had coughed some, but I never heard him cough. She also stated that once after coughing he had raised something, which he swallowed.

The day before his death, he was much exhausted. His face was sunken, and his lips purple.

Diagnosis. There certainly was great doubt with regard to the nature of his disease, I could think of nothing else but pneumonia of both lungs, and yet the symptoms did not bear out this suspicion. There was a quick pulse,

but it was feeble. The skin was not hot, nor did he have the dry tongue of pneumonia.

Examination post mortem. The thymus gland was, to appearance, of natural size. Both lungs were the seat of tumors, which compressed their substance. Most of these tumors were covered by the pleura ; some, however were imbedded in the substance of the lungs. Both lungs were so compressed by them, that only a minute quantity of air could enter.

The quantity of lung that could be inflated did not equal the size of the fist, in either side of the chest ; but what lung did exist was found perfectly healthy. The father gave me permission to take away with me one of the lungs, and I chose the left, because it contained the largest tumors, although the right lung was equally affected with the disease. I showed this specimen to Dr. John A. Swett, and to many other physicians, none of whom had ever before seen anything like it, or could throw any light on the nature of the tumors. They resembled Malaga grapes in shape and size. On being cut into, they were whitish, having in appearance a glandular structure, resembling somewhat that of the testicle, yet of a whiter color than the testicle. We had some suspicion that they were fatty in their nature, yet they did not leave any grease spot on paper which had been applied to their cut surfaces. It is remarkable, that these tumors, which must have been growing a long time before they caused the death of the patient, had not indicated their presence sooner.

RHEUMATIC GOUT.

Mr. L. L. O. Died June 14th, 1873 from exhaustion occasioned by suffering. Nine years ago, during the early part of my attendance upon him, he was lame in the right leg just above the ankle joint, and usually walked with a cane. He had frequent attacks of iritis, which gradually caused a contracted pupil, which led me to foretell that he would loose his eyesight entirely. This result was reached, and about eight years ago his eyes were useless. They were operated upon by Dr. Williams of Boston, with no good result, and thus he was left blind the rest of his days. In his family there had been no gout, or hereditary rheumatism. He was a man of most excellent character, had never had any venereal affection, nor had he ever indulged in luxurious eating or drinking.

His constitutional disease increased. His neck became anchylosed so that he could not bow his head, or bend it from side to side. The jaw became anchylosed, so that he could not show his tongue, or bite his food, but had to suck it through his closed teeth. The joints of every finger were clubbed, and finally he could only slightly move the second finger of the left hand. The hands were distorted and bent outwardly. The knees were gradually dislocated, i. e. the tibias were dislocated an inch backwards from the thigh bones. The knees drawn closely together. The right ankle was as large as one's head; the skin being hypertrophied, resembling in appearance elephantiasis, the pores being hypertrophied, and pouring out a watery secretion, or on pressure exuding pus, and nothing but the most constant care, carbolic acid, and the oil of juniper prevented the odor from being intolerable. Thus a faint idea may be gathered of his distortion, and of his suffering. He said that he was always in pain, that he dreamed of pain, awoke in pain,

and that living was a constant pain, with no hope in the future but death. He longed for this fervently. His body was excessively emaciated. He was placed on a water bed, his head, hands, and lower limbs propped with a multitude of little pillows. A moderately strong woman could fortunately raise him in her arms to a mattress, from which a section had been removed, whenever he had a call to evacuate his bowels. Daily too, he was seated in a chair for a few moments in order to have his back sponged with water to prevent bed sores, and it can be imagined how these movements increased the agony of his distorted, and dislocated limbs. Twice during the night he was moved from the back to the side, or vice versa, and every change required a new propping with pillows.

Treatment with alkalies, and most everything that was suggested was tried; but nothing gave relief except opium, and he took of laudanum, or of McMunu's elixir of opium, ordinarily three teaspoonsful in the twenty-four hours.

Sometimes the opiates seemed to cause nausea, and then his sufferings would be increased by vomiting through his nostrils, and closed teeth.

Now, this man, so dreadfully afflicted, had the resolution at two different times to give up the use of opium entirely, being satisfied that the dose must be increased, in order to prevent nausea and vomiting, and he resorted to its use again only on my entreaties. He was a person of refined taste, and was fond of literary pursuits, and daily his wife, or nurse would read to him. The news paper was commenced early in the day, and then some old work that he had read when young, or some new publication was sought for, and a few months before his death he had read to him Carpenter's physiology. He died at 45 years of age.

ENCYSTED KIDNEY,

CONTAINING TWO GALLONS OF FLUID.

June 1852. Wm. Reed, aged 47, was admitted into Bellevue Hospital on the 27th of September, 1851. He had been affected with hemorrhage for twenty years, but was cured of them two years ago. Five years ago he had an attack of pleurisy.

On admission, his constitution seemed to have been somewhat impaired, but he stated that his health had been very good until within three months. Three weeks after his admission he complained of cramps in his bowels, and of a continual pain in the abdomen. On examination a tumor was detected in the region of the left kidney, extending from that point below and to the right side, a distance of four inches, in each direction. The parietes of the abdomen were somewhat distended on the left side by the tumor, which was circumscribed, tense, fixed, and without fluctuation.

Jany. 9th, 1853. Since the above note of the case, many physicians have examined the tumor by percussson, auscultation, &c., and various opinions suggested as to its nature. Most all, judging from his sufferings, emaciation and general appearance, suspected it to be malignant, probably encephaloid. Now the tumor has greatly increased in size, making the walls of the abdomen tense in every direction. His appetite has failed, and this in addition to his constant suffering, has induced very great emaciation. He passes rather less urine than when in health, and his bowels are constipated, and moved only when medicine is taken.

March 1st. The disease has steadily increased with an aggravation of all the symptoms. He takes very little nourishment; milk punch is the only thing he relishes.

Relief from pain is procured by narcotics; two grains of the sulphate of morphine in solution is taken every twenty-four hours.

April 26th. He died to-day at 11 A. M. For ten days before death he was not conscious of pain, for during this time he was in a comatose state.

April 27th. An examination of the body was made about twenty-five hours after he had expired. In making the usual incision in the median line of the abdomen, the knife, on account of the thinness of the parietes, perforated the tumor, and a stream of thin, and curd-like fluid spouted out. The tumor occupied the left side of the spine chiefly, but extended fairly beyond the median line to the right. It forced the diaphragm firmly upward, and extended downward as far as the promontory of the sacrum. On its anterior aspect, nearly in the median line, the descending color took its course. It was attached to the tumor, and lay between it and the parietes of the abdomen.

On dissection, the tumor proved to be the left kidney, consisting of eight or ten cysts, some distinct, but most of them communicating with each other by openings of various forms and sizes, some of two inches in diameter, others less. The cysts were also of various dimensions, some containing two quarts, others a few ounces. The whole quantity of fluid contained in them was about two gallons. It was of the same nature in all, and of a gruel like appearance with floating flakes having very much the look of fatty matter. The tumor, emptied of its contents, and stretched, showed very beautifully the septa which separated the sac into its eight or ten compartments. The vascular portion of the kidney had wholly disappeared. The ureter was found coming out of the sac of its usual size and appearance. Six or seven small calculi were found in the different cysts near to the pelvis of the kidney, and one much larger than the others in the pelvis,

filling it completely. These calculi are of a dark, mottled color, with polished surfaces, orbicular in shape, with one or two conoidal points shooting from each. Under the microscope they were found to be uric acid. The fluid in the tumor did not show the presence of any salts, and proved to be albumen.

The kidney of the right side was of natural size, and was healthy. The mucous coat of the bladder was thickened, and corrugated. There was no stricture of the urethra. At the apex of the right lung a few cicatrices were found with some chalky deposits. All of the other viscera were healthy.

Although not recorded in the above minutes, it is worthy of mention, that during the lifetime of the patient, the urine was tested, and no albumen found. It is worth remembering, that about a month before the patient died, several small nodules were formed, situated between the tumor and the parietes of the abdomen, which in a day or two afterwards had disappeared. A moments consideration would have indicated their nature, which was, as shown by the dissection, hardened masses of fœces passing down the colon.

This specimen stuffed with cotton, in order to distend it while drying, is now in the museum of the Boston Society for Medical Improvement.

DISEASE OF THE BRAIN.

TUBERCULAR? CEREBRO-SPINAL MENINGITIS?

Mrs. C's child, feeble from birth, is now a year old. When three or four months old she was siezed with what was supposed to be laryngismus stridulus. It differed from it however, in being attended with a wheezing, or rattling sound in the throat, instead of a shrill and empty sound. It was of a spasmodic character. After six months this abated very much, and now exists, but only in a comparatively slight degree. It did not seem to have been influenced by medicines. Of late there has been a deficiency of bile in the dejections, attended with depression of strength. Of this, she was relieved by a few doses of calomel. In this state of convalescence, as was thought, the child was carried from Halifax to Boston. On Dec. 24th, Dr. James Jackson was consulted. Her aspect, according to his account, was feeble, face pale, pinched, anxious, and she was disposed to cry as if uncomfortable. The appetite sufficient, bowels slow, and the discharge good, no febrile symptoms. The most important symptom was an inability to move the right arm. This had been noticed for the first time, within a week, but had not been thought of importance. The physician at Halifax had not been informed of it. The sensibility of the arm was not lost. Passive motion did not cause pain. There were no symptoms of cerebral affection, nor did examination of the spine show any marks of disease. The child seemed to be troubled by motion, but not as if it suffered pain. The child was teething, and still nursing. General directions were given for its management, and although an unfavorable opinion was entertained of the case, nothing seemed to justify active treatment for a disease so chronic and so little declared.

The child left Boston, remained one day at Springfield, and on the morning of Dec. 27th, was siezed with a convulsion. An anodyne was administered, and the child was brought to New York, when I was sent for.

The child was sleeping and could not be easily aroused, and I could not tell whether the symptoms were to be attributed to the anodyne, or to the disease.

Dec. 28th, 1853. There was partial consciousness, *i. e.*, the child's attention could be for a moment attracted by an object, and then it would lose itself in a vacant stare. The pupils were not dilated or contracted, but could be made to contract on exposure to light. The surface was of good temperature; the right arm was stiffened, and slightly convulsed; the bowels easily moved by a teaspoonful of oil.

She died in the evening of the 2nd of January after being under my care five days. The treatment consisted in lancing the gums, in giving one grain of the iodide of potash three times a day, in applying an issue to the neck, and as this was slow in discharging, two blisters were applied near the issue.

All the symptoms increased in number and severity; the right leg became stiffened, then the left leg and arm, and finally the muscles of the face; the head was drawn backwards as in opisthotonus; the little consciousness she had was soon lost in stupor when she died.

No examination of the body was permitted. Some of the symptoms bore a resemblance to cerebro-spinal meningitis. We did suppose at the time that the medulla oblongata, and spinal marrow were affected, that the disease was chronic in its nature, probably tubercular, and that it commenced some months since; that the laryngismus, the bilious attack with fretfulness at Halifax, the paralysis of the right arm in Boston, the convulsion and loss of consciousness at Springfield, the growth of the bad symptoms with its fatal termination a few days after her

arrival in New York, all tell one connected story of cerebro-spinal disease.

There was one symptom which is regarded by some as an important indication of tubercular disease, which was wanting in this case, and that is retraction of the muscles of the abdomen.

No case can be complete without a post mortem examination, especially in brain or spinal disease, and although we have several cases recorded that ended fatally, we do not think it would be instructive to copy them since they are defective in this particular.

ACUTE INFLAMMATION OF THE BRAIN. RECOVERY.

May 9th, 1863. Mrs. H's. little girl was 7 years old. The day before yesterday she had attended school in the morning. At dinner she ate baked beans; in the afternoon had headache. Last night, the mother stated, she had appeared to be very lively, and sang, probably from delirium. Her bowels were loose. Five grains of calomel, followed by senna tea freely evacuated the bowels, but they were hot and distended. She still continued delirious, and a times was violently so. Face not much, if at all, flushed; gnashing her teeth, and then opening her eyes, and screaming, tossing of her limbs, and moving of head from side to side. Pupils much dilated. Four leeches had been applied to the head, and had drawn freely. In this condition, the temporal artery was opened, and allowed to bleed until it stopped from fainting induced. After the bleeding the pupils were not dilated.

At 10 A.M., less gnashing of teeth, screaming, and gesticulation, but continues delirious.

3 P.M., more tossing of limbs; face pale; head hot; extremities cool; hands purple. Pulse at wrist small and weak, 144 in frequency; pulsation in the carotid more distinct. Pupils not much dilated. Mustard poultices applied to the feet, and four leeches to the head. Much screaming as long as the leeches adhered.

May 10th. Four more leeches were applied, and oil given. After this visit consciousness returned; head not so hot as it was; limbs more uniformly warm; great gesticulation; sleeps without stertor; wet cloths applied to the head; pulse 150; does not talk, but there is more moving of the head backwards and forwards than from side to side.

May 11th. Face flushed; tossing of the head; great irritability; seizes the tumbler when offered, and drinks with great avidity. Hands and feet warm. She seems to be conscious; pupils natural; head not so hot as it was; screamed when I was present, which she has not done through the night. The flush on the cheeks had been there about an hour.

5 P.M., cold still applied to the head; much tossing; oil operated. Drinks with avidity. One large leech applied to the head; hands cool. They had been rubbed with one drachm of cantharides to a pint of rum, and were tender to the touch.

8½ P.M., was sleeping, and had been so for fifteen minutes, when she was awake less restless; gnashed her teeth a good deal, and broke off a piece of one of them. Sleeps with considerable composure, breathing not very rapid, but somewhat heavy. The nurse stated that, on raising the head, it had fallen heavily, as if a dead weight.

May 12th. 7 A.M. About an hour ago she awoke from sleep, answered a few questions with intelligence, then became irritable, and did not answer. Is sleeping now. P. 144. Head not so hot as her hands. Awoke on being

asked if she wanted water; screeched, and did not seem to understand.

11 A.M., P. 132. Some tossing. Seems to understand, but does not talk. Hands warm; head hot. Drinks with avidity, and holds on to the tumbler.

May 13th. Sleeping now, and has been so for about one hour. This morning asked for her mother, and kissed her. P. 120, more full. Face alternately flushed and pale. Head rather cool; hands warm; bowels not hot; less screeching and gnashing of the teeth. The tincture of cantharides has been rubbed into her hair. In latter part of the day she was awake, intelligent, but very cross and irritable.

May 17th. Awake and irritable. P. 120. Has a great desire to eat. Is improving fast. She recovered perfectly.

INFLAMMATION OF THE BRAIN, FOLLOWING MEASLES, ATTENDED BY WHOOPING COUGH, CONVULSIONS, PARALYSIS, &c. RECOVERY.

Jan., 1854. Eckford W., aged seven years and six months, had, three weeks before I saw him, measles, with it was associated whooping cough of uncertain duration, but supposed to have existed at least a month. This happened in a family that I had always previously attended; but they had been persuaded to put the boy under the care of a homœopathic physician. He had told the parents that there was inflammation of the brain with effusion, that he probably would die, and that he required a consultation. In their anxiety, the parents dismissed the physician and applied to me.

Jan. 17th. He came under my care, pulse 150 to 160, face flushed, violently delirious, not comprehending what was said to him, and apparently unable to see what was held before his eyes. His pupils were dilated. This state of things had followed upon a convulsion with which he had been seized at 2 o'clock in the morning. The left arm seemed to be partly paralyzed. There was much obstruction in the right lung. The respiratory movement could not be heard.

The head was shaved, and an attempt made to bleed him from the temporal artery, which did not succeed very well. I then had twelve leeches applied to the head, ten grains of calomel administered, to be followed by senna and salts. In the course of the day he recovered partial consciousness, but his eyesight did not return until thirty-six hours after the convulsion, and then the sight was impaired. Tartarized antimony was then given, and a blister applied to the chest.

The right lung became clear, and febrile symptoms diminished.

Jan. 23d. After an operation from the bowels he had a convulsion.

Jan. 24th. He had another dejection from the bowels, followed by a more severe convulsion, paralysis of the left arm, and partial loss of vision. His nervous condition seemed to require an opiate, and a Dover's powder was given him.

This boy recovered from this attack, and died seven years afterwards of tubercular disease of the lungs.

DISEASE OF THE BRAIN.

1860. During the Spring of the present year, Mrs. W. had certain disagreeable symptoms, for which she consulted me. Her physician, an homœopathist, had informed her that they arose from disease of the heart.

I could discover nothing to confirm such an opinion, and told her that her heart was sound. Her description of these symptoms was rather indefinite, but mainly amounted to this, that in attempting to walk from church she was unable to proceed, and felt a loss of power in the left side.

She was about 40 years of age, not florid, but rather pale complexion, moderately stout, good developed chest, and no appearance of being apoplectic.

She called several times after the first visit to tell me how she was. She then spoke of a sensation which proceeded up the left lower extremity until it reached the head, when she was rendered incapable of speaking, but soon recovered herself. In one week she had as many as three atacks of this kind. Her sister-in-law informed me that during these seizures, she was very pale, with one exception, when her face was slate colored; that she stood with a fixed stare, and lost consciousness. These symptoms, I interpreted, were epileptic in their character. There were no uterine derangements, or aught else to confound them with hysteria, or apoplexy. Her diet was chiefly vegetable or farinaceous, and I had no alteration to suggest in regard to it. I directed her to take systematic exercise, and a pill of sulphate of zinc and extract of nux vomica.

In the month of June, she came to me with an abscess in the *left ear*, which soon began to discharge freely; but which healed after the repeated application of a blister

behind the ear. She then accompanied her husband to Saratoga to spend the Summer. She continued to be well there, without any of her previous symptoms, and to all appearances, was in perfect health.

Jan. 19*th*, 1861. I was requested to visit her. She had been attended by the homœopathist whom she had recently discharged. She stated that she had remained in good health until December, when she went with her husband to Fort Hamilton to see some friends. The weather was very cold. The day of her arrival was Saturday. She slept well all night, but on the following day, Sunday, at noon, she was seized with great pain on the right side of the head, attended with vomiting. The pain was seated over the right parietal bone, shooting from this spot to the neck, and mastoid bone. At times it remitted, but has never ceased since. She returned to New York, and soon lost power in the left arm and leg. Two weeks had elapsed after her return to New York before she sent for me. Pain existed in the head, chiefly in the parietal bone, and she had an inability to walk without support. She could raise the left arm only to a moderate height, and then the power of the deltoid muscle would seem to fail, and she was obliged to use the right hand to support the arm, or to make it touch the head. The pain was constant, but at times was very severe, and would be followed with vomiting, or nausea. There were no other symptoms; no loss of sight, or squinting. It will be remembered that the abscess in June, was in the left ear, and that the pain now was in the right side of the head, and the paralysis on the left side of the body.

Under the use of chlorate of potash and iron she improved so much that she could move briskly about her chamber. But every once in a while she would have a recurrence of the pain with vomiting, and an increase of the loss of power.

At one time she fell from her chair while at dinner.

The symptoms sometimes improved, and then alternated with those that were worse. At one time encouraging us with the hope of recovery, and then filling us with anxiety from fear that disease was going on in the head. The sensibility of the limbs was perfect. There was a snoring sound when she was asleep, as if the palate was paralyzed. The intelligence was always excellent.

The pain, at times agonizing, seemed to indicate that the disease was near the membranes on the right side of the head, and, if it did not touch them, was near enough to give them increased vascularity.

Dr. A. Clark, and subsequently Dr. J. R. Wood were called in consultation with me. They were united in the opinion that there was disease within the head, but of its nature, whether softening of the brain, or a tumor, they were doubtful. The head was covered with flannel dipped in hot water, and covered with oiled silk. Chloroform was also used, and they were useful in giving some relief to the pain. Iron and phosphorus were given internally.

Feb. 27th, 1861. She was cupped on the back of the neck, and ten grains of calomel administered. She succeeded in swallowing about one half of the dose. A blis was applied to the shaved scalp over the parietal bone. One dejection folowed the calomel, and the blister drew well.

Feb. 28th. General condition improved; sleeping at the morning visit; in the evening bright, and intelligent without any pain in the head. Some difficulty in swallowing continues. Pulse, in the after noon, 102, in the evening, 96. Bowels not moved. Gave three drops of croton oil, phosphorus and iron continued.

March 1st. Vomited after taking the croton oil last night, but the bowels were moved one hour after taking

the oil. Speaks better. The pain is diminished in severity, but extends over the right frontal bone. Can raise the left knee which was immovable, but has no power to raise the left hand. Much disposed to sleep; intelligence, as always, perfect. Is to be cupped, and three ounces of blood to be taken from the neck.

7 A.M. Bowels have moved twice; breathes better, that is, there is less snoring since the cupping. Diet is tea and egg; but, on account of the difficulty in swallowing, has taken very little of anything.

March 2d. Tongue clearing. No headache. P. 96. Has slept well all night. Has eaten more breakfast of egg and bread. Pupils more dilated, and more natural, having been previously contracted. Can move the left leg, but not the arm. Breathes naturally; talks in a natural tone. Menstruation came on yesterday afternoon. Noise in the head diminished. Is to continue phosphorus and iron.

7½ P.M. Indisposed to talk. Her wishes are expressed by signs. Has passed a comfortable day, but the difficulty in swallowing has prevented the taking of medicine and food. The food is for a moment retained in the mouth, and then ejected, from the inability to swallow. It is the same with liquids. Pulse 96.

March 3d. Sitting up. Slept until 4½ A.M. The pain returned with more severity than it has for some time. Has eaten two thirds of an egg, and a little moistened toast. The difficulty in swallowing continues. She hardly talks at all. Says that talking hurts her throat and chest. Pain in the back and front side of the head, and down the throat. Pulse 96. Does not snore so much as she did. Complains of griping pains in the bowels, and has done so for several days.

7 P.M. Pain in both side of the head; oppression in the chest. Has been dry cupped to-day along the spine. Pain in the bowels continues. Pulse 95. Has eaten three

teaspoonsful of chicken pulp. Cupping gave no relief. A blister is to be applied to the head to-night.

March 5th. P. 75. No pain except in moving the head. Yesterday afternoon pain came in the head just after the visit, when she became exhausted, and unable to swallow medicine or food. Slept all night, and took beef tea this morning. The right pupil a little more dilated than the left when she faces the window. Noises in the right ear. Some pain in the pit of the stomach.

March 6th. Great pain in the head. Yesterday she took three-fourths of a cup of beef tea, but consumed two and a half hours in swallowing it. Unable to swallow this morning more than six teaspoonsful of beef tea. Is sleeping, and on raising the lids, the pupils are found contracted. Pulse 75. No snoring, sleeping quietly. Awoke her, and the pupils became dilated naturally. Blister is to be applied to the head.

March 7th. Blister drew remarkably well. Slept until 2 A.M., when she was kept awake by the pain in the head. *She lifted the paralyzed arm three times to the chest.* Pulse 75. Bowels not moved, although she has taken an enema.

Eat two oysters last night; nothing this morning. Pupils natural.

7 P.M. P. 84 Sleeping and snoring. Has had great pain in the head at the old place on the right parietal bone, and also in the back of the head. Intelligent, but will not talk. Bowels have not been moved for six days. Is to take an injection of turpentine.

March 8th. Ever since 8 o'clock last evening has slept, snoring, but conscious when aroused. Apparently in pain, because she moves her hand constantly to the head. Pulse 75. The left arm became rigid, and then pliable again. Almost absolute inability to swallow. Croton oil to be given.

7 P.M. P. 95. Can talk this evening. The croton oil

operated three times, occasioning repeated vomiting. The extreme difficulty in swallowing continues.

March 9th. P. 100. Bowels moved again; pain in the head; speaks indistinctly; can swallow a little easier. Has taken a few teaspoonsful of egg nog, a teaspoonful of egg, a cup of tea, and a little banana. Intelligence perfect. Opens her eyes when told to do so. Speaks but little and indistinctly. To be nourished as much as possible.

March 10th. Snoring with a flapping sound in the throat. P. 110, feeble, Respiration 45 a minute. Mucous râles in the lungs, especially in the right. Seems to be intelligent, but indifferent.

She continued in a sleeping state until the next morning, when she died.

Her husband would not consent to have the body examined.

CEREBRO-SPINAL FEVER.

Le R. D., aged five years and five months, has been suffering from whooping cough for the last six or eight weeks. The cough has improved, but its spasmodic character still continues. About a fortnight ago he had a chill, followed by heat and sweating, which, after an interval of two days, returned again. Under the use of quinine he got quite well, so as to be able to go out of doors daily, to the great benefit of his health and strength, which had become enfeebled by confinement to the house during the severe weather of March and April. At this time he was pale, debilitated, and had a precarious appetite.

May 2d, 1872. I found him with a hot skin, which was moist. Pulse 120. Was informed that, on the previous day he had been well, with the exception of pains in the

limbs, and had been seized with fever during the night, and that this had continued until the present visit, at 8 A.M. I supposed that his condition was connected with his previous intermittent attacks from which he had suffered a year ago, and also occasionally during the last Winter. He had vomited during the night a number of times. Directed two grains of calomel, to be followed in three hours by a tablespoonful of syrup of rhubarb. At noon was sent for, and found him in convulsions which had lasted a half hour. Had him stripped and wrapped in a blanket wrung out in hot water, and a dry blanket outside of this. Cold water was poured upon the head in a narrow stream, and afterwards ice to the head in an oiled silk bag. He had not yet taken the syrup of rhubarb; gave him a teaspoonful of it, and directed this dose to be given occasionally until an ounce had been taken.

At 4 o'clock he was quiet without any return of the convulsions. Cold water to be still applied to the head, but I allowed his removal from the wet blankets. Directed an enema of salt and water. He had recovered his intelligence, and had asked for water, but his intellect was wavering. He soon fell into a quiet sleep.

7 P.M. Answered intelligently when asked if he wished a drink. Ordered a tablespoonful of oil in order to hasten the operation of the medicine which had not yet moved the bowels.

May 3d. 1½ A.M., was sent for. He had considerable heat of skin. Pulse small, and not readily compressed. He would sleep, and then awake in excitement and delirium. When in this condition the hands would be clinched, the toes flexed downwards, and the head bent backwards (opisthotonos). Cold is still continued to the head. Remained with him until 3½ A.M., when I had him again wrapped up in blankets wrung out in hot water.

May 3d. 8 A.M. He can swallow a little at a time. Allowed cold milk. He has taken since 3 o'clock about

fifteen drops of laudanum. His body was moist with perspiration. He did not speak however.

10½ o'clock. Intelligence good. There was a question if his left leg could be moved as readily as the right, but it was moved on being pinched. Pupils natural. Directed dry cups to be applied to the spine; to continue the ice to the head, and wet blankets to the body; nourishment to be milk; to give five drops of laudanum as heretofore every four hours, also four grains of chlorate of potash, with ten grains of bromide of potash every four hours.

1 P.M. Intelligence improved; raises himself to drink water and milk; the last he takes with avidity. Pulse soft; perspiring over the whole body.

6 P.M. Has been intelligent throughout the day; has taken milk freely, and medicines as directed. Pulse 120. Ice to be continued to the head.

May 4th. 4 A.M. He was restless, and dry blankets had replaced the wet ones. Skin dry. Pulse 130. He is talkative, asking for his mother, and for cold water. Intelligent, but talking of events in a random manner, as if in a dream. Gave three drops of laudanum (it is now two hours since the regular dose was taken) with five drops of syrup of ipecac. Had him replaced in the hot, wet blankets in hopes of reducing the heat of the skin. In twenty minutes the pulse fell ten beats.

7 A.M. No sleep; dreaming and talking, but intelligent on being addressed. P. 108. Gave a teaspoonful of sweet spirits of nitre. The treatment of yesterday to be continued, and to be varied according to circumstances. It was supposed that the feeble attack at 4 A.M. might be of an intermittent character, and if this opinion should seem to be confirmed, five grains of quinine were to be given. He went six hours in the day time, i. e. from 10 A.M. until 4 P.M. without taking opium. He then grew talkative. Laudanum was then given in three or five

drop doses every hour. The bromide and chlorate of potash were continued. The wet blanket was removed about noon, and not used again during the day. Ice, or a wet cloth continued to the head. Has passed all his urine in bed. His diet has been milk as freely given as he will ask for it, or will take it. Pulse a little variable, but generally about 120. Skin soft, pliable, and not hot. Temperature at 4 P.M. 102 ; at 8 P.M. 101½.

May 5th. 6 A.M. Has passed a good night, sleeping much, and the greater part of the time very pleasantly. P. 140. T. 103. Hot, restless, and talkative. Seemed to be dreaming, and yet understood when spoken to. Gave a teaspoonful of sweet spirits of nitre, and as he had just taken five drops of laudanum, directed that no more should be taken until two hours had elapsed, that he should be placed again in the hot and wet blanket for two hours at least, and if then the heat of skin was diminished to put him into dry ones. Directed also a blister to be applied to the nape of the neck for four hours, and then a poultice to be used. Diet to be milk and beef tea, and an injection of three ounces of spirits of turpentine to be given. If he is restless, laudanum in five drop doses to be administered every two hours ; between the doses of laudanum a teaspoonful of sweet spirits of nitre.

The pulse has varied from 130 to 146. The temperature from 101¼ at 4 A,M. to 104 at 10¼ P.M. The injection of turpentine operated in one hour. It was noticed to-day that the fever was preceded by coldness of the legs, not very marked, but certain. From 10 A.M. to 4½ P.M. no laudanum was taken. From 11 A.M. to 10½ P.M., has taken six tablespoonsful of Liebig's extract of beef, and twenty of milk. From 4½ to 10⅓ has taken twenty-four drops of laudanum. He has been at times restless. At 10½ P.M. T. 104., P. 140 ; is sleeping quietly.

May 6th. Has turned completely over from the right

side to the back, and then to the left side. This is the first time he has done this since the commencement of his illness. Most of his urine is passed in bed, but by watching for some manifestation of discomfort, such as seizing his penis with his hand, it has at several times been caught in a receptacle. Skin has been moist, but he has been restless, complaining of his head, of his arms, and of being generally tired. Has moaned a good deal, and said that he had pain at the pit of the stomach. Since 11 A.M. to 3 P.M., has taken nine grains of quinine; from 11 A.M. to 5 P,M., has taken ten drops of laudanum; from 11 A.M. yesterday to 4 P.M. to-day, has taken 80 drops Hoffman's anodyne; from 7½ to 9 P.M., twenty grains of bromide of potash. Nourishment the same. The urine on boiling, or testing with acid was found to be *albuminous.*

May 7th. Gave a hot air bath. He slept from four to five hours in the course of the day after taking ten grains of chloral, followed in one hour by the bromide of potash. Diet beef tea, milk, and chocolate. Skin cool. Pulse strong. Nearly entire absence of albumen this morning. Specific gravity 1002.

May 8th, 9th, 10th. Was put upon tincture of the muriate of iron, six drops every six hours. He sleeps considerable, but frequently awakes, talks and shouts in his sleep, and at times has a very quick pulse, and a hot skin. Laudanum was used to quiet him, and whenever there was a hot skin, sweet spirits of nitre were given.

May 11th. P. 120. Skin perspiring; passes water almost constantly in bed; a small quantity obtained showed hardly a trace of albumen. Specific gravity 1002.

May 13th, 14th, 15th. Quinine, one grain every four hours, and laudanum if he is restless. When hot and restless the wet blanket was used for an hour at a time. Digitalis was given every eight hours in doses of five drops. The specific gravity of his urine for the last two

days has been 1010, but to-day, 15th of May, there is *no albumen*, but a large quantity of phosphates are present which disappeared on the addition of nitric acid.

May 18th. Pulse for the last three days about 120. Ten drops of the tincture of iron are taken every eight hours; a tablespoonful of brandy to a half pint of milk, ad libitum; beef tea freely given. The urine does not contain albumen. Specific gravity 1012. Quinine was given, and the main effort in the treatment was to support his strength, and to nourish him as much as possible.

May 20th. Sleeps most of the time. Skin cool and soft. Takes beef tea every four hours, and milk punch every hour. Has taken three tumblers of it in the course of the day. Fleming's tincture of aconite, gtts. vi to water ℥ ii, a teaspoonful to be given every two hours. Has eaten hominy for breakfast. Pulse reduced from 120 to 95, urine abundant, containing no albumen, specific gravity 1020, abounding in the phosphates. Sleeps a good deal, and is irritable on being awakened. Has great sensibility of the skin on being touched, so that it is not always easy to count the pulse. Most of the urine is passed in the bed, so that it is difficult to obtain enough for examination.

The convalescence continued steadily until he went to Newport in June, and although on his arrival there, he could only creep, he rapidly regained health and strength, and a perfect use of his limbs.

June 17th, 1873. He has been in perfect health during the last summer, and has grown strong and robust, and shows more mental and physical vigor than before his illness.

CEREBRO-SPINAL FEVER. SPOTTED FEVER.

June 3rd, 1872. I was called to see W. B., four months and eight days old, living in 49th Street, between 5th and 6th Avenues. She was the third child of rather delicate parents. The eldest child died of head affection following cholera infantum, several years ago. This child has been healthy from birth, nursing her mother who, as well as the child, was daily improving in flesh and strength. This child has never been out of doors since her birth before the day she was attacked with her fatal illness, when she was carried into the sunny yard for half an hour in the morning. The mother went to church, and on her return nursed the child, who appeared to be in perfect health. At about 1 o'clock she had a chill. The house is large, well arranged, and airy, and occupied by this family alone. The child's chamber was in the rear of the house on the second floor, looking to the south. The cellar had been blasted out of the rock, the yard also, but not excavated so deeply as the cellar, so that although the cellar floor was cemented there has been, at several times, a flow of water into it from the yard. The eldest living child had early the past winter, an attact of putrid sore throat.

The chill was followed by vomiting, and threatenings of convulsions, which however did not occur. Castor oil had been given. At 3 P. M. I saw the child, face pallid and cool, vertex and extremities very hot. She was stripped and placed in a hot and wet blanket. She nursed several times in the course of the day.

June 4th. The child was worse and Dr. Metcalf met me in consultation. Tinct. opii camph. gtts. v was given per os and five grains of quinine in suppository. Being obliged to leave town, the attendance upon the case de-

volved upon Dr. Emerson, my partner, who reports as follows:

"I saw her for the first time about 8½ A. M., at which time the nurse called my attention to about a dozen irregularly shaped, dark, petechial spots just above the ankles, on the thighs and buttocks. The child lay in the nurse's lap on its back, eyes open and following any object that attracted it; the left pupil noticeably larger than the right, conjunctiva injected, fontanelle prominent, lips rather pinched, head not very hot but body and limbs very hot, T. 102, the respirations about 50, moaned occasionally, tongue moist and clean; tinct. opii. camph. gtts. v every hour. This was easily swallowed, and twenty drops in all were given, Remained in nearly this condition until just before noon, when well marked convulsive movements began with strabismus, frothing at the mouth, and increased heat of head. Applied ice to the head, and exhibited chloroform in moderate quantity with the effect of moderating the convulsion, but not checking it entirely, for nearly three hours, except at intervals.

At 1½ P. M. T. 104¾. Meantime the pupils varied much; the left remaining constantly larger. There was also much rigidity of the muscles of the lower extremities. Towards 3 P. M., passed into a state of coma vigil. Some irregular stabismus, and permanently unequal pupils; heat of head very variable, cooled at frequent intervals with ice. After this no more convulsions. Breathing grew to about 60 a minute, pulse weaker. Still the patient could swallow water, and some milk obtained from the mother by the breast-pump. This continued until 11 P. M., when, growing gradually weaker, she died. Some mottling of skin of lower extremities and face appeared towards the last. Heat of body continued. Several doses of elixir bromide of sodium were given during the evening. No perceptible effect from medication ex

cept from the external applications and the chloroform. A slight tendency to opisthotonos was observed once or twice. There was no evidence of cutaneous hyperæsthesia."

CEREBRO-SPINAL FEVER.

Dec. 1st, 1872. Miss —, a few months short of 14 years of age returned from Sunday School complaining of headache, and of having felt very chilled. Her father, who came to consult me in the evening in regard to another child, mentioned these facts, but did not attribute to them any serious import.

Dec. 2nd. During the past night, after sleeping, she awoke with visions of people in her chamber, but these observations were momentary only. She complains of headache, pulse 90, complexion of a dingy red color. The headache moderated during the afternoon, when she had buzzing of the ears. At 6 P. M., feet became cold, and arms rigid for a short time, which led her mother to fear that convulsions were threatening. Gave two compound cathartic pills followed by senna and salts; vomiting followed, which continued several times during the night.

Dec. 3d. Vomited this morning after drinking water. The medicines had operated on the bowels, P. 120 in the morning, but in a few hours came down to 90. Hands cool at all times. At 12 M., lost her hearing almost entirely. Had to speak in a very loud voice to make her understand. Four leeches were applied to the temples, and a blister to the nape of the neck for four hours, and then a poultice put on. Ice is asked for, and allowed. No nourishment given for fear of vomiting. She has not vomited since early morning. Urine showed a bountiful supply of phosphates, but no albumen. At 4 P.M., she was delirious. Dr. Sewall met me in consultation at

6 P. M. In reviewing the history of this case it was ascertained that at Irvington, where the family had lived during the last summer, a fever of an anomalous character had prevailed, and on the supposition that this case might have a malarious origin, ten grains of quinine and one grain of opium were given at once to be followed in four hours by five grains of quinine. The hair was cut short and ice applied. She is to be put into a blanket dipped in hot water and wrung out, so as to effect, if possible, free sweating. At 7½ P. M., had taken the quinine and opium; she was sleeping; did not disturb her.

Dec. 4th. Slept nearly all night. Vomited twice towards morning. Can it be from opium? Did not perspire freely in the wet blankets. Passes much urine; Pulse at 6 last evening 160; at 10 P. M. 120; this morning 108 and soft. Intelligence good. Gave fifteen grains of bromide of potash to be repeated every four hours. Complained of thumping in the ears (quinine?). At 12 sighing as heretofore. Has taken milk, and is allowed beef tea and wine whey. Her mother stated that she had observed every once in a while a marked tremor of the arms. Directed a second dose of bromide of potash of fifteen grains, and if she is not quiet in one hour, one grain of opium with five of quinine. The great improvement to-day has seemed to confirm the suspicion that malaria may have something to do with the attack. Intelligence is good. The deafness continues, but is not so great as it was; it seems to vary. At 4½ o'clock, five grains of quinine and one of opium have been taken. Has been very restless, and has not slept. Talks much, but without incoherence; asked for an orange and wishes to know what she is to have for dinner. Gave a bromide powder and a foot bath to promote sleep. If in one hour after the bromide she should not sleep, to take ten drops of laudanum; pulse soft, 120. She continued to be restless until 3 o'clock the next morning, when she took ten

drops of laudanum, some champagne and beef tea; she then slept quietly for nearly five hours. Temperature at night 102.

Dec. 5th. 7½ A. M. Intelligence clear and has been so all night. At times she makes an incoherent remark. Hearing has improved. At 11 A. M. she became restless, moving hands and feet, and knocking her knees together. This continued for six hours *i. e.* until 5 o'clock P. M. although she had taken assafœtida pills, and fifteen grains of bromide every four hours. I gave twenty drops of laudanum, and if not quiet in one hour, she is to take ten more. The diet has been ice cream, one glass of champagne, and cold beef tea; the two latter articles she expresses a fondness for, At 7½ P. M. T. 101¾. At 8 P. M. P. 124, T. 103⅜, respiration 26.

Dec. 6th. Sleeping. At 11 and 3 o'clock five grains of quinine. At 10 A. M. T. 102½. At 7 P. M. P. 124, T. 101¼.

Dec. 7th. At 7 o'clock A. M. P. 108, T. 100. At 10 P. M. P. 108, T. 102. Ten drops of laudanum were given every four hours, also five grains of quinine.

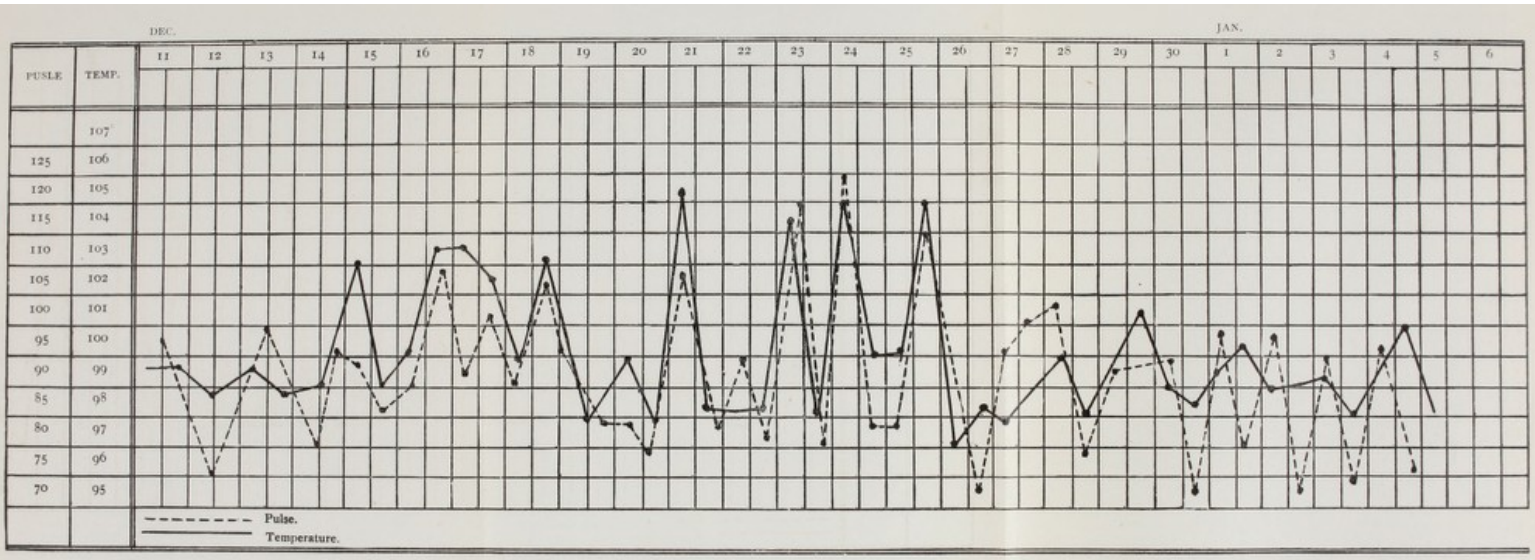
Dec. 8th. At 8 o'clock A. M. P. 104, T. 102. Has hardly any headache, but has tenderness along the spine. At 7 o'clock P. M. T. 102¼. At 9.35 P. 104, T. 102¼. The laudanum is continued; 2½ grains of quinine given. Soup and champagne for nourishment.

Dec. 9th. 7½ o'clock A. M. T. 102. At 12½ P. 96, T. 100½. Has had much and refreshing sleep. Smiles pleasantly on being addressed.

Dec. 10th. 7 A. M. P. 86, T. 100. 8½ P. M. P. 84, T. 99½. Soup and champagne for diet; laudanum ten drops and 2½ grains of quinine every four hours.

The history of the case can be followed, without entering upon all the minute details, by studying the annexed record of the pulse and temperature. The medicine used was chiefly opium, in some form, to procure rest.

The diet was chiefly soup and champagne. The intellect was clear, but there was uneasiness and sometimes pain in the spine. This pain sometimes extended down the lower limbs, and headache would accompany these symptoms. The extreme variations of the pulse, and heat as indicated by the thermometer, were remarkable, and deserve especial notice. After great excitement of the pulse and temperature, a sudden calm would follow, and she would subside into a profound sleep, which would last twelve hours. She would then awake with a pulse natural in frequency, but feeble; but so great was the exhaustion that followed these profound and prolonged sleeps, that it was finally directed that she should be aroused every four hours in order to take nourishment. This interruption of her sleep displeased her, and she resented it, declaring that she only needed sleep. Her wish to be let alone was not indulged, and it soon happened that she could be awakened to take food, and then would go immediately to sleep again. The frequency of the periods of excitement of the pulse, the high temperature, and the collapse that followed, are difficult to account for. Probably it was owing to some inflammation, or congested state of the spinal marrow, or its sheath, and the frequent complaints of pain in the spine would seem to bear this interpretation. Explain these as we may, these stages of excitement and depression, became very serious, because they threatened to exhaust her strength entirely. The convalescence was very slow. It was nearly five months from the commencement of her illness before she could walk, and six months before she could walk in the streets. When does cerebro-spinal fever end? is an interesting question. Most of the fatal cases may occur during the first week of the disease, but these protracted cases cannot be devoid of danger, and this especial case would indicate a danger of a new kind, namely from exhaustion.


DEC.
JAN.
PUSLE
TEMP.
11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6
107°
125 106
120 105
115 104
110 103
105 102
100 101
95 100
90 99
85 98
80 97
75 96
70 95
Pulse.
Temperature.

The great deafness present in the early history of the case passed away entirely, without leaving the hearing at all impaired.

June 14th. She is now in the country, walks and drives and may be now considered well.

The annexed diagrams will give the range of the pulse and temperature which, as will be seen, were very sudden and very great, the temperature falling below normal, and then ascending in a few hours to 105 and 106.

DISEASE OF THE SPINAL MARROW. CONGESTION WITH EFFUSION.

April, 1851. Mr. W., two years ago, suffered from dyspepsia, and had constipated bowels. His sister thinks that, at that time a singularity was perceptible in his walk, which is now a striking symptom. Last Autumn he went to Europe, and on the passage, he found what he had before experienced on the ocean, that his bowels became loose. He was not benefitted by the voyage, and at its termination was much enfeebled. In Paris he consulted M. Louis, but does not remember with accuracy the symptoms he had when this advice was sought for, but thinks they were a pricking sensation in the skin of the chest, and a cramped feeling in the hands. No disease of the heart, or lungs were discovered. On leaving Paris, he visited London, where he became much worse. He had a feeling of weight about the perineum, dull pains in his legs, and a difficulty in emptying his bladder.

He first consulted an homœopathist, who allowed the bowels to remain constipated for a week. Receiving no benefit, he applied to Mr. Erichsen, who gave blue pill

at night, and a black draught in the morning. He examined the bladder, and declared that there was no stricture. Early this year he returned to New York, put himself under the care of an homœopathist, and soon after came under my charge.

He is 31 years of age, thin and spare, with reddish hair, and of a highly nervous temperment. He is engaged in active business, is married, and has one child. His mind is clear, and senses excellent; appetite good, and bowels perfectly regular every day. His pulse is readily excited, and he is restless and fidgety; has a numbness, and a cramped feeling in his fingers, so as not to be able to manage his pen with his accustomed freedom; has prickly sensations over the skin of his chest, a very frequent pain over the right side in the region of the liver. The abdomen is tumid, and resonant on percussion along the colon; is much troubled with flatulency; has daily, and pretty constantly a feeling of constriction over the bowels, which he describes as resembling the sensation which a cord tied over the bowels would produce. This is felt never above the umbilicus, but below, even as low as the bladder. He has difficulty in evacuating the bladder, that is, he feels no disposition to evacuate it, but will go all day long, and when he returns home he makes a point to pass water, from a feeling of duty rather than from any disagreeable feeling arising from its retention. It passes freely enough for a while, and then stops, and he is obliged to strain, and make use of the abdominal muscles to aid its evacuation. He has a dull ache about the perineum, and down the thighs. Sometimes there is felt a very painful spot in the thighs, which is temporary only. His walk is peculiar. He straddles in order to procure a larger base to support himself, and in turning he takes a long circuit from fear of falling. His toes turn downward, and he does not feel secure until the sole of his foot is placed flatly on the ground.

In ascending the stairs he is much fatigued. He has occasionally pain with a slight twitching in the muscles of the legs. He has no pain in the back, with the exception of a slight uneasiness in the small of the back under pressure. In passing a catheter no stricture was discovered, no enlargement of the prostate, and no tenderness about the vesiculæ seminales. The urine was slightly red, but there was no sediment; no albumen on testing with acid, or boiling; no spermatozoa were discovered by the microscope.

From the above examination I have inferred that the disease is seated in the spinal marrow; inflammation with a tendency to ramollissement. I have made a large issue with the actual cautery on the side of the spine, in the lumbar region; have advised him to avoid all business, to walk but little, to drive if he pleases, and to live in the country. The rough pavements I feared might be injurious, in the city He intends to go next week to reside on Staten Island, where he will pass the Summer. His diet to be bread and milk with meat, and a glass of wine with his dinner. His medicine has been the tincture of the muriate of iron, with phosphoric acid; but he has not improved.

May 25th. Has been living on Staten Island, and comes occasionally to the landing in New York to report to me. He has not improved. At times he has thought that the difficulty in passing water was lessened, and that he could walk firmer than usual, but the feelings of improvement had not been durable. To-day he mentioned that he had tried driving in a carriage on the Island, but found it more painful than the omnibus drives on the pavement. The most comfortable position for him is the horizontal posture on the back. The pain in the bowels is as great as ever, and is felt to be the most severe in the left iliac region. The numbness of the left thigh is greater than that of the right. His appetite continues

good, and he has regular dejections from the bowels. He has lately felt considerable stiffness, hardly amounting to pain, in his neck. His own opinion with regard to the seat of his disease is that it is situated in the sacral region of the spine. The issue discharges freely. His condition has not changed. Since he left the city he has taken five grains of the chlorate of potash three times a day. Now I have prescribed one sixteenth of a grain of corrosive sublimate three times a day.

June 26th. All medicines have been lately suspended. Another issue has been made on the side of the spine opposite to the one already existing, by cutting out a portion of the skin. He has grown worse, that is, he has lost flesh, has more pain in the legs and across the bowels, and stands and walks like a decrepit old man. He has pain often in the right hypochondrium, which shoots to the verge of the anus. On examining per rectum, nothing could be discovered. This pain I suppose is owing to flatus in the bowels. He has pain in the left iliac region, in the flexor muscles in the upper part of the thigh, in the perineum, &c. The numbness in the hands is increased, especially in the little, and the two adjoining fingers. The thumb and index are somewhat affected, but are comparatively the best. He has less disposition to move about. The bowels are regular. The difficulty in evacuating the bladder is the same. Lately he has erections of the penis, which for four months past has been an unusual occurrence. His wife was confined with her second child five days ago. Both issues are discharging well, and I trust chiefly to them as means of cure.

July 7th. Two days after I last saw him he was seized with feverishness which confined him to the bed. On examining the back erysipelas was discovered, which had apparently commenced at the issue first made, and extended gradually over the whole back, and is now spread

ing towards the shoulders and head, and downwards on the buttocks. The color as it extends has grown fainter, and is less painful. For two days he has lost all power of evacuating the bladder, and the urine is drawn off by Dr. Smith of Staten Island, with the catheter. To-day he is stronger, that is, he moves himself more readily in bed. Pulse 108. He has had severe pain in the soles of his feet which has been relieved by the application of cold water. He was despondent with regard to his recovery; but to-day we have ventured to hope for an improvement.

July 27th. An abscess had formed on the left side of the chest, which contained a half pint of matter. The abscess was opened, and healed in good time. He recovered his ability to evacuate his bladder, gained strength, and seemed to be pretty much in the condition he was in before the erysipelas attacked him.

Dec. 5th. He has just come to the city from Northampton, where he had tried the water cure. He has gained flesh and strength, and one day had walked nine miles. He has no pains in the limbs, but cannot move them with as much freedom as he could when quite well. The constriction about the abdomen has not yet entirely left him, and he has still a numbness in his hands, but in a slighter degree. The cold water seemed to contract the bladder, and his power of evacuating it at will seemed to have improved.

Dec, 5th, 1873. Mr. W. made frequent use of the cold pack after this, and attended to business. He made several visits to Europe, and on the whole enjoyed pretty fair health without placing himself under the directions of any medical man for this especial complaint. He lived until May, 1873, (twenty-one years having elapsed since I attended him) when he died of pneumonia after a few days illness.

All spinal affections are obscure. In the present in-

stance, inflammatory softening of the spinal marrow was suspected, but the long time he survived after this opinion was formed, proves that an error in diagnosis was made. Probably there was some inflammation of the sheath with effusion. But even this suspicion is announced with much hesitation.

The case is at least valuable in showing that with the presence of partial paralysis, and other neurotic symptoms, the patient may survive many years beyond all expectations, and that we have no positive evidence of the existence of ramollissement especially in the earliest stages of the affection.

The treatment with issues, although not followed by immediate results, must, in the absence of evidence to the contrary, have the credit of promoting improved health after he had survived the erysipelas. The water cure also seems to have been beneficial.

ABSCESS BEHIND THE CÆCUM.

Peter, a servant in a boarding house came under my care two days ago. He then complained of pain in the region of the cæcum, and was unable to extend the thigh, which was slightly flexed; pulse varied during the day from 108 to 120. At night I bled him to the extent of sixteen ounces, when he fainted. I then gave two grains of opium, and one and a half more was directed to be taken in case he did not sleep. Yesterday, July 24th, his pulse was 120, and the pain continuing, I bled him again to sixteen ounces, when he fainted. Directed senna and salts. At night it had not operated, and I ordered an injection of warm water, which was followed

by two evacuations. Applied a blister over the painful spot, and directed that a pill, containing calomel, gr. i ipecac, gr. ss. and opium, gr. ss., to be given every three hours.

July 25th, 1840. Says the pain has diminished, but the amount of tenderness on pressure could not be satisfactorily ascertained on account of the blister. He is bathed in perspiration; pulse 140. There was no tympanites nor pain anywhere except over the cæcum, in a space which would be covered by a silver dollar. During the day he vomited several tmes.

4 P.M., covered with a cold sweat; pulse feeble; is sinking. Gave brandy, and applied a blister over the whole abdomen. He sank gradually, and died between 11 and 12 at night, retaining his intelligence to the last.

Examination of Body nine hours after death. On raising the cæcum, we found an abscess directly behind it. The extremity of the appendix to the extent of a quarter of an inch was dark, containing a dark looking matter like coagulated blood. There was no appearance of peritonitis, no injection, no pus or serum. It was not ascertained that ulceration of the appendix had caused the abscess.

ABSCESS IN LEFT ILIAC REGION.

BREAKING INTO THE BOWEL. ITS NEW FORMATION ON THE OUTSIDE OF THE ILIUM.

Jany., 1868. Mr G., a stock broker, of a very nervous temperament, came under my charge. His mother was a delicate woman. His father a large strong man. He partook of his mother's constitution. He passed phosphates in his urine almost constantly. Evacuated gas

from the stomach. His physical strength was small. During the summer he was upset in his wagon, but was not aware that he was injured. But since then he has had pain in the left iliac region, and up the left side.

He returned to the city in September, and was occasionally seized with mild febrile symptoms, attended at times with slight flushings of the face, but the pulse never exceeded 84. He also had pains on the crest of the left ilium. The left thigh was slightly flexed, and when he stood erect the veins were seen to be enlarged. It was apparent that there was some obstruction to the venous circulation. But its nature was not clear until pus was found in the evacuations from his bowels, an abscess in the side having broken into them. It was then perceived that a sensitive place on the ilium contained air as well as matter, for at this point metallic tinkling could be heard. The abscess on the outside of the ilium was opened, and a communication made, as was supposed, with the sigmoid flexure of the colon. The contents of the bowel would occasionally get into the fistula, and air would press through the side. It would seem to go down as far as the sphincter ani, meet with resistance, and then mount up and pass through the opening on the ilium. At this spot the bone was found bare, and it was feared that a portion of it would exfoliate.

It became an important consideration to heal, if possible, the communication with the bowel, otherwise he would have a fœcal fistula, which would incapacitate him from attending to regular work. To enable the gas in the bowels to escape per anum, a pill bougie was used, and then a supposition tube. They answered very well for a time, but his restlessness and impatience precluded the use of them.

The limb was then bound to a splint extending from the axilla to beyond the foot, with the object of preventing the use of the psoas and iliac muscles. This was tried

for nearly three weeks, and then abandoned because he would roll over in bed with it on, and in fact, removed it whenever an impatient whim seized him. Finally I resolved to paralyze the sphincter muscle, in order to allow the gas to escape. He was etherized, and the sphincter stretched forcibly with my thumbs. It answered for a few days only. When he was under the influence of the ether, the opening on the ilium was enlarged for the purpose of ascertaining to what extent the diseased bone had reached. More than an inch of the external surface of the ilium was found bare, and it was suspected that the internal surface might be in the same condition. But the finger could not be passed over the crest of the ilium to decide if this was the case.

After three months confinement to the house, and a failure of all the means used to heal the opening in the bowel, he was allowed to drive out. The contents of the bowels were at times passed through the side, attended by pain in the abscess, and great disgust to the patient. His despondency, irritability, and mental excitement, at times almost to mania, made change of scene necessary. He then went to Florida, where he remained for some time with a medical attendant.

On his return, he put himself under the care of his relative, Dr. A. C. Post.

Dr. Post attempted to reach the abscess in the iliac region, by making an incision below Poupart's ligament, in hopes of draining off the matter. Matter flowed through this opening in a few days.

No permanent good resulted, and he failed and died, exhausted by the disease, and with evidence of tuberculosis in the lungs.

An examination of the body was made after death, which I was unable to attend. An opening, as was supposed, was found in the sigmoid flexture of the colon.

Remarks. The abscess in this case may have originated

from the injury that he received by being upset in his wagon. The bone was tender to the touch before the abscess appeared, and its roughened condition would seem to warrant this suspicion. It might, however, have arisen from the lymphatic glands of the pelvis, or an inflamed psoas muscle. On reviewing his history previous to the accident, we learned that six years before, he had suffered from abscess in the perineum, under the care of Dr. Hosack, and that his life was despaired of. A few years afterwards he had lymphatic swellings in the occipital region, which, by the physicians who attended him, were attributed to syphilis; but Mr. G. always denied ever having had this disease.

The abscess broke into the sigmoid flexure of the colon, and dissected up the peritoneum towards the crest of the ilium, and appeared on its outer side. Meditating upon the means which operative measures might suggest, and which might facilitate the healing of the opening in the bowel, I can find none worthy of recommendation. In a case of this kind everything combines to prevent union, the flatus in the bowel escapes into the abscess, and this is soon followed by a greater or less quantity of fœcal matter, which prevents the healing of the opening, while the rectum below, from its ceasing to be distended by fœcal matter, contracts in its calibre, and thus aids the escape of the contents through the fistula in the side. Perhaps the method that the abscess took in dissecting up the peritoneum, and thus appearing outwardly, might suggest to the surgeon the steps that he should follow in order to get at the opening in the bowel. But no surgeon could be easily persuaded to dissect up a diseased and thickened peritoneum. It might become ruptured in the attempt, to say nothing of the difficulties to be encountered in the cavity of the pelvis by the presence of the vessels, nerves, and ureter. A division of the sphincter and muscle might be suggested, and probably might be of temporary benefit.

Nothing then could be done, beyond endeavoring to drain the abscess in the most direct way possible; and if a fœcal abscess, which is very sure to follow, should persist, to make the patient's loathesome life as comfortable as possible.

ABSCESS WITH AIR.

May, 1836. Mr. P. had great inflammation of the upper part of the thigh, and an abscess formed just below Poupart's ligament. It was opened, and about a half pint of pus discharged with gas of a fœtid character. He perfectly recovered.

ABSCESS WITH AIR AND FŒCES.

In 1865, Mr. J. B., aged about 70, had an abscess just above Poupart's ligament on the right side, which was opened, air immediately escaped with a rushing noise, which continued for several seconds, and matter followed to the extent of half a pint. The opening continued to discharge for several weeks, and then closed. It formed again and then healed, and this has been its course several times since its first formation. Always after the pus was discharged, fœcal matter passed, From this we infer that there was ulceration of the appendix vermiformis.

ABSCESS WITH AIR AND FŒCES.

1862. Montgomery, about 7 years of age, had an abscess form on the outer side of the ilium. It discharged freely, and the pus was mingled with fœces. He died two years afterwards of Bright's disease of the kidney.

No examination of the body was made. We supposed that ulceration of the appendix had taken place, which had caused the abscess and the discharge of the fœcal matter.

POST PHARYNGEAL ABSCESS IN CHILD 18 MONTHS OLD.

March 6th, 1854. A year ago this child, the daughter of Mr. R. had scarlatina. Since then she has been pale and delicate. In the early part of February, which was a month before I was called to visit her regularly, (for the present complaint) the lymphatic glands on the left side of the neck were found to be enlarged. Tinct. of iodine was painted upon them, the potassio-tart. of iron given internally, and fresh air, out of doors exercise in good weather, directed. At this time, it was noticed that she occasionally coughed, and at times raised some masses of indurated mucus. Gradually the breathing became loud during sleep, especially in the night time, and finally actually snoring. In the day-time she would play with her toys, and to a person who had not watched her, would appear to be in possession of a very fair amount of health, and certainly to be in no danger of her life. Yet at night, when sleeping, the breathing would become loud, snoring and choking, so as to be heard in the adjoining chamber, when the two intervening doors were shut.

The snoring was not present during inspiration as in croup, but during expiration. A short spasm of the glottis would come on, and after a few imperfect gasps the child would remain without breathing for a space of time sufficiently long to count fifteen or twenty, and then, on being aroused, would revive, and in a short time appear quite well, and even play.

These attacks, two weeks after their commencement, returned as often as every fifteen minutes. She would grow very pale, the head and face cold, and in every respect seem to be dying. The explanation of the variation in the severity of the symptoms, would seem to be, that when awake, she would make use of the voluntary muscles; but when asleep, the involuntary muscles only acted, and she would be threatened with immediate dissolution.

The head was thrown back when asleep. The cough, and some occasional rattle in the larynx caused me to believe that there was some trouble here, perhaps œdema, or ulceration. But there was no heat of the skin at any time. The nature of the difficulty was obscure.

There was no great impediment in swallowing. Bread and milk were eaten easily; yet at times a slight hesitation was observable, and on inquiry, it was stated that she swallowed a large quantity (a mouthful) of fluid with greater ease than she would a teaspoonful.

The late Dr. A. B. Robeson was the first who called my attention to this peculiarity of swallowing liquids, which was observable in some cases of post pharyngeal abscess, which came under his care at Bellevue Hospital, three years since. It induced me to examine the pharynx with care, but I did not for a week see anything, or with the probe discover anything wrong there. The throat was examined daily, and Dr. Tellkampf, who was associated with me in attendance upon the case when the symptoms were severest, was not more successful.

Several days elapsed before we found it. When discovered, I immediately opened it with a bistoury, with some benefit to the symptoms, but which did not continue. The snoring and spasm returned, and the child seemed to be dying; but on introducing the probe through the opening made by the knife, the accumulated pus escaped again with benefit. This was done daily for

several days, and all bad symptoms gradually disappeared.

The symptoms of post pharyngeal abscess in children, must at all times be obscure, and especially in those cases where repeated examinations of the throat do not lead to its discovery. In the present case, it would seem that the abscess originated at a spot below the level of the glottis, and could not be discovered until, by its increased size, it came within reach of the probe.

Reported in the Med. Times, for August, 1854.

ENCEPHALOID DISEASE OF THE BOWELS, TESTICLES, ETC.

I. *Jan.* 1841. Mr. M., a young clergyman, had been troubled with dyspeptic symptoms for a number of years. Twelve weeks since he passed a half pint of blood from the urethra. He put himself under the care of Dr. Hooker, Prof. of Anatomy, in Yale College. He then complained of pain in the abdomen. Dr. Hooker directed the internal use of iodine, with external frictions of iodine ointment.

A short time after this he removed to New York, and placed himself in charge of Dr. Mead, Dr. Parker, and, more lately, Dr. Hibbard, visited him. On examination, a tumor was felt under the left hypochondrium, which extended downwards towards the ilium. This was slightly tender on pressure. In front there was another tumor of a more diffused character than that upon the side, it was less resistant, and separated from the side tumor by an intervening space into which the finger could be sunken. This seemed to show that the two hardened masses were disconnected. From the cæcum along the

course of the colon, there was the natural resonance. His pulse varied from 108 to 120. Exacerbations of fever at night. No appetite. At the latter period of his life hiccough came on and œdema of feet. The left inguinal ring presented a tumefaction of uncertain hardness which gradually terminated in a softness.

Drs. Mead, Parker, Hibbard, and myself, met in consultation, to decide upon the nature of these tumors. We all believed that there was some ascites, which was probably dependent upon some organic disease. Was the spleen enlarged? No. Could there be disease of the mesenteric glands with a hardened omentum? Even on this supposition, the tumor in the left hypochondrium remained unaccounted for. It was conjectured that it might be some disease of the kidney, which pressing upon the bowels, obstructed them, and thus explained the hiccough. The bloody urine seemed to imply that the tumor was connected with the kidney. One person advocated the opinion that it was a case of sub-acute peritonitis. The nature of the disease was therefore doubtful, and the fact of its being cancerous hardly alluded to.

Examination, Post-mortem. On cutting into the abdomen, a fungous-looking mass immediately presented itself, weighing, as was supposed, from six to eight pounds, and as large as a child's head of four years of age. There was a very bloody serum to the extent of two quarts in the peritoneal cavity. The mass in front was brain-like, and appeared to take root from the left side within the pelvis, from the tumor which was felt there during life. This tumor was of the size of three good-sized fists, lobulated and scirrhous, excepting at the lower part, where it was softer and cerebriform. On removing the tumor, we found that it was not the kidney, but that it had occupied the place of this organ, which was pushed upwards by it and atrophied, so as not

to be larger than three inches long by one broad. The lymphatic glands connected with the tumor were enlarged and hardened. The right kidney was of common size and apparently healthy.

The spleen was small and shrunken. The left testicle was scirrhous of the size of a hen's egg and lobulated. Its tunica vaginalis contained serum.

Might not the hardened testicle, if detected during life, have led to a correct diagnosis of the disease? We believe that it might. But this young clergyman never alluded to any swelling of this organ. Probably his false modesty prevented him. It was certainly important to have discovered it, for it is not improbable that the disease commenced in the testicle, and our subsequent experience would seem to show that encephaloid disease of the abdominal cavity does often, if not always, take its origin from cancerous disease of the testicle.

II. In the year 1855, James F., a midshipman in the Navy, had swelling of the testicle, which he attributed to an injury from the gunwale of the boat when he was employed on the coast survey. It continued without any positive symptoms for about a year, when he commenced to have pains in the abdomen. A tumor made its appearance just above the pubis, and was diagnosticated to be encephaloid. He gradually sank and died. On examining the body after death, the testicle was found enveloped by a cancerous mass, white and cerebriform, which seemed to be deposited on the tunica albuginea. The proper tissue of the gland was not implicated. In the abdomen a large white mass presented itself, which when incised, looked exactly like brain. The disease commenced in the scrotum, and extended subsequently inside the abdomen, which is the point of especial note, to which I wish to draw attention.

III. In 1860, Wm. G. had a swelling of the testicle. He was in fair general health, although very spare in flesh, and of a strongly consumptive family, his mother and three brothers having had tubercular disease of the lungs. Iodine internally and externally was used at first, on the supposition that he had scrofulous disease of the testicle. But the tumor became painful and grew to the size of the doubled fist, which prevented him from taking exercise.

At his request the testicle was removed, and by the use of serre-fines, healed nearly entirely by first intention. He had however but a short respite from the disease Pain came in the abdomen, and finally a large tumor was felt. He gradually failed, and died about six months after the removal of the testicle.

On examining the testicle after its removal, a tumor partially scirrhous, but mostly cerebriform, was found. The abdominal tumor after death was encephaloid, but a great part was red like a fungus hæmatodes.

Here too the disease commenced on the testicle, and subsequently in the abdomen, and like the former cases mentioned is worthy of remembrance as a means of diagnosis whenever an abdominal tumor is present.

IV. *January*, 1873, I was applied to to perform the operation of castration on a Mr. W., a patient of Dr. Farnham's. He was about fifty years old, and had a swelling of the scrotum and testicle for more than a year. On transmitting the light of a candle through the scrotum, it was found to contain considerable fluid, and yet the hardened testicle could be felt below it. The patient was spare in flesh, possessed fair general health, but was rather a feeble man.

An incision was made into the swelling, and about two ounces of serum allowed to escape. The enlarged testicle was then removed. No ligatures were required.

The growth around the testicle was of a cartilagenous hardness, and on being examined by the microscope was supposed to be malignant, although the indications were not unequivocal.

The disease did not arise in the body of the testicle, but on the tunica albuginea. There were no symptoms of any abdominal disease. After the operation he grew stronger and fleshy. It remains to be proved after the lapse of time, whether abdominal cancer will follow this instance of scrotal disease. That cancer commences in the scrotum, and on the testicle before it appears in the abdomen, we believe to be generally the fact. *

CANCER OF THE PENIS.

AMPUTATION.

Daniel M., aged 62, has been troubled with the present disease for fifteen years. It commenced upon the prepuce which at first seemed to be cracked; a hard tumor followed and some time subsequent to this, ulceration took place. The disease had been neglected through a feeling of false modesty, which prevented him from informing any one of its existence, or applying for medical aid until quite recently. He was a man of considerable intelligence, and had friends of means, who could and would have provided for his wants, if he had not hidden himself from them. In fine, this disease had driven him from home and caused him to lead a hermit's life in the city. He occupied a cellar, gained a livelihood by keeping an apple-stand in the street, and without any compensation taught some grown-up boys in the evenings to read and write. His intelligence and kindly behavior attracted towards him a few friends of respectability who, when he was idle, showed their sympathy and

* There has been no return of the disease. January, 1878.

supplied him with a few luxuries which he unwillingly accepted. During the last year he has used different ointments and quack nostrums, and the disease has made rapid progress. The whole glans, with one-half of the penis, has disappeared. The ulceration has hard irregular and reddened edges. Granulations cover the end of the penis, and have broken through the ulcerated spots on the side. These granulations discharge an offensive matter profusely, which has excoriated the scrotum. The induration of the penis extends quite up to the pubes. He has a feeble pulse, and an unhealthy look. A gland in the left groin is distinctly felt, but does not seem to be larger than is sometimes observed in healthy men. There is a tumor however on the left side, which is apparent through his dress which, he insists, has no connection with the disease. On handling, it resembled a sac with fluid in it. It was resonant on percussion, and on strong pressure could be made to disappear with a gurgling noise, which decided that it was a ventral hernia.

March 9th, 1846. The operation was performed. He was so feeble that it was important not to lose much blood, and it was necessary in order to remove all of the disease, to amputate the penis as high up as possible. The operation was done in the following manner: The skin of the pubes was first raised and a flap formed. On the under side a flap was also formed, excluding all the skin of the scrotum that was excoriated. Perhaps a half ounce of blood was lost in doing this, and three small arteries were tied. A tape was then tied around the penis so tightly, that when it was cut through, not a drop of blood escaped from the arteries, which were easily seized and tied. They were three in number,—the arteria dorsalis penis, and the two cavernous arteries. Very little blood oozed from the stump, and this was averted by the application of a piece of dry lint.

March 18*th.* The wound which was still open, and dressed with cold water dressings, is covered with healthy looking granulations, and is contracted nearly one-half. He has worn, and still continues to wear a gum-elastic bougie in the bladder. All the ligatures have separated with the exception of one. There is no pain; he feels better than before the operation. Sits up nearly all day, and eats whatever he pleases. Pulse is 70 and feeble. Some spirits or beer is taken with his food. His countenance has improved, but has still an unhealthy look.

May 1*st.* Is now well. The wound has healed without any return of the disease thus far. His appearance has improved, and he pursues his daily avocation of apple-selling in the open air.

April 15*th*, 1848. Two years and a month since the operation, he died exhausted. I believe from imperfect care, if not from insufficient food. There was no appearance of return of the disease anywhere.

Twice since have I amputated the penis for cancer, but not to so great an extent as in the case detailed. Both of these patients died from extension of the disease to the glands of the groin, and to the abdominal cavity.

ATTEMPTED SUICIDE OF AN INSANE MAN.

DEATH FROM OEDEMA OF THE LARYNX.

August 15*th*, 1834. Mr. F. had cut his throat with a razor. He was found sitting on a chair with considerable coagulated blood about the throat, and had bled more than a quart. He had changed his clothes—was very faint, so as to be obliged to lie down occasionally. The wound was large, and the hemorrhage had ceased. The mastoid muscles were uninjured. The platysma myoides,

the steno-hyoidei and thyroidei were divided. The trachea was divided just above the thyroid cartilage, between it and the hyoid bone. The œsophagus was cut so as to appear to hang only by its posterior portion. The carotids were laid bare, as if grazed by the razor, but not divided. It was supposed that the superior thyroid arteries were cut, but on cleaning the wound one, only, that on the right side, bled; this was tied. The only nerve cut was the recurrent.

A gum elastic tube was passed into the œsophagus, and water injected in order to quench his thirst. A thread was passed by means of a needle through the thyroid cartilage, and over the hyoid bone on each side. These were tied in a bow knot so as to be easily loosened, in case of need. The external wound was not brought together, but left to heal by granulations. His pulse was 72. During the night, he slept well in periods of an hour, or more, at a time, and made little complaint of the wound. Water was injected into the stomach through the tube frequently during the night.

August 16th. Gruel was injected through the tube. In the afternoon, he was considerably agitated, fearing that he should die. Pulse then 90. On asking him the cause of his cutting his throat, he said "that he had been shaving, and his head appeared to be very large and to have fire in it, that he had some indistinct recollection of clearing it out; and that the next thing he remembered was that his throat was cut." His family, and himself, have been insane. Dr. Wyman of the Insane Asylum has been to see him, and regards the case as very valuable in proving that insanity may come on suddenly without premeditation, also valuable on its bearing upon a case to which he was summoned as an expert, in New Hampshire, where the prisoner had struck another man's wife with a stake, had killed her instantly, and then immediately ran and called her husband.

August 17th. Last night, for some unexplained reason, he pulled out the tube which had been passed through the nostril into the œsophagus. It was reinserted, and gruel and water thrown into the stomach every three hours.

At 6½ P. M., was sleeping quietly. He had been up a short time previously assisting a man who had convulsions. He was enjoined not to talk, but to keep as quiet as possible. There was some pus in the wound.

Towards morning he arose from bed in great distress for breath, lay down as if from exhaustion and died. No physician was called.

ULCERATION OF THE NAVEL. DEATH.

Dec. 16th, 1845. Mrs. T. was confined three weeks and two days ago, and I had ceased to attend upon her. A message came to the office stating that the child was dead, and that the parents had not ascertained the fact until after they had eaten their breakfast. I remembered that at my last visit it was mentioned that the navel was sore and had bled, and I had directed the application of some dry powder, like chalk or starch to the part, in expectation that this would be all that was requisite.

When this death was announced, I thought that the child must have been overlaid, but on inquiry, I found that it had been crying much from pain, and had been hot and feverish. On examination there was some blueness of the face and of the chest, and the thumbs were strongly grasped by the fingers. At the navel, to the distance of two inches in every direction around it, there was abrasion and ulceration of the skin. A probe could be passed into the cord to the depth of from a half to three quarters of an inch, and just at the navel there was pus as if there was an abscess. The peritoneum was not inflamed. The lungs were sound. The head was not ex-

amined. I expressed surprise that I had not been sent for. The certificate rendered was that the child had died of convulsions caused by ulceration of the navel with abscess of the parietes of the abdomen.

AMPUTATION OF BOTH THIGHS. PRIMARY. RECOVERY.

1834. The first case of amputation I ever witnessed, and at which I assisted, occurred during the first year of my medical pupilage, on the Lowell Railroad, which at that time was hardly completed. I was driving with Dr. Walker, who was arrested by the crowd, and requested to visit a man who had just been run over by the cars. One leg had been cut off by the wheels, just below the knee, and left in the road. The popliteal artery was projecting several inches from the wound, and bleeding. The other limb had been crushed through the knee joint. I was left to hold the bleeding artery, while the Doctor returned home to get his instruments.

Both limbs were amputated above the knee. The patient was a stout, and cheerful tempered man. He was hilarious even during both operations. He recovered, an almost unexampled fact in primary amputation of both thighs, and a place was secured for him in the glass house at Ledmere Point, where he could gain his living by a sedentary employment. I mention this case because recovery from amputation of both thighs is so rare an occurrence.

AMPUTATION OF THE THIGH.

Nov. 22d, 1851. Miss ——, aged 26, has suffered from a diseased knee for more than a year. The knee is very painful, clubbed and enlarged as in scrofulous disease.

There is considerable swelling of the soft parts near the joint, as if matter was enclosed. Considerable enlargement of the femur above the knee can be felt, and the pain there is excruciating. She has lost much flesh, but there are no indications of disease in the lungs.

In consultation, it was decided that the thigh should be amputated, and I performed the operation to-day. On sawing the bone, it was perceived that the saw passed through with unusual facility, and it was then recognised that the femur was much enlarged. Consequently it was thought advisable to saw the bone again an inch higher up. There was much oozing of blood, and although the wound was not dressed until six hours had elapsed, yet there was much bleeding. Fourteen arteries required ligatures. The bone also was very vascular.

On examination, the tibia and fibula were found enlarged, and the periosteum thickened. There was no pus in the joint, but great thickening of the synovial membrane with ulceration in several places of the cartilage that covered the ends of the bones. The condyles of the femur were enlarged, and covered on the sides with a growth of new bone. On sawing the femur and tibia longitudinally, they were found to be vascular and red, the outer crust thinned, and the reticular tissue of the interior enlarged and softened. Much oily fluid was found within the bones. There was also within the femur and tibia a deposit of cartilaginous looking substance, which was supposed to be cancerous disease, but on a subsequent examination with the microscope, cancer cells were not detected.

After the operation, for more than a week she had intense pain in the bone as high as the pelvis; great pain in the back, and also the abdomen. The pains seemed to confirm the suspicion of there being malignant disease. To relieve these pains large doses of morphine were given, also chlorate of potash in ten grain doses, three times a day.

Three weeks after the operation the pain had ceased, and the stump had nearly healed, most of it by the first intention. The main ligature still retained its hold.

UNUNITED FRACTURE OF THE LEG. OPERATION. RECOVERY.

Aug. 5th, 1863. I was requested to visit Captain S. of Brooklyn, on the 19th of April. He had broken his leg at sea about eighty days before. He had gone to Madeira, and placed himself under the care of a Portuguese surgeon for fifty-five days, the rest of the time had been spent on board his ship on its way to New York. No union had taken place, and there was considerable overlapping of the bones. He was now under the care of Dr. Ayres of Brooklyn.

An incision was made, and the ends of the bones were sawn off, and the limb readjusted in splints. Since the fracture was received, more than a hundred days had elapsed, and union had not been attained. Since his arrival here, he has suffered from bed sores, eczema of the limb, abscesses, and erysipelas, so that on several occasions we feared that amputation would have to be resorted to. The openings made by the abscesses discharged blood and sanious pus, so that at one time we suspected that some artery had been ulcerated; several minute pieces of bone have escaped.

Much credit is due to Dr. Ayres, who had immediate charge of the case, for his generosity, and indefatigability in varying his apparatus to suit the condition of the patient. To-day I shall cease my attendance. The patient can sit up, with the leg suspended on a tripod. His general health is much improved. No lateral motion is perceptible, but there is some motion on flexion. There is every prospect of good union and of a handsomely shaped limb.

Jan. 15*th*, 1864. He is now able to walk with a cane, and to stand without assistance.

Captain S. Perfectly recovered with an excellent leg, walks without a limp; married, and has been actively engaged in a yacht race across the Atlantic. In fine he is as well as he ever was.

INFLAMMATION OF THE BONES OF THE FOOT AND LEG. OSTEOPOROSIS.

AMPUTATION (CHOPARTS) OF FOOT AND THEN OF LEG. RECOVERY.

Sept. 1*st*, 1850. M. L. Barney, aged 17, born in Ireland, a tailor, of temperate habits, and tolerably robust, predisposed however to struma, was admitted into Bellevue Hospital June 4th, 1850, with disease, as was supposed, of the tarsal bones of the left foot, of twelve months duration. He states that about a year ago, after bathing in the river, and remaining in the water longer than usual, he was seized with a severe chill, followed by pain, and swelling of the left foot. Blisters and poultices were applied without affording any decided relief, and the disease continued in spite of treatment.

On admission, the foot presented the following appearances: Swelled to about twice the size of the other foot; there were three sinuses, one of which communicated with the bone, on the inferior aspect of the foot. The passage of the probe caused excessive pain, and could be thrust into the substance of the bone. On pressing together the tarsal and metatarsal bones, great pain was produced. There was no pain in moving the ankle joint, or in pressing together the astragalus and os calcis.

No hope was entertained of affecting a cure, and on the 13th of August I amputated through the middle of the tarsus, (Choparts operation) in hopes of saving the heel. But after the operation, the astragalus and os

calcis were found diseased, that is, they were soft and compressible. So soft were they, that in fact, the knife had shaved off a slice of the os calcis without meeting with resistance, or turning its edge. It was thought to be advisable by the surgeons present, under the circumstances, to amputate the leg. This was done at once before the patient recovered consciousness, being under the influence of chloroform the whole time.

It was then perceived that the bones of the leg, at the place of division by the saw, were affected with the same disease. There was a rarification of the cellular structure of the bones with a thinning of the walls, and enlargement of the cells. The tarsal bones were oily, soft, and enlarged. The compact structure of the tibia was excessively attenuated, containing only oil, and a few shreds of membrane.

The wound united, mostly by first intention, and at this date, (September 1st) the patient is going about the wards.

June 20th, 1851. Have seen him to-day, and he was in perfect health.

Was it necessary to amputate the leg in this case? I have often thought that if I ever had another case like this, I would content myself with the amputation of the foot, and not have done any other operation until time had shown its absolute necessity.

PRIMARY AMPUTATION OF THE LEG, FOR INJURY TO THE FOOT IN BLASTING.

DEATH FROM CHLOROFORM; FROM SHOCK; OR BOTH COMBINED.

July 5th, 1851. M. aged 32, was admitted into Bellevue Hospital for an injury to the left foot, received in blasting. The accident happened at noon, and on his admission he complained greatly of pain, and fifteen

drops of Majendie's solution of morphine were administered. I saw him about 8 P.M., and found that the toes had been completely carried away by the explosion; the tarso-metatarsal joint of the great toe ruptured; the metatarsal bone of the second toe fractured, and the skin entirely removed from the sole, and the top of the foot, with the exception of a tongue of skin three or four inches wide, which extended over the outer mallelous, and connected, the skin of the sole with that of the leg, This tongue of skin was not injured, but was dissected to a great extent from the parts underneath. The tendons were torn, and the os calcis so injured that several spiculæ of bone were found detached from it. We entertained the idea of performing Chopart's operation, but this was objectionable, because when the integuments were replaced it was found that there was not flap enough to cover the ends of the bones. The flap that remained was so thin, and poorly supplied with vessels, that we feared that it would slough. Thus we were driven to the conclusion that it was best to amputate the leg. The patient was of good constitution, and appeared to have rallied well from the shock of the accident.

The conclusion arrived at was communicated to the patient, and after a short consideration, he consented to the operation.

Chloroform was administered by Dr. Metcalfe, who happened at the time to be visiting the hospital. The patient soon became insensible. The only delay met with was occasioned by sending to the office for another tourniquet, the one in the operation case being out of order. There was nothing that occurred during the operation worthy of note. The hemorrhage was completely controlled, and the only blood lost was that which was contained in the limb, below the tourniquet. The flaps were well made, and the bones sawn without delay.

At 9 P.M., just as I had finished dressing the stump,

and was applying the last adhesive straps Dr. Metcalfe left. On examining my patient, which I now was at liberty to do more particularly, I found that he was pulseless at the wrist, and did not breathe. I ordered the windows to be opened, and kept up artificial respiration by pressing upon the abdomen and thorax alternately; gave an injection of brandy per rectum, and then an injection of oil of turpentine. He gasped, then breathed, and the pulse returned in the wrist; but it was extremely feeble, and soon sunk again. I covered the chest and abdomen with mustard plasters, held hartshorne to the nose, gave brandy by the mouth, and then an enema of an ounce of tincture of capsicum. Pinching him under the left hypochondrium seemed to have much effect in rousing him, for he would start up in anger and remonstrate. After a long time he commenced to complain of the mustard, and asked for its removal. The pulse continued for a long time to beat regularly and fully, and although there was a great disposition to sleep, he could be aroused by pinching him under the left hypochondrium. We began to think that the danger had passed, and had him removed to his bed in the ward. He soon began to sink again. I repeated the injection of capsicum, and shortly after this an injection of oil of turpentine; fanned him, applied hartshorne to the pit of the stomach, rubbed the extremities with camphor and turpentine, and gave internally milk punch, and carbonate of ammonia.

At 12 o'clock he was sinking, and a little after midnight I left him in charge of my assistants Drs. Rawson and Hyslop, with directions to persevere to the last.

July 6th. He died this morning at 2½ o'clock, and to-day his body was examined. Nothing morbid was found in the lungs, with the exception of some hypostatic congestion. There was a little serum in the pericardium, and in the ventricles of the brain. This was all that was detected.

Remarks. This patient, as it seems to me, died from the shock of the accident, and the chloroform combined. I cannot but suspect that the chloroform had an injurious effect, which perhaps the advocates for its use will not be ready to believe. The good condition of the patient before the operation would hardly warrant the supposition that shock alone was instrumental in causing his death. Chloroform is stated to be able to prevent shock; but I cannot but recall to mind the experience which the French surgeons met with during the last revolution, where *in primary operations*, it had a depressing effect, and led to fatal results.

It might be asserted that if death in this case is to be attributed to chloroform, that we ought to have found congestion of the brain and lungs. But it is to be remembered that the means used to revive the patient did so far succeed, that his life was prolonged from 9 o'clock in the evening until 2½ o'clock the next morning, (five and a half hours) and that this might have prevented the usual morbid phenomena.

AMPUTATION OF THE LEG.

COMPOUND AND COMMINUTED FRACTURE FROM A RAILROAD ACCIDENT DEATH.

Nov. 1st, 1853, 10 A.M. Timothy, a young man 22 years of age was, while intoxicated the night before, run over by a car on the Harlem Railroad, and remained undisturbed upon the track for the space of three hours. He lost much blood before, and at the time of his admission to the hospital.

The anterior tibial artery was wounded, and a number of fragments of bone of several inches in length were removed. The bones were extensively broken, and the muscles lacerated. No hopes were entertained of saving

a limb so injured as this; yet the condition of the patient forbade an operation for the present. He was cold and pale, with an extremely feeble pulse, and a stomach that was irritable. Warmth and stimuli were administered, but it was not until 5 P.M. that reaction took place, when I amputated the leg just below the knee.

Neither chloroform, or ether was used. He survived the operation about 24 hours, and I hardly believe he would have lived so long if it had not been for the unremitted attention of my house surgeon, Dr. Teats.

AMPUTATION OF THE LEG. PRIMARY.

RAILROAD ACCIDENT. DEATH.

April 21st, 1854. Francisco Peares Snares, a Portuguese, aged 54, and born in Madeira, laborer by occupation; habits temperate, but accustomed to live on poor diet, from regard to economy, was admitted to-day into Bellevue Hospital with a compound comminuted fracture of the left leg, caused by jumping from the Harlem cars while in motion. The wheels of several of the cars passed over his leg.

When brought to the hospital, three hours after the accident, he was in a prostrated condition, the surface of the body cold, and the pulse, although full, easily compressed. The tibia of the left leg was broken into a multitude of small fragments, two of which perforated the skin. The fibula was also broken into a number of pieces, and the integuments so torn as to expose, in several places, the muscles over the inner head of the gastrocnemii, and just below the knee joint, the skin was torn for three or four inches, and the lacerated muscle protruded through the wound. Notwithstanding the amount of injury, pulsation could be felt in both the an-

terior and posterior tibial arteries, and sensation was present in the foot.

Drs. Smith, Sayre, and myself examined the patient at 5 P.M. on the day of the accident, and we agreed on the propriety of amputation; but reaction not being fully established, the operation was deferred until 10 o'clock the following morning. In the mean time brandy and carbonate of ammonia were administered.

April 22d. At the appointed hour I amputated the leg at the tubercle of the tibia. The single flap operation was performed; the flap being taken from the anterior surface of the leg, on account of the lacerated wound behind. The fibula was found broken above the point where the saw had divided the bone, and being loosened from its socket in the tibia, was disarticulated and removed, Ether was used during the operation.

The patient bore the operation well. His pulse neither failing in force, or frequency during its continuence. Throughout this and the following day, the surface of the body was cool, pulse natural, and mind composed. This man was a refugee from Madeira, and had left that Island on account of religious persecution, and he manifested a calmness which was remarkable and constant.

April 24th. Surface warm and moist; pulse full and 116 in a minute; the stump natural in color; temperature a little elevated; the discharge from the wound of oily sanious fluid. Treatment, low diet, acidulated drinks, anodynes at bed time, and a flax seed poultice to stump.

April 25th. Very little sleep during the night; surface cool; pulse 130; tongue dry and red; mind desponding, desparing of recovery, but not disturbed. The stump is painful, hot, and a little swollen. The flap shows signs of sloughing. The superficial veins leading from the stump are very prominent, and of a dark blue color. We supposed that this indicated inflammation, and ob-

struction in the femoral vein. Treatment, beef tea and brandy every honr, quinine in one grain doses every two hours, sulphate of morphine at bed time, to procure sleep. Evaporating lotions were for a short time applied to the stump, and then replaced by the poultice.

From this time forward he remained in about the same condition, but gradually failed, and on May 3d he expired, apparently from exhaustion.

On examination after death, the femoral vein of the left limb was found very much enlarged, and contained within it a clot of fibrine; a large abscess was also found between the vastus internus muscle and the os femoris. There was also some pus in the knee joint. Was this owing to the removal of the head of the fibula? or was it not rather a symptom, and a result of the phlebitis? He has survived the operation ten days.

AMPUTATION OF THE ARM A YEAR AFTER A RAILROAD ACCIDENT. RECOVERY.

May, 1854. John —— has been an inmate of the Bellevue Hospital for about a year. He was admitted for a railroad accident, received when intoxicated. His arm was broken, and integuments much lacerated. The jaw was also broken. He had suffered from repeated attacks of erysipelas, and at different times had come near dying from this disease. The limb did not unite, and an operation had been performed by Dr. Sayre, about two months since, which consisted in cutting down upon the ununited bone, in hopes off sawing of the fractured ends, and of wiring them together. He did not succeed as he intended, but was obliged to content himself with biting off with the bone-forceps the extremity of the lower fragment.

The fingers, wrist, and shoulder joints were stiff; the

elbow joint anchylosed. The muscles agglutinated together by the previous attacks of erysipelas. The head of the bone seemed to have been split longitudinally, and the portion to which the pectoral muscle was attached, to be drawn inwards, and to be firmly united by strong callus (new bone) to either portion. Fistulous openings in two places led down to diseased bone.

In consultation, it was decided, on account of his impaired health, not to wait longer, but to amputate the limb. The useless condition of the limb was also an additional reason for its removal.

I amputated just below the insertion of the pectoral muscle. Several pieces of dead bone were removed. There was some difficulty in passing the knife, occasioned by the irregularity of the bone. The artery, when divided, was not readily seized and tied.

There was much vascularity, and many vessels had to be tied, and while engaged in doing this, he lost more than a half pint of blood.

He did well for five days, when secondary hemorrhage obliged me to open the stump, which had nearly healed by first intention. He lost by this hemorrhage, as nearly as could be ascertained, fully a half pint of blood. No one point could be discovered from which the blood came, but there was general vascularity, and a free oozing from a variety of places. Six or eight of these bleeding points, after being pierced with a threaded needle, were tied. Scraped lint was placed in the wound, a compress over the stump, and a circular bandage put around the body, so as strongly to compress the stump,

These dressings were allowed to remain until suppuration was freely established. The patient recovered.

AMPUTATION AT THE SHOULDER JOINT.

May 1st, 1851. Garret Barry, aged 33, had gone through all the battles from Vera Cruz to the City of Mexico, and at the battle at the City of Mexico a cannon ball passed between the ribs and the arm, fracturing the bone without breaking the skin. The arm was paralyzed at the moment, and has continued to be so ever since. Pain has constantly been present in the arm, and for this, as also for the inconvenience of a useless limb which was constantly in his way, and always exposed to knocks, which increased the pain, he was, on consultation, permitted to have his wishes gratified by removal of the limb. Amputation at the shoulder joint was performed by me on the 21st of April.

On account of the rigid contraction of the pectoral muscle, and of the latissimus dorsi, the humerus could not be raised freely from the side. Lisfranc's operation could not therefore be performed, and Dupuytrem's was substituted for it when the patient was under the influence of chloroform. There was some difficulty in passing the knife, on account of the fixed contraction of the muscles. The artery was perfectly controlled by Dr. C. D. Smith, after the head of the bone was disarticulated.

The wound was allowed to remain open two hours after the operation in order that the surfaces might become glazed, and thus favor union by the first intention.

The sides of the wound united by the first intention. The first dressings were not removed until eight days had elapsed. On the tenth day he was up, dressed, and walking about the ward.

Examination of limb. It was wasted, the nerves swollen and reddened. The periosteum over the fractured part vascular, and easily detached. The bone roughened and vascular, as if inflammatory softening was going on.

June 25th. He called at my office. His general health

was excellent. The wound had all but healed; there was however, a very slight discharge.

AMPUTATIONS AND COMPOUND FRACTURES, WITH STATISTICS.*

The mortality which followed upon wounds in the Astor Place riot has occasioned much discussion upon compound fractures and their treatment. Primary amputations have been looked upon with suspicion, and the advocates of this doctrine have been dismayed at the unfortunate termination of every case, I believe, that was touched with the knife.

But in order not to speak from prejudice or the limited experience of cases within our own observation, we have made use of the materials near at hand for the elucidation of the chief points in the discussion.

The statistics are not very extensive, but they will show the great mortality in amputations, in general, and the mortality in amputations of particular limbs. They will, moreover, help us to ascertain the success of primary and secondary amputation in military, and in civil practice, and to institute a comparison between them.

The favorite doctrine of primary amputation will not be found supported by the evidence that we expected. But certain views of the treatment of compound fractures, which we entertain, will be found more confirmed than ever, and it will be seen that judicious management will be attended with fewer deaths than amputation.

* Published in the New York Journal of Medicine, November, 1849.

MORTALITY IN ALL AMPUTATIONS.

Boucher declared that two-thirds died,	a mortality of	$66\frac{2}{3}$ per cent.
Faure saved 30 or 40 out of 300,	"	90 "
Fercoq lost 2 in 60,	"	3 "
Percy lost 6 in 92.	"	$6\frac{1}{2}$ "
Guthrie, at N. Orleans, 7 in 45,	"	$15\frac{1}{2}$ "
" Toulouse, 9 in 47,	"	$19\frac{1}{7}$ "
English Army in Spain and Port., 25 in 66,	"	38 "
Aboukir and Camperdown, 0 in 30,	"	0 "
Marcelet and Aboukir Bay, 0 in 11,	"	0 "
Dupuytren,	"	$33\frac{2}{3}$ "
Roux,	"	$33\frac{2}{3}$ "
Hyppolyte Larrey,	"	$16\frac{2}{3}$ "
Dubois,	"	$11\frac{2}{3}$ "
Liverpool N. Hosp., 13 in 47,	"	$27\frac{2}{3}$ "
University Coll. Hosp., 10 in 66,	"	$15\frac{5}{33}$ "
Edinburgh Royal Inf., 19 in 69,	"	$27\frac{1}{2}$ "
N. Y. Hospital, 16 in 91,	"	$17\frac{2}{3}$ "
Mass. Gen. Hosp., 14 in 59.	"	$23\frac{1}{3}$ "
Pennsylvania Hosp., 22 in 79,	"	$47\frac{1}{5}$ "
Baudens, 9 in 20,	"	45 "
Gendrin, 23 in 58,	"	$39\frac{2}{3}$ "
Guyon, African Army, 17 in 63,	"	27 "

In the Glasgow Infirmary, out of 376 operations, given by Mr. Lawrie, 100 died, a mortality of 27 per cent. Mr. Phillips, in his statistical inquiry into the result of operations in Europe and America, makes the mortality about $23\frac{7}{16}$ per cent.

AMPUTATIONS OF THE ARM.

All our statistics on this subject are those furnished by Dr. Buel, from the books of the New York City Hospital. There were eleven amputations of the forearm, and three died. Most of them were cases of accidents, for which primary amputation was performed; and it is worthy of remark, that all the deaths which occurred followed upon secondary amputations.

MORTALITY IN AMPUTATIONS OF LEG.

Liverp'l Northern Hosp.,	23 cases,	4 deaths,	a mortality of	$17\frac{9}{23}$ per cent.
University Coll. Hosp.,	25 "	3 "	"	12 "
Mr. South,	9 "	3 "	"	$33\frac{1}{3}$ "
Mass. Gen. Hosp.,	10 "	5 "	"	50 "
New-York Hosp.,	24 "	7 "	"	$29\frac{1}{6}$ "
Pennsylvania Hosp.,	23 "	9 "	"	$39\frac{1}{8}$ "
Parisian Hosp.,	192 "	106 "	"	$55\frac{1}{5}$ "
Laroche and Lyons,	3 "	1 "	"	$33\frac{1}{3}$ "

This gives us for the English Hosp's 57 cases, 10 deaths, or 17$\frac{81}{87}$ per cent.
" " American " 57 " 21 " " 37 "
" " French " 195 " 107 " " 55 "

The mortality in the American hospitals was more than double that in the English hospitals, and the mortality in the French hospitals more than three times as great as in the English hospitals,

It must be remembered that we have furnished the statistics as we have found them. One hospital presents a mortality very different from that of another, and we may erroneously believe that the hospital which is most successful in amputating limbs is equally successful in saving them. The meager information we have collected has shown the above results, but if more numerous facts could have been obtained from other hospitals, possibly the American hospitals would not have presented so great a contrast to the English. It will at least be perceived that in the same country the mortality is very various in the different hospitals, and that in all countries there is a varying mortality of from 12 to 55$\frac{1}{8}$ per cent.

MORTALITY IN PRIMARY AND SECONDARY AMPUTATION OF THE LEG.

	Primary.		Secondary.	
Liverpool North. Hosp.,	16 cases,	2 deaths	7 cases,	2 deaths.
University Coll. Hosp.,	3 "	2 "	22 "	2 "
New-York Hosp.,	12 "	5 "	7 "	3 "
Pennsylvania Hosp.,	22 "	1 "	1 "	0 "
Mass. Gen. Hosp.,	5 "	2 "	19 "	4 "
	58 "	12 "	56 "	11 "

A mortality in primary amputation of the leg of about 20$\frac{2}{3}$ per cent., and a mortality in secondary amputation of the leg of 19$\frac{9}{14}$ per cent., or a difference of 1 per cent. only in favor of secondary amputation of the leg.

By comparing the mortality in the English hospitals with that in the American hospitals, we shall have

The mortality in primary amp. of leg in English hospitals, 22 per cent.
" " " American " 20$\frac{1}{2}$ "
Which is 1$\frac{1}{2}$ per cent. in favor of American hospitals.
The mortality of secondary amp. of leg in Eng. hospitals, 14
" " " Amer. " 26
Which is 12 per cent. in favor of the English hospitals.

MORTALITY IN AMPUTATIONS OF THE THIGH.

Liverpool North. Hosp.,	9	cases,	2	deaths—mortality,	$22\frac{2}{9}$	per	cent.
University Coll. Hosp.,	22	"	4	" "	$18\frac{2}{11}$	"	
Mr. South,	7	"	6	" "	$85\frac{5}{7}$	"	
Mass. Gen. Hosp.,	34	"	8	" "	$23\frac{1}{2}$	"	
N. York Hosp.,	37	"	13	" "	35	"	
Pennsylvania Hosp.,	16	"	4	" "	25	"	
Parisian Hosp.,	201	"	126	" "	$62\frac{2}{3}$	"	
Laroche at Lyons,	5	"	3	" "	60	"	
Guyon, African Army,	30	"	26	" "	$86\frac{2}{3}$	"	

A varying mortality of from $18\frac{2}{11}$ per cent. to $86\frac{2}{3}$ per cent.

In the English Hosp.	38	cases,	12	deaths—mortality,	$31\frac{11}{19}$	per	cent.
" Amer. "	84	"	22	" "	$26\frac{4}{11}$	"	
" French "	206	"	129	" "	$62\frac{8}{13}$	"	

A mortality of five per cent. less in the American hospital than in the English; while the mortality in the French hospitals is exactly two-fold greater than it is in the English hospitals.

In the French army in Africa, the mortality was 86⅔ per cent., while, according to Guthrie, the mortality in the English army in America, and on the continent of Europe was about 66⅔ per cent.

In the French hospitals, in 46 amputations of the thigh for injuries, 34 died, a mortality of 74 per cent.

MORTALITY IN PRIMARY AND SECONDARY AMPUTATIONS OF THE THIGH.

	PRIMARY.		SECONDARY.	
	Cases.	Deaths.	Cases.	Deaths.
Liverpool Northern Hosp.,	7	1	2	2
University of Coll. "	2	1	20	3
Roux, in 1848, "	1	1	2	2
New-York Hospital,	7	4	11	3
Pennsylvania "	6	4	2	0
Mass. Gen. "	6	3	28	5
	29	14	65	15

A mortality of $48\frac{8}{29}$ per cent. in primary amputations of the thigh, and a mortality of 23 per cent. in secondary amputations of the thigh in civil hospitals. This gives us a difference of 25 per cent. in favor of secondary over primary amputations in civil practice.

But if we take 66⅔, (Mr. Guthries proportion of mortality in military hospitals, under the most favorable cir-

cumstances,) and 30⅝ per cent. as the mortality in both primary and secondary amputations of the thigh in civil hospitals, we shall have a difference of 33 3/16 per cent. in favor of civil hospitals.

If more accurate data could have been obtained, this subject could have been more clear. We must remember that the primary amputations are for accidents, which may at the same time have caused a general bruising of the body, and that many of them require, perhaps a desperate resource, immediate amputation, which, if not resorted to, would have led to inevitable death.

Paré, Petit, Le Dran, Broomfield, and most of the earlier surgeons, are in favor of primary amputations, *i. e.*, amputations in the first twenty-four hours after the accident, before the inflammatory period commences. Wiseman, who lived in 1676, during the reign of Charles II., says, "if you decide to operate, do so at once, while the soldier is in heat and in mettle." Faure says, "amputate after the subsidence of the first symptoms, and when suppuration is produced." Boucher, who lived at the same period, (1745) contested this point with Faure. John Hunter, who was the contemporary of Faure, agrees with him ; and this practice supported by the two great surgeons of France and England, continued until after the period of the French revolution, when Baron Larrey, in France, and Guthrie and Dr. Hennon in England, decided in favor of primary amputations. Dr. Rush speaks of the success of primary amputations during the American revolution, and Dubor, who served in America, states that the American surgeons amputated at once, and lost but few, but the French surgeons delayed, and lost many. Fercoq, in 1794, out of 60 primary lost but three, and Mascelet, in the naval action in Auboukir Bay, out of 11 primary lost none.

Dr. Walker thinks that Faure, who lost 30 or 40 out of 300, at the battle of Fontenoy, owes his want of success

to having amputated during the inflammatory period, and derives the ground for this belief from a remark of Faure's, "that on account of the deficiency of surgeons, the wounded could not be properly attended to, and the operations were done when, as it were, the whole machine was in a state of ardent fever." He also believes that Faure, being unsuccessful, adopted the opposite extreme, and recommended that amputations should be performed only during the suppurative period.

M. Velpeau explaines the matter differently, and says, "that Faure rejected primary operations from the fear of cutting off limbs that might have been saved," and Boucher, his opponent, contended that Faure in his anxiety to save limbs, lost many patients.

M. Guthrie questions Hunter's authority, and it has been objected to him that he was biased by the distinguished name of his contemporary Faure, who gained the prize offered by the French Academy upon this very question of primary and secondary amputations. Mr. Guthrie also states, that so convinced were all army and navy surgeons of the superior success attendant upon primary amputations, that at the close of the war of 1815, there was not an exception to be found. M. Guthrie is still living, and has had the pleasure of seeing this principle of practice introduced into the civil hospitals of England, France, and America.

It would require some courage, much experience, and a strong array of facts, to overthrow this opinion. But yet, during the revolution of 1848, in France, the whole question has been revived. M. Roux has come forward in favor of primary, and M. Malgaigne in favor of secondary amputations, or rather, in opposition to all amputations, and states, that in the attempt to save limbs, we run no greater risk than we do in amputating them. M. Malgaigne founds his opinion upon experience derived from his campaign in Poland, when, in an army of

80,000 men, neither he nor his colleagues succeeded in saving a case after amputation of the lower extremities; and also upon results furnished from statistics gathered from the Parisian hospitals, from 1836 to 1842, where the mortality in all amputations from wounds was found to be about 75 per cent. M. Malgaigne also particularizes the fact, that Ribes, at the Invalides, out of 4,000 patients, did not find a consolidated femur after fracture, nor a case of amputated thigh after fracture.

M. Roux doubts M. Malgaigne's statistics, and declares that strange good or ill fortune may attend any surgeon's practice. Thus, in early life, he had twelve successive amputations, and all of them successful; while later he had lost twelve out of thirty-six; and lays down the rule that it is our duty to amputate, if there is the least doubt of the preservation of the limb, and that it is better to amputate too much than not enough.

We shall have occasion to recur to the wounded in the last French revolution, and would therefore only state at present that M. Malgaigne's opinions appear to have influenced the surgeons of Paris, and prevented them from operating as much as usual, and that surgical science is indebted to M. Malgaigne for a new starting point.

But to return to the question of primary and secondary amputations, we have collected a few statistics in addition to those already offered, which are not absolutely conclusive of the question, yet, in connection with the doubts suggested by M. Malgaigne, are interesting and important.

It is to be regretted that the particular member, arm, forearm, thigh or leg, is not mentioned, so that an exact comparison could be made.

	Primary.			Secondary.		
	No.	Deaths.	Mort.p.ct.	No.	Deaths.	Mort. per ct.
Guthrie at Toulouse.						
Upper Extremity,	7	1	$14\frac{2}{7}$	16	4	25
Lower Extremity,	41	9	22	37	18	$48\frac{2}{3}$
Alcocks in Spain & Portugal.						
Upper Extremity,	12	1	$8\frac{1}{3}$	12	2	$16\frac{2}{3}$
Lower Extremity,	21	4	19	21	10	$47\frac{2}{3}$
Hayward & Norris, for injuries.						
Upper Extremity,	17	3	$17\frac{11}{17}$	11	1	$9\frac{1}{11}$
Lower Extremity,	26	8	$30\frac{2}{3}$	25	11	44
Buel, N. Y. H. for injuries.						
Upper Extremity,	11	0	0	4	1	25
Lower Extremity,	19	9	$47\frac{7}{19}$	19	5	$26\frac{1}{3}$
Upper Extremity,	47	5	$10\frac{5}{8}$	43	8	$18\frac{26}{43}$
Lower Extremity,	107	30	$28\frac{4}{107}$	102	44	$43\frac{1}{7}$

A difference in favor of primary amputations of the upper extremities of about 8 per cent., and in favor of primary amputations of lower extremities, of 15 per cent. But in order to make the comparison more clear between military and civil surgery, we will place each separately.

Military Surgery.	Primary.			Secondary.		
Upper Extremity,	19	2	$10\frac{1}{2}$ pr. ct.	28	6	$21\frac{3}{7}$
Lower Extremity,	62	13	21 "	58	28	$48\frac{8}{29}$

A difference of about 11 per cent. in favor of primary amputations of the upper extremities, and 27 per cent. in favor of primary amputations of lower extremities in military surgery.

Civil Surgery.	Primary.			Secondary.		
	No.	Deaths.	Mortality.	No.	Deaths.	Mortality.
Upper Extremity,	28	3	$10\frac{5}{7}$	15	2	$13\frac{1}{3}$
Lower Extremity,	45	17	$37\frac{7}{19}$	44	16	$36\frac{4}{11}$

A difference of about $2\frac{2}{3}$ per cent. in favor of primary amputations of the upper extremities, and no difference between primary and secondary amputations of lower extremities in American civil hospitals.

On comparing military with civil surgery, we have hardly any difference in the mortality in primary amputations of the upper extremities. But in secondary am-

putations of the upper extremities, we have a difference of 8 per cent. in favor of civil surgery. In primary amputations of the lower extremities, we have a difference of 12 per cent in favor of civil surgery.

CONCLUSIONS FROM THE ABOVE.

1st. That primary amputations of the upper extremities are equally successful, and to be preferred both in military and civil surgery.

2d. That, in military surgery, primary amputations of the lower extremities are twice as successful as secondary.

3d. That in civil surgery, (*i. e.* in the American Hospitals,) it is immaterial whether primary or secondary amputations of the lower extremities are resorted to.

4th. That secondary amputations of the upper extremities in civil surgery, are 8 per cent. less fatal than in military surgery.

5th. That secondary amputations in civil surgery, are 12 per cent. less fatal than in military surgery.

In the above conclusions, all that is said of civil surgery embraces only the hospitals of Boston, New York and Philadelphia. But by adding together all the information we have been able to obtain with regard to amputations of the *lower extremities* in civil hospitals, and comparing it with the result obtained in military hospitals, we have

	Primary.		Secondary.	
American Hosp.	45 cases,	17 deaths.	44 cases,	3 deaths.
North Liverpool Hosp.	23 "	20 "	9 "	4 "
University Coll. Hosp.	5 "	2 "	42 "	5 "
	73 "	39 "	95 "	12 "

A mortality in primary amputations of lower extremities in civil practice of 53½ per cent., and of 12⅔ per cent. in secondary amputations. This gives us 32 per

cent. in favor of primary amputations in military service compared with civil practice, and 36 per cent. in favor of secondary amputations of lower extremities in civil surgery. We also find, that there is a difference of 41 per cent. in favor of secondary amputations in civil surgery over primary, and a difference of 9 per cent. in favor of secondary amputations of civil practice, compared with the primary amputations of military surgery.

We may therefore conclude, *that, in military practice, primary amputations are to be preferred; that, in civil practice, secondary amputations are to be preferred; and that the secondary amputations of civil surgery are more successful than the primary of military surgery.*

This result is important, and if true, is subversive of the commonly entertained notions upon the subject of amputations, and must lead to a change of practice.

There must be causes at work which make this distinction between military and civil surgery, and we must seek for them among the peculiarities of temperament, age, health and circumstances with which the different individuals may be surrounded. The soldier is accustomed to see wounds and is not surprised when he receives them. Soldiers are young and rarely beyond middle age. They are remarkably free from bodily infirmities, and when on the march or able to do service, are in the highest degree strong and healthful. The opposite of this is found in the laboring population of large cities. Often badly fed or over worked, or with constitutions impaired by drunkenness, their vital powers are apt to sink immediately or continue long depressed after any severe accident. In battle, too, there is great excitement. The hope of victory, the glory of an honorable wound which will create respect and sympathy the more maimed the soldier may become, the certainty of a pension or a support for himself and family from government, all tend to tranquillize the mind and to render the

soldier better fitted to bear accidents and the operations that are required. But in civil life, the laborer sees, in his accident, the loss of employment upon which himself and family depend. There is in it no excitement, and a loss of a limb may consign himself and family to the Almshouse. It is not wonderful then, that he should sink under the accident and the depressing mental emotions that must accompany it.

In civil life, most of the accidents that necessitate amputation are caused by lofty falls, or by being knocked down and run over by railroad cars and other heavy carriages, or by being whirled around by machinery, which not only break bones but produce general contusions to a greater degree than is likely to be met with in gun-shot wounds. In riots and insurrections there is added to the above-depressing causes the danger of legal punishment. This was well observed last year in Paris, when many of the patients, who were convalescing, sunk and died or met with relapses, on being removed to the prisons or on being interrogated in the hospitals by the civil authorities. It is not improbable that in the Astor Place riot, this cause of depression had much to do with the dreadful mortality that followed all operations.

We believe that the remark of Wiseman to amputate immediately "when the soldier is in heat and in mettle," contains a great truth, which fully accounts for the success that military surgeons have found in primary amputations, and *in cases of accidents unless we find this brave, cheerful and vivacious spirit we should hesitate to operate.*

There is another reason which obliges army and navy surgeons to resort to primary operations, and which makes them preferable to secondary—this is that there are rarely any permanent hospitals for the reception of the wounded near to the scene of action, and if tossed about in ships or in wagons with badly broken limbs,

lives would be likely to be compromised from wounds which in civil life might be easily cured.

The mortality in different countries is very different. In the Parisian hospitals it is far greater than it is in any other part of the world. It is not easy to enumerate all the causes which there prevail to produce this result, but some of them may be found in the close and crowded wards, the imperfect ventilation, the curtained beds and the system of diet, which being established by government cannot at will be altered by the surgeon to suit the particular case.

Some climates, no doubt, are more healthful than others. Thus Algiers and Egypt have become noted for the success that has followed wounds. The same country does not, at all times, possess an atmosphere or climate equally propitious to the wounded, this is well shown by Dr. Norris, who has published the following table, curious for its variations in the mortality of the different years, from 1830 to 1834.

1st of Jan.	1830 to 1st of Jan.	1832,	1 death in	11 ampu.		9	per	cent.
"	1832 "	1834,	7 "	14 "		50	"	
"	1834 "	1836,	8 "	15 "		$53\frac{1}{3}$	"	
"	1836 "	1838,	5 "	15 "		$33\frac{1}{3}$	"	
"	1838 "	1850,	1 "	24 "		4	"	
			22	79				

A mortality of about 27 per cent., and a varying mortality of from 4 per cent. up to $53\frac{1}{3}$ per cent. This is confirmatory of the remark made by Roux, that a series of good or ill fortune may, at different times, attend the same surgeon's practice.

It is very generally conceded that amputations for chronic affections are the most successful of any, and that the youth of the patient has a strong influence on the result, and that the mortality increases with the age.

In the Archives Gen. de Med., 1836, we have a list of sixty-nine amputations upon adults furnished by M. Gendrin, with the following conclusions:

1st. That the most success has followed where the debilitating cause had existed for some time previous to the operation; thus, in twenty-four amputations fifteen recovered, nine died; a mortality of 37½ per cent.

2d. That the next most successful were, when the debilitating cause had existed for a short time; which did not require amputation at first but did subsequently. Thus in eleven amputations there were four cures and seven deaths, a mortality of 63⅔ per cent.

3d. The chances of life were slight after amputations in vigorous individuals immediately after accidents. Out of eight primary amputations, one was cured and seven died, a mortality of 87½ per cent.

These results are strongly in favor of secondary amputations in civil practice. To contrast with the above, M. Gendrin gives us twenty amputations in children for chronic diseases, and all recovered.

Statistics have been so imperfectly kept or so meagerly published, that we cannot concentrate many rays of light upon one point. The history of modern amputations cannot be satisfactorily traced farther back than the time of Ambrose Parè, when ligatures for arteries were first employed. Before that time amputations were occasionally resorted to; and even in Galen's time were performed for mortified limbs, but only through the mortified part. Surgeons were deterred by the fear of hemorrhage. The ligature, and still later the tourniquet seem to have rendered surgeons more bold, and amputations more numerous than necessary, and this continued to be the case until the eighteenth century, when LeDran and Bromfield protested against the frequency of these operations. Down to the present time there has been a general dissatisfaction felt with the results of amputations, and a growing impression that they are too often resorted to. If we are not mistaken too, there is a prevailing feeling of regret that surgery has not done more to save life and limb.

There are some accidents, such as the loss of a limb by cannon-shot, or machinery, or the rupture of a large artery, which, without a question, require immediate amputation. But compound fractures do not in all cases, or even generally, demand amputation.

It is much to be regretted that the treatment of wounds, or rather the natural history of wounds, has not been more clear and definite. There are many questions which are still unanswered and which the published information from the different hospitals does not solve. We would wish to know, in any given case, what might be the nature of the wounds, the number of deaths from shock in the first twenty-four hours, the number that followed subsequently from the accident without operation, the members operated upon, and the mortality in each, and finally the number of recoveries, with their limbs. We look back with hope to the period beyond the discovery of the ligature, and can find nothing to satisfy us, and the information from modern hospitals relates more to operations than to recoveries, or to the establishment of clear and definite rules of treatment. Much is vague and obscure. Good and bad practice is mixed up together, and the errors of the preceptor are still perpetuated by the pupil.

The check given to operations in France by M. Malgaigne, must be of great advantage to surgical science, for whether he is correct or not in his conclusions, the great experiment of endeavoring to save limbs, will add much to positive knowledge upon the subject of wounds in general.

The statistics furnished from hospitals have left the impression that most, if not all compound fractures of the limbs have been amputated. In most hospitals you find many amputations, and little said of compound fractures. In some you will find but a few amputations, and the majority of this few terminating fatally; and this

extraordinary mortality may be pointed at as an instance of unsuccessful result from amputation. But on inquiry we may find that the operation was performed only in desperate cases, and that the success in saving limbs was unusual and deserving of credit.

As an approximation to the useful kind of information to be derived from the statistics of compound fractures, we will present the analyses we have made from the cases in the Mass. Gen. Hospital. They were collected by Dr. Moreland, and published at the end of Dr. Pierson's Annual Address before the Mass. Med. Society.

From 1821 to 1845 there were 367 fractures in all. The compound fractures of both bones of the leg were :

33 Cases. Of these 14 died.
6 died in 24 hours.
3, no particulars mentioned but their deaths, probably died the first 24 hours.
9 deaths the first 24 hours.
5 more died in from 7 to 19 days following the accident.
14 total deaths, a mortality of about 42½ per cent.
Of the 33, 10 were amputated, 3 recovered, 7 died.
Of the amputated 5 died in a few hours after operation.
1 " 9 days,
1 " 13 "

7 deaths, a mortality of not amputated of 70 per cent.

Five died, as it will be observed, of the shock of the accident and operation combined, and two about the commencement of the suppurative period.

Of the thirty-three, twenty-three were not amputated, seven died, a mortality in the non-amputated of about 30½ per cent.

Out of the whole number nineteen recovered, three without their limbs, and sixteen with their limbs.

This accident to both bones of the leg is very severe,

and one that is usually thought to require amputation. We would have wished to have instituted some comparisons, in order to show whether or not the proportion of recoveries, without operation is, as appears to us, unusually great. But the data furnished by other hospitals is too obscure for our purpose. The number of deaths which took place the first twenty-four hours seems to indicate that the body generally was injured as well as the leg; and in such cases, where amputation is often imperatively demanded, we must attribute the mortality, in a great part, to the severity of the general injuries and not wholly to the operation.

There were twelve cases of compound fracture of the thigh in the Mass. Gen. Hosp., some of which were comminuted.

3	were attended with fractures of the	tibia and fibula.
1	" "	patella.
2	" "	forearm.
6	compound of femur only.	
Total, 12		

Of these, 5 recovered, 7 died, a mortality of 58⅓ per cent.

OF THE RECOVERED.	OF THE DEATHS.
1 Union took place in 36 days, but at the expiration of a year was only relieved.	2 were after amputation.
1 Union in 52 days, a piece of bone remaining.	1 in 3 days.
1 Union in 42 days.	1 in 5 "
1 No particulars mentioned.	1 in 18 "
1 Amputated.	1 in 30 "
	1 in 135 "

There were three amputations and two deaths, a mortality of 66⅔ per cent., or in other words, one sixth of the whole number died after operation. Omitting the amputated, and we have four who recovered with their

limbs, which is two-sixths of the whole. Baron Percy has calculated that not more than one-fifth recovered, and Guthrie that not more than one-sixth recovered so as to have useful limbs, and that two-thirds died, whether amputation was performed or not, and that the limbs of the other one sixth were useless and painful. In Holland, in 1814, out of eight of these severe accidents not amputated, one only recovered, and this with a useless limb. Dr. Hennen agrees with Mr. Guthrie, and even includes officers. According to his experience, not one has done well where amputation was deferred; and when performed, two out of three died.

Of the above twelve in the Massachusetts General Hospital, we have, including one amputated, five recoveries. This is much greater than that furnished by the army surgeons.

The mortality in bad compound fractures of the thigh are dreadfully fatal, and the fear of future evils and death has, no doubt, induced surgeons to adopt the military rule, and to operate at once. But yet according to the expositors of the rule, amputation does not lessen the mortality.

The late Astor Place riot has added to our experience in gun-shot wounds, and the uniformity with which death followed amputation, has attracted general attention, and led us to inquire if there might be no alternative, and whether a better fortune might not have attended a different treatment. We have seen three compound fractures of the thigh from the riot, and since then a gun-shot wound of the knee-joint. All were amputated in the New-York Hospital, and all died. We will speak more of these cases presently.

We have other evidence that compound fractures of the thigh, and wounded joints can be recovered from, and although it may be objected that the publication of such cases leads to a lamentable loss of life, by throwing doubt

upon the established rule of practice, we would reply, that these cases of recovery have now become so numerous, that all doubt in respect to their curability is removed, and a hope indulged that a clearer insight into their peculiarities and treatment may render their mortality much less than that from amputation.

In 1830, in M. Velpeau's wards, out of eight or nine compound fractures of the thigh, two recovered without amputation, three with secondary amputation, and the rest died. Five out of nine recovered. Now, this plan of treatment shows an encouraging preservation of life. In 1830, Dupuytren saved one limb thus fractured, and Lisfranc, two. Dr. Hennen mentions several recoveries; Boucher, one; Ambrose Paré, at least one; and many more are scattered through treatises on surgery.

In examining the cases of the wounded in the Parisian Hospitals, during the revolution of June, 1848, which have been published by Geo. D. Gibb, M.D., we have collected twelve cases of compound fracture of the thigh, which were subjected to treatment as follows:

1st. Compound fracture; union, with shortening; no splinters of bone extracted.

2d. Aged 15; union, with shortening; no splinters extracted.

3d. Union, with shortening; no splinters of bone or delay in healing.

4th. Union with shortening; no splinters of bone.

5th. Union.

6th. Did well.

7th. Underwent secondary amputation.

8th. Did well for ten weeks, and then sank and died.

9th. Did well for two months, and then died.

10th. Secondary amputation—death.

11th. Died in a month.

12th, Case of Gen. Demesme, died of purulent absorption, after being well enough to go about the garden.

In addition to the above, we have

1. Fracture of the trochanter and ilium, ball and splinters removed—did well.

2. Ball traversing the knee-joint—cured without anchylosis or any bad symptoms.

3. Ball from behind, traversing knee-joint—did well.

4. Ball lodged in knee-joint, removed—anchylosis.

5. Ball lodged in knee-joint—death.

We have thus twelve cases and six deaths in compound fracture of the thigh, where an attempt was made to save the limbs, and if we compare this result with the success after amputations, it will be found to be as gratifying as it was unexpcteed.

It will be declared that these cases were remarkably well suited to the attempt made to save them. We admit this to its full extent, but would invite attention to the peculiarities manifested by each, because we believe the more other cases are made to resemble these, the more successful the treatment will be. We would endeavor to ascertain what it was that made them so favorable.

Four of the above cases, it is stated, recovered *without any splinters of bone, or delay in healing, from suppuration.*

In all cases of compound fractures, and especially those made by musket balls, the wounds in the soft parts are narrow and irregular. Pus accumulates, and is prevented from being freely discharged. It consequently dissects up the muscles, forms abscesses along the limb, or separates the soft parts from the bones, which may thence become necrosed. The inflammation which precedes the secretion of matter is deeply seated, and may become excessive from the sharp, and irritating extremities of the broken bone, or from numerous spiculæ of comminuted bone irritating the surrounding muscles. The inflammation may be so great as, of itself, to destroy life ; or it may extend to the veins and lymphatics. Excessive suppur-

ation may follow, which may extinguish life, or necessitate secondary amputation, or the patient may die from purulent absorption. These are the dangers, and in Paris, the period of the greatest peril was found to be from the eighth to the fifteenth day.

In the above cases the discharge was slight, because there was an absence of spiculæ of bone, and the matter which did form, found a ready passage through the openings made by the entrance and exit of the ball. They were indeed as favorable as any compound fractures could well be. But they are invaluable, for their short history contains within itself indications of treatment which, if applied to the more complicated and severe instances of this accident, may possibly render them comparatively mild and equally manageable.

To turn again to Dr. Gibb's cases, we find that five were wounds of the knee-joint, the most dangerous kind of wounds, and yet that three recovered without anchylosis or bad symptom, that one recovered with anchylosis, and that only one where the ball had lodged, died. This is a most unexplained result, and if added to the compound fractures would make seventeen cases, of which seven only died.

Dr. Hennen has known of recoveries from wounds of the knee-joint, and his experience had informed him that a large wound is much safer than a small one. Dr. Batchelder has met with an extensive wound of the knee-joint, made with a drawing-knife, which recovered without a bad symptom. The number of recoveries has now become so numerous that most practitioners of experience have met with some instances.

In these cases, and those of Dr. Gibb, the conditions of recovery were the same. The wounds were so large that the pus escaped freely without any impediment. In Dr. Gibb's, the ball traversed the joint, and the matter had two openings for its escape, and did not stagnate in the joint, to excite constitutional irritation.

From these cases, then, a rule of treatment is proclaimed with emphatic force, and it ought to be accepted and practiced upon. This rule is, to remove all causes of irritation, all broken pieces of bone, and give a free exit to the pus. One large opening may be sufficient, but two openings like those made by a ball in traversing the limb, are better. And we may infer that if the wound should not be large enough, that we may make it so with the knife; or if the matter should accumulate, from the opening not being dependent enough, that we may make a counter opening. and even lead a seton through the limb, in order to drain off the matter as fast as it is secreted.

By the earlier surgeons, we have been directed to remove pieces of bone. But latterly, in English surgery, it has not been generally enforced as of very grave importance. Hunter and Abernethy are not in favor of it, and even Mr. Guthrie, who knew all the dangers of their presence, and the years of inconvenience that sometimes followed from dead bone being entrapped by the new callus, and remaining as a sequestrum, limits the rule to cases where the fragments are loose and detached, and advises us to allow them to remain, for they will ultimately separate by ulceration, and come away in the discharge. Since the last revolution in Paris, the French surgeons have expressed opinions in this subject. M. Jobert is for letting them alone until, by suppuration, they become easy of removal. M. Velpeau says, "make incisions if the bones are loose, but as many of them are still attached to the periosteum, and some very small, we may wait for their separation." M. Velpeau does not approve of incisions to prevent strangulation. M. Raux limits incisions to the removal of balls, splinters, and the tying of vessels. He believes it to be good practice to excise a portion of bone in wounds of the joints, although this is usually restricted to wounds of the shoulder-joint.

But he admits, almost inadvertently, that it may be done for fractures in the middle portion of a bone.

The treatment in Paris has been, for the most part, indecisive and of the "laissez faire" kind. But it is cheering to meet with one surgeon who has not followed the usual routine. M. Bauden, surgeon of Val de Grâce, and formerly with the army in Algiers, has given us some striking practice, and what is better, some general rules. He advises preparatory incisions, not the débridement to relieve tension, but fair incisions to the bone, for the purpose of removing spiculæ. He does not attribute his success in Algiers to the goodness of the climate, but to his peculiar method of treatment, upon the success of which the late revolution of 1848, has removed all doubts. His rules for treatment are as follows:

1st. Not to make any débridement, (freeing of parts by incisions.)

2d. Endeavor to make a complicated wound simple, by removing splinters of bone.

3d. Apply cold water, and even ice.

4th. Endeavor to keep the inflammation strictly local, and thus prevent its extending to the viscera.

5th. When the upper extremity is comminuted, *remove the splinters, and make such incisions of osseous matter as may seem advantageous, and reserve secondary amputation as a last resource.*

6th. When the femur is shattered and splintered, amputate at once. When tibia or fibula, remove the splinters and give the limb a chance. When both bones are fractured, as a general rule, amputate immediately.

7th. When wounds are suppurating, isolate the patients, and if necessary, place them in tents or huts, in the open air.

By the application of ice he has saved, as he says, two cases out of three, where the knee-joint was opened. Of

fourteen primary operations, three died. Out of six secondary, six died. *Twenty-five soldiers who were shot in the limbs, and from whom he immediately removed all the splinters, all recovered.*

His remarks upon the removal of splinters are excellent and conclusive so far as they go. But we do not see why a principle so remarkably successful, should not be of universal application to all limbs. We shall presently be informed that it has been applied to the treatment of compound fractures of the leg, and that the fracture of both bones does not, as M. Bauden supposes, necessarily require amputation. M. Bauden attributes the cure of two cases of wound of the knee-joint to the application of ice. We do not doubt its usefulness, but may be allowed to question whether it, or the peculiar nature of the wound, with a double passage for the exit of matter, had most to do with the recovery.

It may be suspected that I have certain reserved opinions on the treatment of compound fractures. I am anxious to confess that I have derived them from my friend and preceptor, Dr. William J. Walker, of Boston. Dr. Walker has presented his views in his annual address before the Massachusetts Medical Society, for the year 1845. His rules of treatment are proved to be correct by cases from his own practice, and by an array of cases from such men as Martiniere, Cannac, Boucher, etc., until their very number imposes upon us, and we are forced to admit the simple, but certain points of practice which he inculcates. The cases he cites are rare and remarkable for their severity, and any one of them, if told to us as an instance of recovery, would excite only surprise as a lucky, and unexpected cure. But when the simple principles of cure are explaned in each, and proved to be applicable to all, we are compelled to confess that amputation ought be a last resource only in bad compound fractures.

Dr. Walker's rules are as follows:

1st. That all membranous or tendinous structures which obstruct the removal of foreign bodies, or unduly confine, or strangulate the soft parts, when swollen by inflammation, or which, by their presence, would be likely to prevent the free discharge of matter, should be freely divided.

2d. That such dependent orifices should be preserved, or counter openings made, as will, when aided by position and dressings, secure the free discharge of matter which might otherwise stagnate within the wound.

3d. That portions of bone protruding through the integuments, and which cannot easily, and without violence be restored to their place, should at once be removed by the saw, and all foreign bodies, loose portions, and shivers should be promptly extracted from the wound.

4th. That great pain, inflammation, or nervous symptoms, depend rather upon peculiar complications, than upon the extent of the wound, and that they indicate great danger unless rightly understood, appropriately treated, and relieved.

To the above we may add, that the extent of the wound in the skin or muscles, or extensive loss of substance in the bone, sometimes to the extent of from three to five inches, does not necessarily require amputation, provided the great nerves and blood vessels are uninjured. On the contrary, that in many dreadful wounds, a loss of substance in the soft parts will often secure our patient's safety, for the pus will then flow away as fast as it is secreted.

The dressing in these severe compound fractures should be loose, so as not to constringe the limb, and all that is usually required, is an easy position on a pillow, without splints or bandages at all. That destruction of tendons are grave accompaniments, because they may prevent the recovery of a useful limb. *That all compound fract-*

ures will unite as readily as simple ones, provided that all complications are removed.

We will now give a summary of five cases from Dr. Walker's practice, as briefly as possible without omitting important details, in order to show the severity of the wounds to which these principles have been applied.

CASE 1.—*Compound Fracture of the Humerus.* ——, aged 6 years, was caught by a horizontal axis. His apron, arms, and body rolled around it and made to revolve with it. The radius and ulna of the left side were broken from the elbow to the wrist into great number of small fragments, none of which perforated the skin. The right humerus was fractured and comminuted nearly from the elbow to the shoulder-joint. The fingers could be passed through the limb in almost any direction. The skin, cellular membrane, and muscles were torn and lacerated. But the trunks of the arteries, veins, and nerves were not divded.

Treatment.—Nearly one half of the humerus was removed in pieces. Both limbs were placed in tin splints, and laid on pillows. No unpleasant symptoms followed. In three months the bone had united. He then met with a fall, and the bone was broken again, and he recovered at the expiration of eight months from the original injury, and after an exfoliation of half an inch of the entire shaft of the humerus. He acquired a free use of both arms. and the broken humerus was but little shorter than the other.

CASE 2.—*Compound Fracture of the Humerus, &c.* ——, aged 4 years, when lying upon the ground, was trodden upon by a heavy horse, and a compound fracture of the humerus, one and a half inch above the elbow, produced. The skin was so lacerated that the wound extended obliquely nearly around the whole limb, and there remained a portion of integuments, one and a half inch wide, connecting the arm with the forearm. This portion of the

skin was just in front of the inner condyle. The extensor muscles, excepting a small portion near the inner condyle, were divided. A bundle of blood-vessels were exposed, enveloped in their sheaths, for the space of two inches. Both fragments of bone protruded through the wound. Recovered with a perfect limb.

CASE 1.—*Compound Fracture of Tibia and Fibula*, (Dr. Walker.)——, a ship carpenter, of large stature, weighing more than two hundred pounds, fell from a scaffolding more than 25 feet high, and alighted on his feet. A compound fracture of the left leg was produced. There was a large lacerated wound midway between the foot and knee, and lying transversely across the wound a piece of bone, constituting three inches of the entire shaft of the tibia, terminating with ragged extremities, which made its length from point to point about five inches. These pointed extremities were imbedded in the soft parts. The lower portion of the tibia was crowded upon the transverse fragment, and so firmly bound it in its unnatural position that considerable force was required to set free one of its pointed extremities. The fragment was found strongly adhering to the interosseous ligament and muscles. These adhesions were divided with the knife, and the fragment removed without hemorrhage. The fibula was broken about its middle, and its fractured ends were felt overlapping each other. There was but little hemorrhage. No severe or febrile symptoms arose at any time. The wound granulated and filled up without any exfoliation of bone, or deposit of pus.

After the cicatrization was complete, the limb was found to be about two inches shorter than the other. In three months he began to use the limb, and recovered with a good leg.

CASE 2.—*Compound Fracture of Tibia and Fibula*, (Dr. Walker). A teamster, aged 27, healthy constitution and temperate habits. A heavy block of granite fell upon

the anterior edge of the left tibia, immediately above the ankle, while the calf of the leg rested upon the flat surface of another stone. The falling stone struck the leg with one of its square angles, and made an opening, commencing at the instep and extending upwards fully six inches, and its width was about the same. Nearly an inch below the surface, at the bottom of the opening, there was a mass of bony fragments, constituting a part of the entire shaft of the tibia, and forming fully three inches of its length. The soft parts were so much contused and flattened that the limb, viewed from either side, had the appearance of being nearly severed asunder.

By working with the fingers, forceps and knife, thirty-eight pieces of bone and other foreign substances were removed, and room obtained to examine the other tissues, and to estimate the chance of its being restored to health.

The lower and articulating end of the tibia was found to be a half inch in length, and broken short off at its upper end. But it retained its natural position and connections with the astragalus, without any apparent opening of the joint. The fractured ends of the tibia were three inches apart. The presence of sensation in the foot was proof that the nerves had not suffered irreparable injury.

About four inches from the lower extremity of the fibula and at its posterior edge, were two small openings, communicating with the fractured fibula, and through which spiculæ of bone which had escaped the search were subsequently extracted. The tendons were denuded, but not divided or extensively lacerated, and there was but little extravasation of blood. The circulation in the veins and capillaries was much embarrassed, and no pulsation was felt in the anterior tibial artery, and from the position of the wound, and the pulsation never afterwards having returned, this artery was supposed to be

divided. There was but little arterial hemorrhage. Not to mention all the reasons which led to the attempt to save the limb, we will mention only Dr. W.'s concluding remarks: "Experience and observation had taught us, that when excessively severe nervous symptoms occurred after compound fractures, especially near a large joint, the external wound had almost always been small, the sharp points of bone having merely passed through the skin and fasciæ, or else had been driven in among the membranous parts; that fever had usually occurred in such wounds from the mechanical irritation of points of bone, or by matter pent up by membranous structures, and burrowing deeply within the limb."

Treatment.—A counter opening was made by the side of the tendo Achillis and a seton introduced to prevent its healing; the wounded limb laid upon a pillow, and allowed to rest upon the calf and heel. No splints or bandages were used. The foot was kept in its position by a frame of wood, and a soft bolster placed along the limb in order to give it gentle support. *During the first ten days*, (that is during the inflammatory period) *there was neither great pain, inflammation, nor fever.* He finally recovered, with a limb two and a half inches shorter than the other. There was a slight bend forwards at the seat of the fracture. The ankle was free from stiffness. At the end of eight months he could walk two miles without being tired. He wore a high-heeled shoe. In less than a year recommenced his business as a teamster, and was able to perform a good day's work.

CASE 3.—*Compound Fracture of Tibia and Fibula*, (Dr. Walker). ——, 9 years old, while sitting upon a wharf, with his feet hanging over the water, was struck by a steamboat. Soon after the accident he was in great pain, and in much nervous excitement. The tibia and fibula were both broken midway from the foot to the knee, and their fractured ends projected forwards, forming an angle

of 140 degrees. The periosteum was wanting on the front of the broken bones to the distance of three quarters of an inch. All the extensors, excepting such as arose from the periosteum, were severed as if divided with a dull knife, their ends lying about two inches apart. The skin, cellular membrane, and fasciæ were abraded and torn from a surface, the upper margin of which was along the head of the tibia, from the inner hamstring to the insertion of the ligament of the patella; from this point the outward margin reached to the edge of the fibula, opposite the fracture. The inferior margin extended across the limb anteriorly downwards to the anterior edge of the tibia, then posteriorly upward to a point in the calf of the leg, opposite to the fracture. The entire width of sound skin on the back of the leg did not exceed one and a half inches. The fingers could be passed behind the broken bones, between them and the mucles. As the boat rebounded from the warf, a piece of flesh was seen to drop into the water. No pulsation could be felt either in the anterior or posterior tibial arteries; the leg and foot retained some sensation, but were cold to the touch.

The limb was placed upon its outer side upon a pillow, and it was agreed to wait awhile to ascertain how far the circulation would be restored. At the end of five hours he was more free from pain, his foot and leg warm, and both tibial arteries pulsating distinctly. It was determined to attempt to save the limbs, and for the following reasons: That although *the limb was more than half divided, yet the trunks of the most important arteries, veins, and nerves were unhurt.* That the loss of skin was probably greater in appearance than in reality, and that a sufficiency could be borrowed from the neighboring parts. That from the nature and extent of the wound there was no danger of the lodgment of matter and its consequences. That the joints and tendons being un-

hurt, we had reason to believe that, provided union of the bones could be obtained, he would recover a useful limb. All the advantages of air, ventilation, and quiet could be obtained, and the parents were firm and intelligent enough to co-operate in executing any proposed measures.

No splints were used in the dressings. A smaller bolster was placed on the outside of the foot, to preserve the proper direction. The leg rested partly on the outside and partly on the heel. The wound was lightly dressed with lint and cerate, &c., &c.

The limb continued comfortable. Suppuration took place on the seventh day. At the end of three weeks granulations could be seen springing up from the ends of the bones. After this the wound discharged sanious matter, and he became delirious, and had diarrhœa. These were, however, controlled, and throughout the treatment there was no occasion for splints, bandages, or apparatus of any kind.

A small exfoliation took place in sixty days, from the upper fragment of the tibia, and at the end of four months there was a large exfoliation from the lower fragment.

The bones united. The skin drawn upwards from the foot, and downwards from about, and above the knee left comparatively a small cicatrix considering the nature of the wound. There was but little stiffness about the joints. The leg was of its proper length, and the foot had its natural direction, and fast regained its wonted powers. About a year after the accident the wound was entirely healed, and with the aid of a small stick he could walk with but little limping.

It is a remarkable fact that all the cases that Dr. W. attempted to save, recovered with the use of their limbs

Mr. Guthrie has stated that an arm will indure almost any amount of injury, even to the division of the artery,

without requiring amputation. His treatment is similar to that of M. Bauden's, and his experience in connection with the twenty-five cases of M. Bauden, and the two severe case from Dr. Walker, incontestibly establish the rule that we should rarely if ever amputate the upper extremity for injuries. When presenting statistics of amputations of the limbs, we barely alluded to the upper extremity, because the information given by the different hospitals was obscure, and because the reasons for the operation were unexplaned. We have thought that this operation has been unnecessarily performed. At least we think there are sufficient grounds for this suspicion, when, in any hospital, we find frequent amputations of the upper extremity resorted to.

Dr. Walker has done much to rescue the leg from amputation. His practice is an improvement on that of M. Bauden, and the twenty cases quoted by him, in addition to what occurred in his own practice, also prove that bad compound fractures of both bones of the leg do not of themselves require removal of the limb.

Why then should not these rules, which have been successfully applied to the treatment of compound fractures of the arm and leg, be extended to bad compound fractures of the thigh? The cases presented by Dr. Gibb prove how much can be expected when the cases are mild, i. e. when there are no spiculæ of bone. All that is left for us to do then, when the thigh bone is comminuted, is as in the arm and leg, to cut down and remove the fragments, and perhaps, where the broken extremities of the fractured bone are so sharp as to be thrust by the contraction of the muscles into the soft parts to turn them from the wound and saw off a portion of bone. Roux, we may remember, hinted at this treatment, and Mr. Guthrie, although for some unexplained reason, objected to incisions for the removal of fragments, admits that these incisions could be made on the outer

side of the thigh without any danger of hemorrhage.

In all that we have said we are reminded of the remark of Hunter, that "the deeper the wound the more difficult must be the suppuration." And this must especially be true in compound fractures of the thigh, where so great a mass of muscles covers the bones. The greater reason then for our proposed method of treatment.

The fear of hemorrhage must be dismissed; the natural shrinking, which every one feels, from making large wounds in a novel practice must be laid aside, before the principles we have been advocating can be reduced to practice, or the wounded retain their limbs, or even have a better chance of life than they would from amputations.

We would now refer particularly to four late cases of gun-shot wounds,* not for the purpose of finding fault after the result of the operation has been known, but for the purpose of asking, since a worse fate could not have befallen them, if they had been treated in the way above recommended, whether a different fortune might not have followed.

CASE 1.—*Compound Fracture of the Thigh.* ——, 19. Clerk. Shot during Astor Place riot, admitted May 10th, 1849. The track of the ball was oblique from behind, forwards, inward, and downward. The posterior opening of the wound being at the junction of the upper and middle thirds, upon the outer and posterior aspect of the thigh. The anterior opening was at the middle of the anterior and middle aspect. A good deal of hemorrhage had taken place, and continued to recur during the night. The thigh was amputated the next day, and the middle of the shaft was found to be comminuted. The fracture did not extend two inches in length.

* The particulars of the first three cases were furnished us by Dr. W. S. Bowen, from a paper read before the N. Y. Pathological Society.

CASE 2.—*Fracture of the Femur, wound of Knee-joint.* ——, 30. Wounded during the riot. The ball entered the left knee, just above the popliteal space, and passed through the knee-joint, and lodged against the integuments just below the patella. She had lost a large quantity of blood (was the artery wounded?) before admission. The limb was amputated May 12th, and she died May 15th. The patella was fractured in three pieces, and a longitudinal fracture extended from the joint, separating the two condyles from each other and from the shaft of the femur, which was broken transversely just below the junction of the lower and middle thirds.

CASE 3.—*Fracture of the Femur.* ——, wounded in the riot. Admitted May 10th. The ball entered the right thigh, at its upper and anterior part, on a level with the trochanter major, and a little to the outside of the femoral artery. There was but little hemorrhage. The limb was amputated at the hip-joint on the 12th. The entire neck of the femur had been shot away. He survived the operation twelve hours.

CASE 4.—*Wound of the Knee-joint.*——, a young man, attempted to get into a house, and was shot by the occupant in the right knee, with small shot. He was admitted into the hospital the next day. The patella was broken into several fragments, but the finger could not be passed into the knee-joint. The anterior tibial artery pulsated freely. There was hardly any hemorrhage. The limb was amputatad about twenty-four hours after the accident; he survived the operation about a week, and then died of phlebitis. On examination of the joint, one small shot was found loose in the joint, the other partially imbedded in the condyles, and the wad of oakum was found under the skin, but external to the patella.*

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* When the above paper was written, I preferred that the cases should be presented as reported by Dr. Bowen to the Pathological Society; but I wish now to state that this patient was in the New York Hospital, under the care

It is a serious thing to maim a person for life, and it is very perilous to life to remove so large a portion of the body as is required in amputation of the thigh. Such an operation is a violent shock in addition to that caused by the accident, and at a moment when the whole soul is disheartened and depressed.

All of these patients took ether, and since M. Velpeau has discouraged the use of chloroform during the period of stupor, we may well ask whether it had aught to do with the mortality?

In looking at these cases one cannot withhold the remark, Of what use can it be for the surgeon to cut down upon the amputated limb, and investigate the injuries? The patient's limb cannot then be restored to him, and the surgeon's error cannot be remedied. A mere incision during life cannot make the injury greater. Why not, then, cut down upon the broken bone during the life-time of the patient, study the injury in all its bearings, and then, with clear knowledge of the state of things, decide whether an attempt should be made to save the limb, or

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of Dr. Cheeseman, that I examined the patient before the consultation, and was present at the consultation. There were then present, besides the regular surgeons of the hospital, several navy surgeons, and myself. Dr. Cheeseman did me the honor to call for my opinion. I replied that I had been lately examining the subject of amputation for accidents, and that I found that about three fourths of those whose thighs were amputated, died; that any operation short of this was desirable if there was a chance of success; that the popliteal artery in the present case was not injured, and the limb could not die for want of nourishment. Therefore I was in favor of removing the broken patella, and if on inspection of the joint, there were no broken fragments from the tibia and femur, I would not amputate.

The amputation was decided upon. Dr. Cheeseman and myself left the hospital together after the operation was performed. He felt sanguine that the man would recover, but was very considerate and interested in what I had to say. Up to the time of the patient's death we frequently conversed upon the operation, and the chances that he had of living.

I would like also in this connection to refer to the case on page 166 mentioned in my paper "On suppurative inflammation of the knee-joint," quoted from Guy's Hospital Reports, when the patient who had received a gun-shot wound very similar to this, recovered with a movable joint. Also to the case reported on page 172, entitled "Caries of patella, with fracture of the patella, with rupture of the integuments," which ended in recovery.

whether amputation should be at once performed? The mere examination of a limb, after removal can add but little knowledge to any future case. Every wound has a character, and history of its own, the study of which must direct the treatment.

The first of these cases had two openings, made by the ball, which might, as we have already seen, have been sufficient for the discharge of pus. The comminution *did not exceed two inches in length*, and if an incision had been made during the life of the individual all this could have been ascertained, and all the spiculæ removed. Nor do we see anything to detract from a reasonable expectation of recovery unless it might be the hemorrhage, which if from the femoral artery, is conclusive for amputation.

In Case 2d, (the woman shot through the knee) we fear that nothing could have been done, for it would seem that the artery was wounded, although this is not positively stated.

The fracture extended through both condyles, and if we could only establish the rule that the larger joints can be excised to any extent, then nothing even in this case would preclude the hope of a favorable termination, unless it might be the suspected injury of the great blood-vessels.

In Case 3d, in which amputation of the hip-joint was performed, there was no hemorrhage, and the extent of the fracture could have been ascertained by incising during life, and the whole head of the femur, and all the fragments of bone could have been removed. The wound being on the outer part of the limb could, by position, have been made dependent enough, for the discharge of matter, and we cannot hesitate to admit that the chances of cure would be a thousand times greater than after so dreadful an operation. Nothing in this case is said of the ball, or whether more than one wound was made by it.

In Case 4th, wounded with small shot in the knee, the full extent of the injury could have been ascertained by the removal of the broken patella before the operation. The artery, it was already known, from the pulsation of the anterior tibial, was uninjured, and the removal of the the broken patella would leave a large, and free opening for the discharge of matter. We must confess that this treatment of wounds of the large joints may look both bold and audacious. But on a faithful examination, the treatment is plausible, and even judicious. Dr. Hennen mentions two cases of wounds of the knee where the patella was comminuted, and the joints extensively opened, so similar to the last case in the New-York Hospital, that, under treatment, we should have hoped for it a like favorable termination. Dr. Gibb's cases fully prove the possibility of cure, and the principles of treatment we have endeavored to enforce in compound fractures, would also render wounded joints comparatively innocent. At any rate we should be glad to see so reasonable, and so justifiable an experiment tried.

Having said so much about saving limbs, we may be asked when a limb ought to be amputated?

In case the great vessels, nerves, and joints are uninjured, there is not an absolute impossibility of saving a limb. But as the attempt at a cure is beset with dangers in itself, and requires a long confinement to bed, which may produce bed sores and other troubles already alluded to, the question becomes one which turns chiefly upon the age, temperament, habits, and strength of the patient, and the circumstances with which he may be surrounded; such as whether he can be supplied with faithful nurses, good medical attendance, and general comforts which his varying health may require.

SUPPURATION OF THE KNEE-JOINT.

INCISION OF THE JOINT. INTRODUCTION OF A SETON. DEATH FROM DIARRHŒA.

June, 1853. At the commencement of my term of service at Bellevue, on the first of April, there was a patient who was reported as having, before his admission, synovial inflammation of the knee-joint. The knee at that time did not cause much suffering, but he was affected with a severe and obstinate diarrhœa which had reduced his strength very much. He had fifteen and twenty discharges a day. His pulse was small and his flesh wasted. All of our attention was given to arresting the diarrhœa. By persevering with opium, sugar of lead, tannin, and nitrate of silver, his evacuations were diminished to three a day. During this time he took a pint of sherry and eight ounces of brandy daily. Upon checking the diarrhœa, the knee-joint commenced to inflame again. It was painful, swollen, and caused great suffering. Believing that there was pus in the joint, I introduced a grooved needle, and finding matter, I made two incisions, one on each side of the tendon of the rectus just above the patella, and passed a seton through the joint. The operation caused immediate relief to the pain; but the diarrhœa returned in its violence, and he died three weeks after the introduction of the seton, without the recurrence of the acute suffering in the knee.

On examination after death, the capsular ligament was found completely destroyed, the cartilages absorbed and the bones bare. There was no accumulation of matter present, nor had any travelled up or down the limb. It was completely drained away by the seton. I think, in this case, the man's sufferings were relieved and life prolonged, by the incision of the joint. Nor do I see any objection to this treatment in any other similar case.

Moreover, I can imagine many cases where it might properly be resorted to, as a temporary expedient to relieve constitutional irritation, lessen pain, restore appetite, and promote sleep preparatory to amputation.

ON SUPPURATIVE INFLAMMATION OF THE KNEE-JOINT.

WITH CASES AND REMARKS.*

It has seemed to me that the *dangers* arising from suppuration of the knee-joint have not been fully appreciated, or if known, that the *treatment* best calculated to obviate them has not been established. My object in the following paper is to direct attention to these neglected points. I shall therefore present my cases in the order that they occurred, with such remarks from others as have from time to time fallen under my notice.

In the year 1847, I. L., of Jersey City, consulted me for a diseased knee, which had already troubled him for four years. His age was 45. His knee was red, tumid, had a gelatinous feel, and was painful on exercise. He had lately suspended all treatment, and was deliberating upon the question of amputation which had been recommended. His pulse was natural, only 70 a minute. His appetite good, and the case was regarded as one well suited for trying the beneficial effects of further treatment.

I rendered the knee immovable by means of pasteboard splints and starch bandages, gave iodine, hydriodate of potash, and the different preparations of iron, etc.

The pain soon left the limb, and was not felt unless the foot was struck, or the heel caught while walking,

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* Read before the Society for Med. Inquiry, June, 1851, and reported in the *N. Y. Journal, of Medicine*, July, 1852.

which he was encouraged to do by the aid of crutches, on account of his feeble health.

This treatment, with frictions with various ointments, was continued without much change for nine or ten months, when small camphor moxas were applied to the knee; these usually healed after a short time had elapsed; but at one of my visits I discovered that one of the burnt spots had not healed, and that it discharged a thin glairy fluid. No new symptom appeared until a week afterwards; then the knee swelled and became exquisitely painful. The active symptoms subsided, and a free discharge of pus and serum followed. The discharge, which consisted of pus and serum, but chiefly the latter, could be pressed from three to four inches above the patella, on each side of the rectus tendon, and air having entered the openings, gave to the fingers a peculiar boggy sensation.

New openings formed, and he became so much reduced that his life was despaired of. By means of brandy and other stimuli, he was raised from great weakness to a state of comparative strength and freedom from pain. The question of amputation suggested itself, and was much meditated upon. But both limbs became much swelled from œdema as high as the top of the thighs, and the scrotum also was dropsical.

It was not thought proper to amputate under such circumstances; and an attempt was made, by raising the imbs, to promote absorption of the fluid.

But a troublesome cough came on, with other symptoms of tubercles in his lungs. During the month of June he was taken with a diarrhœa, which reduced him to a very feeble state. Chalk mixture, laudanum, and tincture of catechu were given, and checked the diarrhœa; but the hot weather and his various afflictions sunk him lower and lower, and he died on the 16th of July. It is worthy of note, that during the latter period of his life

the swelling of the limbs subsided, apparently as if drained off through the openings about the knee.

I happened to be in his neighborhood on the day of his death, and examined the knee-joint. The cartilages on the heads of the femur and tibia were nearly entirely removed by absorption, and the bones were bare and roughened. The cartilage of the patella was partially absorbed, and the bone here and there exposed. The cavities along, and under the rectus tendon communicated with the joint.

By delaying to amputate when the patient first put himself under my care a life was sacrificed. The reasons for delay were good, and yet he died from an unexpected ulceration of the synovial membrane, and consequently, with suppuration in the joint, and an extension of the pus under, and along the rectus tendon. To be thus defeated, when I had held out hopes to the patient, was a grievous disappointment.

I will not wait to discuss the interesting questions which arise with regard to amputation, the effect of moxas, etc., but will only ask, as the disease advanced, and the joint became acutely inflamed, and filled with pus and synovial fluid, whether I should have amputated, or freely incised the joint?

As we proceed with our subject, the dangers of suppuration of the knee joint will be fully seen, and when it is shown that it may come on insidiously, and is full of peril, it will be confessed, I think, that all suggestions as to the treatment are worthy of the most serious consideration.

In the year 1849 I saw a thigh amputated, and a large flow of matter followed the incision. The morbid appearances in the joint were similar to what I have detailed above.

The matter came from the knee-joint through some ulceration of the synovial membrane, and thus extended

up the thigh along the tendon of the rectus. The patient was much prostrated at the time of the operation, and survived it only a few days.

Since then I have witnessed other amputations in patients similarly affected, and the results were also unfortunate.

In connection with these cases I met with the following pertinent remarks in M. Lisfranc's *Clinique Chirurgicale:* he says, "Sometimes abscesses form *about* white swellings, and you must open them as quickly as possible; if you do not, they will form extensive collections under the skin, and fistulæ will be established, which are cured with difficulty. If the walls of these purulent sacs inflame, the degeneration of the discharge, or its excessive quantity will endanger your patient's life."

"In a case where there is a fluc uation on a level with the joint, and about it, the question will arise whether it is an effusion into the joint itself, or only an abscess. We know that *the distended capsule will sometimes rise as high as the union of the lower with the middle third of the thigh, and if this capsule should be perforated by the matter the pus will extend far beyond these limits.* We know, too. that an abscess may be formed external to the joint, and so situated, back to back as it were with the capsule of the joint, as to render the diagnosis obscure. Examination of diseased limbs after death has proved the possible existence of these different peculiarities, and I have seen a number of the most distinguished surgeons, who had met in consultation in such cases of difficult diagnosis, unable to agree; nor do I believe in the present state of our knowledge that a certain diagnosis can be made."

In another place he says, "Distrust all abscesses which lie two or three inches under the knee-joint. A patient in the hospital of La Pitié, had been for a long time affected with a chronic disease of the knee; the inflam-

mation being occasionally acute, and then again chronic. An abscess formed which was painful and hard, but soon softened; no fluctuation was ever felt; on being opened, a sero-purulent, and flocculent discharge issued. Everything went on well until the sixth day; then the joint, which heretofore showed no indications of effusion into its cavity, became filled with matter and air, and a violent fever arose, which compelled me to amputate the thigh. I then found an acute inflammation of the capsule of the joint, and a perforation of the capsule not greater than the heads of two pins united. I think that an ulcerative inflammation had opened the capsule, and that the opening was so small that no sense of fluctuation was communicated to the fingers between the matter in the abscess, and the fluid in the joint; that in fact the matter had escaped from the joint into the abscess, but that the opening itself, or the flocculent discharge acted like a valve to prevent its free return, and thus gave cause for the belief that the two collections were distinct and incommunicable."

Mr. Aston Key says, "That scrofulous joints are sometimes seized with acute synovial inflammation; suppuration rapidly ensues, and the failing of the patient's health and powers often require amputation of the limb." When the disease commences in the bone, synovial inflammation may succeed upon ulceration of the cartilage. If suppuration takes place in the cavity of the joint, the synovial membrane ulcerates, and allows the matter to burrow between the muscles of the limb. Fistulous openings form at length, and tend in some measure to abate the patient's sufferings. The effect, however, on the constitution is such, that amputation is usually resorted to for the preservation of life.

Mr. Brodie remarks that "extensive destruction of the cartilages with suppuration may follow neglected synovial inflammation. But usually the ulceration of the car-

tilages precedes the synovitis, in which case the synovitis follows as a consequence of the formation of an abscess in the articular cavity. The history of the case must guide us in deciding where the disease originates; but wherever it may have originated, when it has reached the suppurative stage there is little prospect of benefit except in amputation of the limb."

Mr. Alcock has "known erosion of the cartilages to take place in five days," after inflammation of the synovial membrane had arisen from slight injuries.

There can be no necessity of multiplying evidence. These scattered views are sufficient to inform us of the dangers attendant upon suppurative inflammation of the knee-joint.

The following case next came under my care. It will be perceived, however, that the cause of the inflammation was a carious patella, and not as in the previous cases, a scrofulous affection of the knee. In relating it I shall dwell especially on the treatment I felt warranted in recommending from my past experience, supported as it is by the reasonable opinion held by the best military surgeons, that a large wound of a joint is much safer than a small one.

In Nov., 1850, John ——, a young and healthy Irishman, came under my care. Ten days previously he had twisted his knee, and an abscess had formed on the outer edge of the patella which had been opened. At first sight hopes were indulged, from the slightness of the constitutional symptoms, that he would do well without any interference. But inflammation of the joint soon came on, and the constitutional irritation was very severe. On passing the probe into the wound made before I had charge of him, I could touch the bare patella, and did actually remove a portion of it in a carious state. The probe could be passed under the patella; and on pressing upon the patella matter exuded, indicating that

the joint was open and suppurating. The smallness of the opening was an impediment to the free discharge of matter. Matter had also collected under the integuments, on each side of the joint, and was evacuated by free incisions.

A consultation was called, and all agreed as to the impropriety of immediate amputation. I then proposed to make an incision through the ligamentum patellæ into the joint, and at the same time to remove the carious patella. I was overruled, and it was decided to trust to position, diet, and stimuli.

The patient passed from under my care; for a time became better; the appetite good, and the pulse came down to 80. By the first of February, 1851, his health had gradually failed. Large abscesses had formed along the muscles of the thigh, and enfeebled as he was, it became necessary to amputate the limb. Shortly after this he died. On examination of the joint, the patella was found to be carious. The femur and tibia were anchylosed without presenting any bare surfaces of bone. Abscesses were found to have extended up the thigh to a point higher than that at which the limb was amputated. The bone had been sawn just above the middle of the limb.

There is no doubt in this case, that the synovial inflammation was caused by the carious patella. A moment's thought would have led us to expect this as a natural consequence, for its cartilage is thin, and lies in close contact with the synovial membrane. The patient, as proved by the dissection, died from the collection of matter in the thigh after the morbid action in the joint had ceased, and anchylosis had been effected. I would ask then, if the patella had been removed, and the joint freely opened, whether it would not have been reasonable to believe that anchylosis would have been promoted, and the subsequent train of evils which followed and caused his death have been avoided?

Let us review the reasons in support of this opinion:

The joint was already opened. Of this there was no diversity of sentiment. The matter, on account of the smallness of the outlet, distended the synovial capsule, and caused constitutional excitement. There was danger that the synovial membrane would become ulcerated at some other spot, and that the matter would extend up the thigh along the tendon of the rectus muscle; that if this should take place, the condition of the patient, which, up to this moment had been hopeful, would become one full of danger. Constitutional irritation would increase, matter would burrow in the interstices of the muscles, forming large abscesses in the limb, the sides of which would also become secreting surfaces of pus; the patient's strength would become exhausted, and we should probably be compelled, in order to escape from this desperate state of things, to amputate the limb when he was least able to bear it; that amputation was a very doubtful expedient, for it would probably hasten the fatal result. The patella was carious, and being a source of irritation, ought to be removed. Its removal would open the joint extensively, but then the matter would escape readily, and the constitutional symptoms probably at once subside. Matter, if allowed to remain in the joint, besides being an irritant, might also cause inflammation, and caries of the ends of the bones. If a free incision should be made, no additional trouble would be caused, and we might expect anchylosis, the best result to be hoped for under any treatment. Experience in wounds in the joints had proved that large wounds, which gave a free discharge to matter, were less dangerous than small wounds. A mere inflammation of the synovial membrane does not cause constitutional irritation, provided that the matter can be freely discharged. And this is illustrated by those cases where amputation through joints, or excision of the heads of the bones has

been performed, where of course, the synovial capsule covering the ends of the bones must inflame, and yet, on account of the freedom with which the matter escapes, produces in many instances an inappreciable degree of excitement.

Before closing this case we would make a quotation from Mr. Alcock, which confirms all we have said, and embodies the sentiments entertained by the best military authorities, whose experience on inflamed joints is far greater than is met with in civil practice. He says, "I am strongly inclined to the conclusion that injuries of the joints are not fatal in proportion to the extent of surface laid open. The most dangerous of these wounds I believe to be punctured, or such wounds as a musket ball creates. The most violent inflammatory action ensues in the highly susceptible synovial membrane. Fluid is effused, and pent up, the whole limb becomes involved, the system takes the alarm, and sympathizes often to a fearful extent, etc." "Matter" (he says in another place) "quickly erodes all the articulating surfaces. I have seen exceptions, but they are few. It burrows among the muscles, extending upwards and downwards, involving the whole limb in a disorganizing and suppurative disease. No sooner then is suppuration established than it becomes necessary to devise the best means of obtaining its evacuation, and to secure its draining off in proportion, or as fast as it forms. Any fears of the contact of air I cannot but think are out of place. The matter will do more mischief by being allowed to lodge. Counter openings in dependent positions, and free incisions either in the vicinity, or if necessary, *through the capsule, should be promptly and boldly practiced.* Anchylosis is the happiest result that can be looked for, and the patient, who so escapes, has reason to be well satisfied that he has lost only the motion of a joint, instead of a limb or his life, or as frequently must happen, the one first and the other afterwards."

In No. X. of Guy's Hospital Reports, there is a case recorded, which is alluded to by Mr. Alcock, so very similar to the condition our patient would have been in, provided that the advice to remove the patella had been followed, that I cannot forbear to quote it. It will answer remarkably well as a closing argument for the side we are advocating. "The patient was under the care of Mr. Ward of Huntington. The knee-joint was laid open by the contents of a fowling piece, and a great part of the patella shot away. A poultice was applied, and *no unfavorable symptoms* either local or constitutional occurred during the progress of the case. The remaining small portion of the patella was subsequently removed. In three months the wound was healed.

"Eventually, considerable motion of the joint was gained. The cicatrix by its firmness, or cartilaginous structure seems to have supplied the place of patella, and the patient walked well without crutches."

I would *now* not merely repeat the question, whether anchylosis and restoration to health might not have been effected in our patient by the removal of the patella; but I am tempted to ask if there would not have been, as in the case just copied, good hopes of a flexible, and useful joint?

Since the above was written we are happy to find that the treatment of suppurative joints by free incisions has been sanctioned by Mr. Brodie in the *last* edition of his book on the Joints, and by Mr. Skey, in his late work on Operative Surgery. Mr. Gay has also done much to bring this treatment into favorable notice. Their united testimony, if not conclusive, is of very great weight.

My next and last case was one of suppuration in the joint without any external opening. During the year 1850, I was invited to see a case in the hands of another practitioner, where the patient had at some time previously met with a fracture of the patella, and where con-

siderable space had existed between the separated fragments. Recently he had wrenched the knee again, and great swelling had followed, which had extended five to six inches above the usual seat of the patella. Some, but not excessive constitutional excitement arose, and the integuments were tense, red, and shining. The surgeon in attendance had opened it, and serum, with pus, and some flocculent masses were discharged. The majority of those who saw the case believed the joint to have been open ed, but there was evidently an opinion entertained by some, that the swelling existed in the loose cellular tissue under the rectus tendon, and not in the joint itself. The patient, however, did very well, and gradually recovered as good use of the joint as he had possessed before the injury.

I felt confident in this case that the knee-joint had been opened, and for the following reasons. The man had met with a fractured patella, and undoubtedly at this time the synovial membrane was lacerated, as must invariably be the case when the patella is broken. Subsequently he sprained his knee, and at the time probably tore the capsule again from the attachments it had formed with the broken ends of the patella. Inflammation followed and the whole joint became distended.

One source of error then is the difficulty in distinguishing between effusion *in* and effusion *about* a joint. Effusion into a joint, especially if there is no other disease, is ascertained by the fluctuation felt on depressing the patella, as in hydrops articuli. But if there is other disease, this sensation may not be felt. In the above case, fluctuation could not be detected under the broken fragments of the patella, yet the swelling on the sides of the patella was sufficient to lead us to believe that the effusion was in the joint. M. Lisfranc has indeed stated that effusion into, and about the joint may exist together; but they must be very rare, and only, I believe, in complication with scrofulous disease. If we would only ex-

amine the synovial membrane upon the dead body, we shall find that it extends naturally from two and a half to three inches above the upper surface of the patella, and that on pressure it is very distensible, so as easily to be made to mount much higher, as it must do whenever the capsule is full of fluid.

With regard to the treatment resorted to, we must confess, that knowing as we now know, that the joint contained pus, we highly approve of it. It is admitted by Dr. Burns, that in synovitis, "if the secretion is more rapid than usual, the skin becomes smooth, and shining from distention, then red, and after a lapse of more or less time, the articular abscesses burst." Mr. Brodie mentions an instance where this happened—a case also lately occurred at the Bellevue Hospital. Now the above case was exactly in this condition—red, shining, and distended; and the surgeon only anticipated the action of nature in making an opening. He even acted wisely in doing so, for if left to burst itself, it might have discharged externally, and if so, fortunately for the patient; or it might have burst into the loose cellular membrane under the rectus tendon, and then all the dangers which it has been one of the chief objects of this paper to indicate, might have ensued.

But we may hesitate to open a joint unless we are satisfied that it contains pus. Its presence may be suspected from the distention, shining, and redness, and this suspicion will be confirmed if there are chills, and a frequent pulse. Still we may doubt, and wish, as we ought, to act with extreme prudence; then we must make use of the test recommended by Mr. Brodie, in the last edition of his book, published in 1850, and make a puncture with a grooved needle before making an incision.

We have now ascertained that acute synovial inflammation with purulent effusion is not limited to those cases where the capsule is punctured, or lacerated with the in-

teguments; but that it may arise in *scrofulous knees*, where inflammation and ulceration have been transmitted from the indurated tissues to the synovial capsule; that it may be *consecutive upon ulceration of the cartilages*, whether inflammation, or caries exists, or not in the heads of the bones; that it *may be caused by a carious patella, or by sprains of the joint.*

The peculiar dangers to life and limb need not again be repeated, they can be seen from what I have already said. I would, however, in closing, offer the following practical considerations:—

An abscess in a joint should be treated like an abscess in any other part of the body. If there is any doubt of the diagnosis being correct, we thould make a puncture with a grooved needle before making an incision.

If a carious patella exists, we should watch our patient with much anxiety, fearing that inflammation and suppuration of the synovial membrane may come on at any moment. If the caries is superficial, we may wait awhile, for possibly this diseased action may cease, and the wound heal. If, however, it seems to involve the whole thickness of the patella, we should remove the patella, although by doing so we should open the knee-joint. At any rate, if we should hesitate to do this before ulceration of the synovial capsule has taken place, there can be no reason for delay after this event has happened.

Remembering always that a small opening is extremely dangerous, we need not fear to remove the patella, and by a proper position allow the matter to drain away as fast as it forms.

In such cases we must expect only an anchylosed limb; but this is better than amputation or death.

When in the course of scrofulous disease, the synovial capsule becomes ulcerated opposite the joint, so as to discharge externally, we ought to enlarge the opening so as to allow the matter to flow freely away. We shall thus

prevent it from distending the capsule so as to cause perforation at some other part, which would be followed by suppuration of the cellular membrane under the tendons, and extensive burrowing of matter between the muscles, to the great danger to the life of the patient.

When the synovial membrane has once opened externally, and where, from the smallness of the opening, or other cause, a new opening has formed, and the matter in the joint been effused under the rectus tendon, we might be perplexed in deciding how to act. Amputation would undoubtedly deserve due consideration; but perhaps the patient's condition would preclude its performance. In this case we would wait, and endeavor to remedy the evil as much as possible, and by changing the position of the limb, so that the foot should be more dependent than the body, and bandage from the foot towards the patella so as to prevent œdema, and the descent of the matter down the leg; also bandage the thigh from above downwards, and since the matter is accumulated under the rectus tendon, and is apt to be conducted along it up the thigh, we would make an incision on each side of the tendon, and perhaps pass a seton to intersect, and drain off the matter.

If the synovial abscess should have effused its contents under the rectus tendon only, and not have broken outwardly, a large abscess would form in the thigh, attended, probably, with great constitutional suffering. In such a case amputation should be thought of, or if this should seem premature, or unsuited to the enfeebled state of the patient's health, we would make as free openings as possible, and by managing with bandages, etc, as just suggested, and by supporting the patient's strength, be ready to amputate if we should find it necessary and proper.

CARIES OF PATELLA.

ABSCESS UP THE THIGH. AMPUTATION. DEATH.

Feb. 19*th*, 1853. A consultation was held upon a man at Bellevue Hospital who had a diseased knee, which had existed for some time. An abscess had extended up the thigh which had been opened, but still continued to discharge. Previous to this opening, he had suffered much, but since then had improved in health. Near to the patella, were two fistulous openings, through which a probe could touch the patella, which was bare, and carious. A probe could also be passed under the patella, and into the cavity of the joint. The patient although in a feeble condition, was not, as it seemed to me in an unsatisfactory state.

I advised that the patella should be removed; that by so doing no additional harm would be committed, since the joint was already opened; that all matter would thus find a ready exit, and if this should not succeed, that the question of amputation might be brought under our consideration at a future time without detriment to the patient; that very likely a limb with a stiff joint would result with the saving of a limb, and perhaps of a life; that amputation of a thigh was always dangerous and compromised the lives of more than a majority of those who were subjected to it. This opinion was overruled, and amputation decided upon. The patient died five days after the operation.

On examining the joint after the operation it was found that the patella alone was carious, and that the rest of the joint was sound. Thus amputation was performed, and a life sacrificed for a carious patella.

CARIES OF THE PATELLA FROM AN ULCER. FRACTURE OF PATELLA, WITH RUPTURE OF THE INTEGUMENTS INTO THE JOINT. PREMATURE LABOR.

RECOVERY.

Nov. 11*th*, 1854. Mrs. Rice, aged 30, was, six months ago, an inmate of Bellevue Hospital for an ulcer over the patella. This ulcer did not heal, but extended to the patella, and exposed it to the air. Past experience had shown that these cases were serious, for there was danger that the disease of the bone would extend so as to open the joint, and lead to its suppuration. She was pregnant, and decided to leave the hospital. When in the hospital the limb was kept extended upon a straight splint, and she was not allowed to leave her bed. Having decided to leave, she was informed that there was great danger of inflammation of the joint; that, if this should happen, it would imperil her life, and might require amputation of the thigh.

In the latter part of August, I was requested to visit her at her residence, and found the patella broken across, and the integuments lacerated from one side of the joint to the other, the joint itself extensively exposed, so that I could easily feel the heads of the femur and tibia.

Her history after leaving the hospital, was as follows. That she had constantly attended to domestic matters until the 12th of August, when a piece of bone of the size of the tip of the finger had separated, and came away from the patella; that at this date, in leaning out of she window in order to close the blinds, the leg flew backwards, the integuments were torn as mentioned, and she could not stand upon the limb. On the following night, i. e. on the 13th of August, she gave birth to a living child. Notwithstanding the severe character of the injury, she had never suffered much pain in the knee-joint. At my visit, the edges of the wound were covered

with luxurious granulations. She had no fever, or any constitutional suffering from the accident.

I put her upon porter and quinine, and enveloped the knee in a gutta-percha splint. The wound gradually healed.

About the last of September, finding that she was living miserably, deserted and neglected by her husband, and without proper care, I persuaded her to enter the hospital again.

Jan. 25th, 1855. The whole wound had healed with the exception of a small portion of the integuments, when she again returned to her home. Shortly after, she walked from Lawrence St. to my office, a distance of a half mile, with the assistance of a cane. I had heard from her often, and to-day she sent for me. She had attended to her domestic duties, and was dependent upon the charity of her neighbors, and had fallen into the habit of drinking to excess. She had grown very stout, and the wound had perfectly healed; but in one of her drunken fits, she had knocked her knee, and had caused a new ulceration of the integuments. The knee seemed to be anchylosed. The gutta-percha splint was still worn. She was destitute, and wished to re-enter the hospital, and she was sent there. The wound healed, and the cure was pronounced complete.

This was in fact a compound fracture of the knee-joint, similar to those I have mentioned before, and nature seems to have indicated the method of recovery without amputation.

COMMINUTED FRACTURE OF THE HUMERUS FROM A GUN-SHOT WOUND.

Mr. W. C. R., a lawyer, on the 11th of May, 1849, was a spectator of the Astor Place riot. He was standing at the corner of Lafayette Place, about one hundred feet from the soldiers. The ball entered on the outer side of the arm, about two and a half inches above the elbow, struck the humerus obliquely, fractured it, and was then reflected so as to pass around the bone, and make its exit just before it reached the axilla, not more than a half inch from the inner side of the vessels. He was brought to my house by several men—was faint, but lost no blood, except of a venous character, and of this, a small quantity. No pieces of bone could be felt in the wound, yet the fractured extremities could be perceived. The pulse at the wrist was nearly, if not quite extinct, and the heat diminished. The natural temperature and pulse did not return until the next morning. A consultation was held with Dr. Cheeseman on the morning following the accident. There was no question on either side with regard to the chief point, that of saving the limb. But there was some discussion as to the propriety of cutting down to the fractured bone, searching for fragments, and removing them. It was finally decided that since no small fragments could be felt, that this procedure was not advisable, for it might be, if any large portions of bone had been broken off, that they might have the periosteum attached to them, and consequently would become united to the original bone.

The arm was placed in a tin splint, at an angle of forty-five degrees. Low diet, a purgative of oil, and ten grains of Dover's powder at night, were prescribed. Little of importance is to be said with regard to the patient, except to mention that he passed through the inflammatory stage without much excitement. The pulse generally

varied from 84 to 95, but at one time it reached 105. Considerable erythema appeared on the arm, and extended to the body ; in truth spread over the whole body, presenting an eruption of a small sero-purulent character, similar to the eruption caused by croton oil. It was painless, and in this respect also it differed from erysipelas.

Suppuration became established, and the matter found a ready exit from the two orifices. The lower one from its situation, was best fitted for the flow of matter when in the erect position, and the upper orifice, when in the recumbent posture. He kept his bed about a month. At the expiration of this time it was found most convenient to dress the arm with simple leather splints, and the many-tailed bandage, the tin splints having caused ulceration on the point of the elbow.

June 26th. The discharge is moderate, and has never been excessive. A few days ago there were indications of a collection of matter on the inner side of the arm, just opposite the fracture ; but by dressing it twice a day, pressing the matter out, and enveloping the arm in a poultice, this threatened evil was avoided. He walks about his house, and goes out of doors. There is some stiffness in the arm, as if there were a condensation of the tissues, and some imperfect callus ; but there is no proper bony union. The fracture can be made to crepilate, and the bone is easily bent. About three or four weeks ago, two minute pieces of bone came away ; they were not larger than half a pea. On passing the probe, the humerus is found to be rough, and deprived of its periosteum, and just opposite the lower orifice made by the entrance of the ball, two minute holes can be felt, and into them the probe can be made to enter. These holes are supposed to be the places from which the minute points of bone mentioned above, escaped.

July 25th. A few days after the last entry, a piece of

bone about three quarters of an inch in length was raised by the probe, an incision made upon it, and removed. No other loose particles could be detected; but bone deprived of its periosteum could be felt. A few days ago some few threads of wool from his coat escaped with the matter. The discharge is gradually diminishing; to-day, hardly amouting to a few drops. To-day, I removed eight pieces of bone, varying in size from one line to one third, or three fourths of an inch in length by one half of an inch in breadth. There is considerable stiffness in the muscles, no crepitus can be felt, although there is some motion at the seat of the fracture. The motion is best felt when an attempt is made to bend the humerus forwards. The patient attends to his professional duties daily.

Aug. 1st. Removed ten pieces of bone, and a small bit of lead.

Aug. 22d. For a week the discharge has been of a very thin serum only. The orifices have all but healed, and the arm is firm at the fractured part.

DISLOCATION ON THE PUBIS.

Sept., 1843. Diana——, on crossing Broadway was knocked down by an omnibus. She could give no account how she fell, where the omnibus struck her, or in what position the thigh was when she met with the accident. I found the head of the bone of the pubis. I raised her to the erect position. The left foot was found turned outwards; the knees separated from each other, and the left heel touched the ground. The patella of the injured limb was below that of the sound one. The increased length of the injured limb threw some doubt on the nature of the accident. I could detect the dislocation of the pubis, but was led to suspect some ad-

ditional accident. She was carried home, and again examined. The same state of things was found to exist. On being held in the erect position by two assistants, and rotating the limb inwards, I found that the head of the bone moved downwards. On repeating this movement, the head of the bone slipped into its socket. I then found that she had fainted, during which, this fortunate occurrence had taken place. The fainting was complete, and she remained so for twenty minutes.

I was still perplexed with regard to the cause which made the reduced limb one half of an inch longer than the other.

On inquiry I ascertained that she had always limped with the left limb, and subsequently learned from her mother that when a child she had suffered from rickets.

DISLOCATION OF THE RADIUS FORWARDS.

Nov. 13*th*, 1845. This man came to me about a fortnight ago, having fallen from a wagon. There was much swelling of the elbow joint, and although I supected dislocation, I was unable to decide whether it was this accident, or a fracture. I directed an evaporating lotion, and told him to call again. This he failed to do until now. At the present time, the difficulty is found to be owing to a dislocation of the radius forwards upon the external condyle of the humerus. When the forearm is flexed, its motion is abruptly arrested by the radius coming in contact with the humerus. The position of the head is more inclined to pronation than to supination; but neither of these positions can be given to it by rotation. The elbow-joint is partially flexed, and the supinator radii hangs loose, and raised, so as to be easily seized with the fingers.

He went to the hospital, where one of the surgeons decided that there was no dislocation. He then went to

Dr. Valentine Mott who hesitated on a first examination to give an opinion, but on a subsequent visit, stated that it was a dislocation of the head of the humerus forwards.

All efforts to effect reduction failed.

FRACTURE OF THE LUMBAR VERTEBRÆ.

DEATH TEN YEARS AFTERWARDS.

Feb., 1836. John Smith, a fisherman by occupation, had a broken back from jumping from his chamber window, in a tavern, when he was intoxicated. He lost, at the time of the accident, all motion and sensation over his lower limbs, was unable to evacuate the bladder, and required the constant use of the catheter. I am unable to give the other particulars of the case which occurred at that time.

I saw him for the first time about a year ago. He was then in tolerable health, and could move about the alms house, and town in a wheeled chair. There was no ability of moving his lower limbs, which were much shrunken. Perfect sensation in them was wanting; but still it existed in a low degree. He would complain of an itching sensation, and of a numbness in them, and would often rub them with mustard, camphorated spirit, etc. to excite sensation, and warmth. He could, at this time, retain and void his urine, but occasionally would do so with difficulty.

The fracture was evident externally from the projection of the lumbar vertebræ. A few months since he was attacked with pneumonia. Ascites and dropsy of the lower limbs followed, which finally ulcerated, and he gradually sank and died.

Examination after death. The lower dorsal vertebræ,

with a portion of the ribs attached, were removed with the lumbar vertebræ. The first, second, third, and fourth seemed to be driven into each other. The second and third lumbar were united to each other with solid bone. The first lumbar was separated from the second by intervertebral substance, which was not a quarter of its ordinary thickness. The body of the third formed a perfect wedge between the second and fourth, and did not advance to a front line with them. The bodies of the second and fourth were ossified together in the front, and separated by intervening cartilage as you approached the spinal processes. All the nerves were found, with the exception of the pair which ought to have come from between the second and third lumbar vertebræ. No difference in size was discoverable between those that originated below the fracture, and those that came from above it. The articulating processes of these vertebræ were, on both sides, united by a new formation of bone. The spinal marrow was not examined at the time, from fear of injuring the specimen. (This is a subject of regret.)

The bladder was much thickened. Its muscular coat distinguishable by the largeness of it fibres, which were remarkably developed. Both ureters were enlarged, and capable of admitting a pipe stem. The lower extremities were of a dingy color, and ulcerated; the scrotum and penis black, excoriated, and sloughy.

This specimen was finally sawn open, when in a dried state, but nothing positive could be ascertained with regard to the fracture, or the compression of the spinal marrow. The specimen was presented by me to the museum of the New York Hospital, where, I suppose, it still may be found.

The case is especially remarkable for the long space of time (ten years) that the patient survived the accident.

FRACTURE OF THE PELVIS. COMPOUND FRACTURE OF THE OLECRANON. RUPTURE OF THE BLADDER.*

James Hennetty, aet. 30, native of Ireland, admitted Oct. 7th, 1851. His occupation was that of a ship carpenter.

On Saturday, October 4th, while engaged at his work on a scaffold about a ship, he fell to the ground, a distance of fifteen feet, injuring the left elbow and left hip, which came in contact with a block of timber. He was unable to arise after the injury, and was carried into a neighboring house, where he remained without surgical attendance until his removal into the hospital. During the three days which intervened between the reception of the injuries and his removal to the hospital, he did not suffer any great amount of pain, or think his injuries to be severe. He had a very good appetite, regular evacuations from his bowels, and passed his urine as naturally as ever. On admission there was considerable constitutional disturbance—a hot and dry skin—coated tongue, and pulse full, and about 100.

There was found to exist a compound fracture of the left olecranon. The wound through the integument was quite small, hardly admitting the end of a probe. Synovial fluid oozed through the opening. The injury to the hip, or thigh was not easily recognized. At first fracture of the neck bone was suspected. There was a fulness about the top of the thigh, and a slight shortening of the limb, but the foot was a little inverted. The glutei muscles were bruised, as indicated by the discolored skin. On raising the thigh, and rotating, it was found that the trochanter described a large arc of a circle. He complained of a loss of power in this limb, and yet could, by his own efforts, flex the knee, and raise the thigh from

* Reported by A. P. Dalrymple, M.D., in the N. Y. Journal of Medicine. May, 1852.

the bed. In doing so it was observed that the large muscles on the back of the limb did not contract as usual, and as they did on the right thigh, but hung down, flabby and pendulous like a bag. The paralysis of these muscles was attributed to the contusion they had received.

A fracture of the neck of the bone could not be diagnosticated. Dr. Stone then invited Drs. Parker and Van Buren to see the case with him. While one stood upon the bed, and seized the patient's limb, the knee being flexed, and made traction, a crepitus could be felt, and also heard by the bystanders. When after traction, the limb was pushed upwards towards the acetabulum, a loud and prolonged shock was produced, like to that which accompanies the return of a dislocated bone to its socket. This was particularly perceptible when the hand was applied to the trochanter, or to the tuberosity of the ischium, far back towards the socket.

It was therefore concluded that the pelvis was broken, and probably the acetabulum driven in. This opinion was confirmed, when, upon the introduction of two fingers in the rectum, traction and relaxation of the thigh being continued as before, the ramus and tuberosity of the ischium were found to accompany the thigh, and to be attended with crepitus.

On his admission the bladder was found distended with urine, and there was inability to evauate it. Before his admission he could pass his urine without difficulty, according to his own statement.

Treatment.—The urine was drawn off by the catheter, the arm furnished with a long splint, in hopes of obtaining union of the integuments at the elbow; and Desault's long splint was applied to the injured lower extremity. A dose of ol. ricini was administered.

Oct. 9th. The oil operated. The elbow-joint was found to be distended with pus and synovial fluid. The dressings were consequently removed, and the fore-arm

flexed, and supported in a sling. The urine was also drawn off by the catheter. Gruel diet allowed.

Oct. 15*th.* P. 100. The retention continues, and the urine is drawn off two or three times every twenty-four hours. There is a large quantity of mucous sediment in the urine. Patient has not a very good appetite. Is allowed extra diet, viz., beefsteak, eggs, and brandy.

Oct. 16*th.* P. 90. Passed some urine without the catheter, but this seems owing rather to the distention of the bladder than to its muscular contraction.

Oct. 19*th.* There is much sediment of mucus with phosphates to be seen in the urine when drawn off.

Oct. 20*th.* Can pass his urine very slowly on straining, but it causes so much burning pain along the whole course of the urethra, that he prefers to have it drawn by the catheter.

Oct. 21*st.* P. 100. Skin hot and dry. Has a glary, and bloody expectoration, symtoms of pneumonia. Has emaciated considerably.

Oct. 23*d.* No more expectoration indicative of pneumonia. Urine ammoniacal—*stains the catheter of a dark color.* The sediment is thick and ropy.

Oct. 28*th.* Urine highly ammoniacal; full of thick ropy mucus. The bladder does not contract after the catheter is used, all of the urine is not therefore drawn off. Pulse small and frequent. Is to take through the day infus. pareiræ bravæ et lini. Takes a half pint of brandy every twenty-four hours.

Oct. 30*th.* Suffering greatly from sharp burning pain in the bladder. The urine is so thickly charged with ropy sediment, that the eyes of the catheter have been enlarged in order to facilitate its passage; yet this is only partly effectual, as some urine is left after each attempt is made.

The discoloration of catheter, first noticed on the 23d, has continued all the time. Patient much emaciated.

While sleeping sweats profusely. Has very little appetite.

Nov. 1st. P. 120. Cannot draw of any urine. Bladder much distended. Warm water injected, but brought away only the slightest quantity.

2 P.M. Catheter again used. Warm water injected, and pressure being made over the bladder, after much perseverance, about one quart of muco-purulent urine was drawn by catheter.

Nov. 2d. Had less pain last night; slept better. About a pint of muco-purulent urine drawn off.

Nov. 4th. Pulse 108, and very small. Catheter still discolored; a great deal of pus in the urine. Is much emaciated. Very little appetite.

Nov. 6th. Died at 4 P.M.

Autopsy eighteen hours after death. On making an incision through the walls of the abdomen, the knife passed immediately into the bladder, which was perfectly adherent to the abdominal parietes. The internal surface of the bladder was black, and sloughy. The discoloration passed through the walls of the bladder, and pervaded one half of the thickness of the recti muscles. The bladder was half full of urine and pus. There were three openings through the bladder communicating with the abdomen. Two to the left of the spinal column; one of which was posterior, and nearly an inch in diameter, the other was to the left of this, and smaller. These did not communicate with any abscess. The opening on the right side of the spinal column was about an inch in length, and half an inch wide, communicating with an abscess half full of urine and pus, extending up and behind the peritoneum on the right side of the spinal column, as far as the diaphragm. The odor from this collection of matter was highty offensive, like to sulphureted hydrogen.

Both ossa innominata were found loosened at their

sacro-iliac articulations. The left acetabulum was fractured in such a manner, that the three bones which constitute it were separated at their original points of union. The posterior and superior border of the acetabulum was broken off, and removed to a short distance, where it was retained by new ligamentous attachments; but its displacement had left such an opening, that the head of the femur must have been easily dislocated on the dorsum of the ilium; and this fully accounted for the prolonged shock perceived whilst the limb was being examined.

Remarks.—This case is interesting for the number of important injuries combined, and it is highly so, in regard to rupture of the bladder; in reference to which, the question may be asked, were these openings in the bladder produced at the time of the accident, or did they follow as a consequence? Taking into consideration the high state of inflammation of the bladder, and the active constitutional disturbance following so soon after the injury; that rupture of the bladder generally accompanies fracture of the pelvis, and especially where there is displacement of the innominata in addition, there can be scarcely a doubt that rupture of the bladder was a part of the injuries sustained at the time of the accident. Another important item connected with the case, is the length of time the patient lived after the injury—a space of thirty-two days. In the very accurate statistics of rupture of the bladder (a collection of 78 cases), by Dr. Stephen Smith, formerly of this hospital, and published in the 6th vol. N. S. of this Journal, there is only one case that lived longer than this after the accident. That patient lived forty-two days—the next longest time is twenty-three days. In those cases, the post-mortem appearances were very similar to those described in the case here recorded.

Ought not the lateral operation for lithotomy have been

performed here, as suggested, and performed with success by Dr. Wm. Walker?

HYDROCELE CURE FOLLOWING INFLAMMATION AND SUPPURATION OF THE SCROTUM.

Feb. 1846. Mr. S. was tapped for hydrocele about six weeks since, the fluid drawn off, but the sac not injected. Two weeks after he returned with the tumor nearly as large as at first, with the exception that it was not tense. I tapped it again, with the intention of injecting it with a solution of thirty grains of sulphate of zinc to a pint of water. The fluid drained away readily, but the canula did not enter deeply into the sac, and its extremity seemed to be arrested. I feared after the fluid was drawn off, that the canula might have escaped from the tunica vaginalis into the cellular tissue of the scrotum. In order to settle this question, I did not at once use the zinc injection, but filled a syringe with water, and threw it in. I supposed that simple water would be harmless. It was attended with inflammation and suppuration, so that at different times I was obliged to incise the scrotum to give escape to the matter. I then passed a seton through these openings, which were prevented from healing until the inflammation had subsided. I then found that the hydrocele itself was cured.

The water, or the force with which it was injected, was the cause of the inflammation and suppuration. I have forgotten to mention above, that on withdrawing the canula, it was ascertained that the impediment to its free entrance was occasioned by two hairs which were caught in the slit of the instrument. The scrotum ought then to be shaved with care before performing this operation.

CASES IN SURGERY.

HYDROCELE.

TAPPING FOLLOWED BY HEMATOCELE.

Jan. 9th, 1869. Robert G. was tapped for hydrocele at my office—walked home, with injunction to remain quiet for the day.

On February 8th, the operation was repeated. The scrotum became distended to a greater size, larger than it was before the operation. Its contents did not transmit the light, and it was manifest that a hematocele had followed the tapping. The hematocele was operated upon by incising the scrotum. A few hours after I was called to the patient on account of the hemorrhage which had come on, and made him very faint. This was arrested by tying numerous little vessels, and the wound was left open to heal by granulations.

The source of the hemorrhage, which on tapping for hydrocele causes an hematocele, is of questionable origin. Some surgeons believe, in these cases, that there exists a vericose state of the veins lining the tunica vaginalis, which by transudation causes the disease; others that it arises from some wound of the testicle, or cord.

In this case I am confident that there was no wound of the testicle, or cord.

CASES IN SURGERY, WITH PRACTICAL OBSERVATIONS.*

CASE 1.—*Occlusion of the Vagina—Operation and Death from Peritonitis.* Bridget G.——, aged 25, had for six months suffered from retention of the menses, caused by occlusion of the vagina, which followed upon some phagedenic ulcerations. During the existence of these sores she had been an inmate of the Penitentiary. For

* Reported in the N. Y. Journal of Medicine, May, 1851.

the present complaint, she was admitted into Bellevue Hospital.

Her symptoms were as follows:—Frequent calls to evacuate the bladder; constant constipation, for which she was obliged to use purgatives; much pain in the abdomen, sacrum, and loins, also considerable pain in defecation; the vagina was closed at the distance of one and a half to two inches from the external orifice; a band of adhesion passed from before backward, and on each side of this were cul de sacs, which would admit the tip of the finger. On examination per rectum, a large globular tumor was perceived, filling the hollow of the sacrum, and on pressing upon the abdomen an imperfect sensation of fluction was communicated to the finger. A male sound was pased into the bladder, and the point turned towards the vagina, for the purpose of ascertaining if the bladder could have become united to the vagina by any unnatural adhesions, and drawn from its nominal position across the pelvis towards the rectum. The point of the instrument could not be felt from the rectum; it was therefore inferred that the bladder was in its usual situation, with the exception of being raised and pushed upwards by the accumulation beyond the cicatrix. The abdomen was found to contain a tumor, situated midway between the right iliac region and the umbilicus, which was supposed to be the enlarged uterus. Retention of the menstrual discharge fully accounted for all these symptoms, It was therefore deemed necessary for her relief to puncture the cicatrix with a trochar.

The operation was performed on the 3d of May, 1848. Several days before the operation she had been kept in bed, and on the preceding day had taken a dose of oil, which had moved her bowels. The point selected for the introduction of the trochar, was the band situated between the lateral cul de sacs. A thick, and tenacious liquid followed the withdrawal of the stylet, and soon

obstructed the canula. To facilitate the discharge, a very large trochar was passed, by gliding it along the groove of a director. The liquid flowed more freely, but still with difficulty. Warm water was then injected. About six ounces of menstrual fluid was collected, and during the day about a pint more escaped. An ounce of castor oil was directed to be taken at once, and ten grains of Dover's powder at bedtime.

2d day. In the morning she complained of slight pain in the back and abdomen, with a feeling of weakness. Pulse 70, of moderate force. Skin cool. Tongue clean and moist. Directed some wine and water for drink, and hop fomentations to the abdomen. About a pint and a half of menstrual fluid had been discharged since yesterday. At six o'clock, still complains of slight pain in the abdomen, which was relieved by the fomentations; also complained of chillness. Pulse 90, and weak. Skin cool. Bowels had been moved to-day. Five grains of calomel, with fifteen grains of Dover's powder, were taken at bed time. Fomentations continued. At 11 P.M., had violent pain in the abdomen, which is tender on pressure. Breathing short and quick. The knees slightly drawn up. Has vomited a small quantity of dark green fluid. Pulse 108, small and weak. Skin over abdomen hot. Twelve leeches were directed to be applied to the abdomen, and afterwards a poultice. Ten grains of calomel, with two grains of opium were administered.

3d day. 4 A.M. Patient was relieved by the leeching, and has vomited since taking the calomel. Complains of pain, chiefly in the inguinal regions, and cannot bear the slightest pressure on the abdomen. Six grains of calomel, with one grain of opium, were directed every three hours. Fomentations continued.

8 A.M. Is much troubled with nausea, and a constant vomiting of thin white fluid, in quantity about an ounce at a time. Pulse 130, feeble. Continues medicine and

fomentations, and is to take a half ounce of wine every hour.

12 M. She was as has been described. Pulse was very feeble, face and hands cool. She had the appearance of one under the influence of opium, and articulated indistinctly. Directed, if reaction took place, full venesection.

5 P.M. Felt rather better. P. 130, and more full. Abdomen very tender. Vomiting continues.

12 P.M. More feeble. Vomiting continues, and she is much depressed in spirits. Has had no sleep. P. 160. Is to continue medicine, and to take a half ounce of wine, and five grains of carb. ammoniæ every hour. Sinapisms to be applied to the stomach, and calves of the legs.

4th day. 6 A.M. Is sinking, but is perfectly conscious. P. 160., and very weak. Extremities cold. Abdomen tympanitic. The quantity of stimulus has been increased, and a large blister to the abdomen. Sinapisms, and hot bricks placed to the feet, and a stimulating injection given.

3 P.M. Has just died. Stimulants had been freely administered, with counter-irritation with turpentine and mustard, but without producing any reaction. The vomiting had been constant, so that all she took to-day has been rejected.

For the above record I am indebted to Dr. Masters, one of the house surgeons of the hospital. The minuteness of the account is the best evidence of his fidelity.

Autopsy 19 hours after death. Head not examined. Intestines distended with gas. About forty ounces of turbid serum, containing portions of fibrine were found in the cavity of the peritoneum. The peritoneal surface of the intestines slightly reddened, and covered with a thin layer of soft fibrine. Peritoneum of the pelvic cavity of a dull red color, containing a fluid resembling pus. Ovaries covered with fibrine partially softened. Fallo-

pian tubes enlarged; the fimbrated extremities of a dark red color, and filled with fibrine. The opening made by the trochar was found to have been made directly through the centre of the cicatrix, into the sacculated vagina, which contained about three ounces of pus. The cavity of the uterus was dilated, and its mucous membrane of a dark mahogany color. Near the fundus it was of a light red color, and covered with an adhesive jelly. The cicatrix through which the trochar passed, was found to be about three and a half lines in thickness. The cavity between the cicatrix and os uteri was of the size of a small orange, its sides contracted, and its inner surface of a dark mahogany color.

The cause of death was peritonitis following inflammation, and suppuration of the sac and mucous membrane of the uterus, which inflammation had probably been transmitted to the ovaries through the fallopian tubes from the uterus.

Remarks. The patient, as perceived, survived the operation only three days. Yet there was no puncture of the peritoneal cavity to account for her death. On the contrary, so far as the operation was concerned, nothing could have been better performed.

I did for a moment imagine that the injection of warm water which I had used after the operation, to hasten the discharge, might have had some agency in exciting fatal inflammation. But death from so mild an injection could not have been anticipated, nor can it now be regarded as a probable consequence.

There was much in this case to cause it to resemble one of puerperal peritonitis. The uterus had been emptied of its contents by the operation, as it is after labor, and inflammation followed upon this event during a season when erysipelas was epidemic, and when as many as seventy-five patients in the hospital were affected at one time. Moreover, this patient occupied the wing

of the alms-house building, now Bellevue Hospital, which had been used as a lying-in ward during the prevalence of puerperal fever in the hospital proper. This wing, two weeks before it had been converted into a surgical ward, (which was quite recent) contained several patients who had died of puerperal peritonitis. This information came to my knowledge subsequently to the death of my patient: if I had been possessed of it at the time, I should not have operated. As the case now stands, it will serve to confirm the impropriety of operating upon the genital organs of woman, during the prevalence of child-bed-fevers.

CASE 2.—*Stab in the Thorax—Effused blood in the Pleural Cavity—Pneumo-thorax—Pleurisy and Pneumonia —Recovery.*—Cannon, aged 27, was admitted into the hospital on the 21st of May, 1850, for a stab which he had just received between the seventh and eighth ribs, on the left side, in a direct line with the nipple. He had only a few days before been discharged from the hospital, where he had been under treatment for compound fracture of the leg.

April 1st. 2d day. I was informed by the house surgeon, Dr. Guernsey, that the patient before his admission had lost a considerable quantity of blood, that he had probed the wound, which was now covered with adhesive plaster, and had ascertained that it took a downward direction to the depth of an inch, and that the probe could not be passed into the cavity of the chest. To-day his countenance is anxious, expressive of alarm. His breathing hurried and abdominal. His pulse moderate in force, and about 80 in a minute. Removed the adhesive plaster, and found the wound closed; did not probe it. On applying the ear, a loud ronchus could be heard in both lungs. The sounds of the heart seemed to be distant. I could not positively declare that the thorax had been perforated.

April 2d. 3d day. The house surgeon reported to-day, that yesterday afternoon the patient had become quite sunken, so that he was obliged to administer brandy very freely, and he had feared from his prostrated condition that there might be internal hemorrhage. To-day the pulse is about 100, soft and feeble—skin is warm and perspiring. He lies upon his back, a little inclined to the right side. Says he is better than yesterday. There is a loud ronchus in the right lung. The left lung, on a line with the nipple, gives a clear respiratory murmur, with an occasional ronchus as heard in the right side. On inquiry we ascertained, that before, and at the time of receiving the injury, the patient was afflicted with a cough. The left back was flat on percussion, from the point of the scapula downwards. But in front, especially over the region of the heart, the percussion was remarkably resonant. The ear, applied over the heart, could detect the pulsations, but they were muffled and distant. Occasionally we could detect an indescribable sound, more like a friction sound than any thing else. No crepitus could be heard in respiration, and there has been no expectoration of blood. The respirations were 50 in a minute. A grain of calomel, with one half grain of opium was directed to be taken every four hours, and gruel only allowed for diet.

April 4th. 5th day. The dullness on percussion has approached nearer to the precordial region, and the resonance over the heart exists, but in a diminished degree, and seems to have assumed a position nearer to the sternum. Pulse 96, moderate in force. The respirations yesterday and to-day were 36 in a minute. Countenance placid, and feels generally more comfortable. Yesterday the expectoration was small, but very adhesive. To-day it is more profuse, but less adhesive. Skin cool. Bowels have moved twice.

May 1st. 22d day. Since the last account the expec-

toration has gradually diminished, having in it once or twice only, a minute trace of blood. The medicine he had taken had been changed to the following pill, consisting of one grain of digitalis, one of squills, and two of blue pill, taken three times a day. He became salivated. No pain in the chest has been experienced at any time. The effusion increased so as to push the heart one and a half inches to the right of the sternum. It is worthy of note, that during the use of mercury, he suffered severely from general rheumatism. The heart has traveled back towards its proper place, so that it now beats to the left of the median line. The respiratory sound returned first in the supra-scapular region, and then under the left clavicle when in a sitting posture. The pulse has been quick and feeble all the time, generally 100 and upwards. It is now 84. His expression is good, and there is every prospect of a speedy recovery.

May 8th. 30th day. Still continues to improve. Has been permitted for a week back to reside at his own home, which is in the neighborhood, and to present himself to the hospital occasionally for inspection. The respiration can now be heard as low down as the 4th rib. His pulse is 90, evidently quickened by mental excitement.

May 29th. 51st day. Has resumed his work as a laborer in an iron foundry.

Remarks.—This patient was a fine specimen of a strong and athletic man, just the one in whom we might suppose that if inflammation was once kindled, it would rage severely. But the moderation of the symptoms must in a measure be attributed to his having lately been an invalid in the hospital for his broken leg, as well as to internal hemorrhage. His pneumonia must have been very mild. The chief difficulty was a pleurisy, which, as is probable, originated from effused blood, in the cavity of the pleura from his sudden prostration on the day after his ad-

mission, and from the evidences of dullness on the back which were furnished by percussion. This blood could have come from between the ribs, or from some wound which the lungs may have received from the knife. Air, undoubtedly gained admission into the pleural cavity, as was manifested by the clear percussion over the precordial region, the remote sounds of the heart, and by the crackling or friction sound just over this organ. The air, I should suppose, must have gained admittance into the chest through some wound in the lungs. The external wound was too valvular in shape to lead to the belief that the air could have passed through it. All the symptoms, with the exception of the ronchus which existed in both lungs, and which, since he had a cough at the time he received the wound, probably existing before his injury, cannot be explained except upon the supposition that the knife, with which he was stabbed, had perforated the chest. No supposition of a pre-existing pneumonia, pleurisy, or heart affection would be at all satisfactory.

CASE 2.—*Compound fracture of the Skull, with wound of the Brain—Protrusion of the Brain—Abscess, Paralysis, and Pneumonia—Recovery of the patient.* April 1st, 1850, John ——, aged nine years, fell yesterday from a fence six feet high, upon sharp stones, and was admitted into Bellevue Hospital at 6 P.M. On admission, according to the report of the house surgeon, he vomited, and could not speak. Those symptoms, however, passed off. I saw him at noon to-day. His pupils appeared to be a little dilated, but contracted on exposure to light. He could hear when spoken to in a loud voice, but did not hear when addressed in a low tone.

There were two wounds in the head, separated from each other by about an inch of healthy scalp. The seat of the fracture was on the left parietal bone, near to the squamous suture of the temporal bone. Several spiculæ of bone were felt, and some portions of the brain were

found in the wound. A large piece of skull was also felt to be broken and depressed. A crucial incision was made, and by the aid of Hay's saw and the elevator, several portions of broken and depressed skull were removed; the whole of which together covered a surface of an inch and a half square. A clot of blood was found under the largest portion of bone which had been removed—the dura mater was found wounded, and pieces of brain were mingled with the clot. The lips of the wound were approximated, or rather supported with two strips of adhesive plaster, over which wet lint was applied. The pupils seemed to be less dilated after the operation than they were before. Epsom salts and an enema were prescribed, and nothing but water allowed for sustenance.

2d day. Ice was applied to the head by means of a bladder; understands when spoken to. Pulse had risen to 120. Directed V. S. and blood to be allowed to flow until an effect is produced upon the pulse, and to be removed to a quiet room where the windows can be darkened.

4th day. Intelligence is perfect. Pulse about 100. Complains of pain about the bend of the arm where he had been bled. The orifice made by the lancet had ulcerated. The scalp is suppurating. To this time has taken no food; was allowed to have a slice of bread daily.

May 3d. (*The 33d day from the operation*). Since the last record has done very well until within a few days. The venesection did not require repetition. There has been considerable protrusion of the brain, upon which a small skin-like slough was visible, which was supposed to be the ragged edges of the wounded dura mater. The protrusion of the brain was very marked, so as to extend beyond the scalp, and occasioned much anxiety for the safety of the patient, but his intelligence continued per-

fect, and no unnatural symptom was present, with the exception of the drawing of the tongue when protruded to the right side of the mouth. The wound granulated, and looked so remarkably well, that I was induced to apply compresses of lint, which were retained by means of adhesive straps. This was done so effectually that quite a cavity was produced in the brain, and this, too, without causing any unpleasant symptom. The pulse has varied from 84 to 100. For most of the time he has been playful, and cheerful. Especial care has been taken to keep the bowels regular. Five days ago these favorable symptoms were interrupted. He had been visited by his father, who had detailed to him some family matters, which left him in a very excited state. Headache was produced, and some delirium at night, and on the following day the pupils were found to be dilated, and the right upper extremity paralyzed so that he could only move the fingers. His pulse arose, and he became generally hot. At this time the wound on the head was very gently dressed. Two days after this, when he had somewhat amended, he was again thrown into excitement by a quarrel in the ward, and on the following day was worse. To-day he is better—he can raise the arm from the bed, but very feebly compared with the left. The pupils are dilated, but they contract on exposure to light. There is considerable sensibility in the wound on the head when the dressings are applied. The brain, which continues to suppurate freely, projects as much, if not more than ever beyond the surface of the scalp. The tongue is drawn a little to the right side. Pulse is 100. Diet is bread and milk. Says he feels well to-day, and asks for an egg.

May 5th. 35th day. The wound looks better. The protrusion of the brain has diminished. The paralysis of the arm is lessened, i. e. he can raise it with less effort. His pulse has improved being to-day 84. His condition

is every way favorable. The retraction of the tongue to the right side continues. Diet is bread and milk.

May 9th. 39th day. On dressing the wound yesterday, I observed that the brain, at the spot where it was injured by the broken skull, presented an orifice which discharged pus, and on inclining the head to one side, about a drachm of matter flowed out. To-day he is doing better. The right arm is growing stronger. The retraction of the tongue to the right side is hardly perceptible. His spirits are excellent. The brain is below the level of the scalp, and the wound is diminishing in size. The orifice in the brain from which the matter was discharged yesterday is to-day effaced. The wound was dressed with compresses, with a hole in their centre for the escape of the discharge.

May 24th. 54th day. Has done well until yesterday, when he had a rapid pulse of 140, with pain in the right side, attended with cough. The pulse to-day is 120; the pain in the side, and cough, continues; percussion below right nipple dull, respiration audible, but not so clear as on left side; two thirds of the wound has healed, but to-day the brain was greatly projected, as if thrust forward by the force of the circulation.

May 31st. 60th day. Since the last account, the pneumonia, preceded by crepitus, and followed by dullness and absence of respiration, has pervaded the whole of the right lung, so that the progress of the disease could be watched from day to day. Now there is a loud crepitation at the top of the lung, and the disease is terminating. The treatment has consisted of calomel and Dover's powder, tartarized antimony, and blisters. The quantity of Dover's powder used was small, and soon omitted entirely, on account of the injury to his brain from the accident. Poultices have been almost constantly applied, so as to cover the whole right half of the thorax. The wound on the head is now completely

healed, with the exception of a few granulations from the scalp,

July 10th. 100th day. Is running about the ward well. At the present time, April 1st, 1851, I understand that he has visited the hospital sundry times in perfect health.

Remarks.—Opposing opinions have been advocated with regard to the treatment of compound fractures with depression. Some, among whom must be placed Sir A. Cooper, advise that the depressed bone should be raised, and the fragments removed; and others direct that no operation should be performed, unless bad symptoms are present. We are disposed to side with Sir A. Cooper, because the rule recommended by him is applicable to all cases of compound fracture whatever, and because we do not see why the skull, which includes so essential an organ as the brain, should be excepted. In such injuries to the skull we have to fear inflammation and abscess, and more remotely headaches, and perhaps epilepsy. The immediate symptoms cannot be an indication of the future dangers, and the latter deserve to be provided against as well as the former. In our patient the brain was wounded, and however diverse the rule of practice may be in ordinary cases, this one fact is sufficient to sanction the removal of all the broken bones.

It will be observed that the protrusion of the brain was in this case a pure hernia cerebri, and not a clot of blood, a separated and sloughy portion of brain, or a fungus from the dura mater, which are usually included in this appellation, but which require a different mode of treatment. The want of a proper discrimination in such cases has caused obscurity of diagnosis, and contradictory treatment. In the one case, in which we may include our own patient, compression alone is suitable, whereas, in other cases, compression would be injurious, but the knife, or caustics might be used with impunity.

The abscess, which broke on the thirty-ninth day after the accident, was a fortunate, and an interesting circumstance. This, with the paralysis, was probably due to the inflammation which followed after the exciting interview with his father, and the quarrel which occurred in the ward.

The drawing of the tongue to the right side of the mouth, while paralysis of the right arm existed, was a singular phenomenon, considering that the wound was on the left side of the head; but it may be accounted for if we will only remember that the genio-hyo-glossi muscles have the chief office in protruding the tongue, and that those on the left side only acting, thrust the tongue towards the palsied side.

Having survived all the head troubles, and his attack of pneumonia, the patient may well be congratulated upon his recovery.

CASE 4.—*Compound and Comminuted Fracture of the Elbow Joint—The Condyles of the Humerus removed—Recovery with a new Joint.*—Mary Lally, aged 26, was admitted November 1st, 1850, into the Bellevue Hospital, with the above recorded accident. Her habits are irregular, and at the time of the accident she was intoxicated, and consequently unconscious of what had happened. She stated, however, that she had fallen against a stove. Such a cause for so severe an injury is unworthy of confidence. From the appearance of the wound in the soft parts, we should infer that it had been made by some sharp instrument, and in view of the fact that the bone was comminuted, should think it probable that she had been struck with an axe.

The wound in the flesh was situated about an inch to an inch and a half above the bend of the arm, passing obliquely outward and downward, severing the biceps muscle from its centre to its outer border, and exposing the bone. On introducing the finger, several detached

pieces of bone could be felt, and they were removed with the fingers. It was then ascertained that the humerus had been broken from the condyles, and that these last had been split asunder into the joint.

Operation.—The lower end of the humerus was made to project through the wound, and sawed off smoothly, The external cutaneous nerve lay exposed in the wound, and was drawn aside during the sawing. A cut was then made, three to four inches long, through the triceps muscle to the olecranon, and by seizing the broken condyles separately with a pair of forceps, I was enabled, by twisting and dissecting, to remove them without injury to the ulnar nerve. The wound was dressed with wet lint, and she was put in bed.

Nov. 2d. 2d day. Patient is quiet; there is no great excitement; she is every way comfortable.

Nov. 3d. 3d day. P. 70; slept tolerably well; has some appetite; has but little pain; hardly any constitutional excitement; dressings changed.

Nov. 4th. 4th day. Suppuration beginning to be established; has slept soundly. The diet since the accident has been strictly water gruel.

Nov. 5th. 5th day. P. 80; no excessive heat about the wound. Suppuration is well established; it is even profuse. Oil taken yesterday operated to-day.

Nov. 6th. 6th day. Countenance excellent; skin cool; P. 72, very soft. There is considerable swelling of the arm and fore-arm near the wound; suppuration profuse. The wound dressed with simple cerate.

Nov. 7th. 7th day. Swelling of the arm diminished. The granulations are perfectly healthy. Soup allowed.

Nov. 13th. 13th day. The lower extremity of the humerus projects against the integuments on the outer side of the arm. This was remedied by lateral splints of pasteboard.

Nov. 14th. 14th day. Slight ulceration on the inner

side of the arm, from the splints; only one splint, and that on the outside of the arm was used to-day.

Nov. 16*th.* 16*th day.* She arose from the bed to-day.

Nov. 28*th.* 28*th day.* The wound is contracting; flexion is performed daily. The discharge is thin, and of a diminished quantity. The edges of the wound are approximated with strips of adhesive plaster; she walks about all day long.

Dec. 16*th.* 46*th day.* The wound has contracted fully two thirds; the discharge is thin and serous. The granulations are exuberant, extending beyond the integuments; flexion is daily made, and the wound approximated with adhesive straps. I have heretofore made use of a pasteboard splint, bent at a right angle, and adapted to the elbow, and perforated at the olecranon for the discharge of matter. This splint perfectly remedied the projection of the lower end of the humerus outward, and the falling inward of the bones of the fore-arm. The bones are thus brought in contact, without any lateral sliding or projection.

Jan. 1*st*, 1851. 61*st day.* Has had pain and swelling in the humerus, resembling periostitis, which has been relieved by painting the part with iodine, and the internal use of the hydriodate of potash. The healing of the wounds has not however been interfered with by this new trouble. The discharge is small in quantity, of a glairy nature. The anterior wound has healed, and the posterior wound has nearly closed. A tin rectangular splint, with a section at the elbow, is now used to steady the limb.

Jan. 6*th.* 67*th day.* Can move the arm a very little to-day.

Feb. 4*th.* 96*th day.* The wounds are completely healed, and the dressings have been removed. She constantly exercises the arm, and can bend the fore-arm at a right angle with the humerus. She can sweep the floor, and adjust her dress without assistance.

Remarks.—The operation which is generally considered to be demanded in these accidents is amputation of the limb. But we determined, if possible, to save it, and for the following reasons. The health of the patient, although she had been addict d to ardent spirits, had not yet been impaired. No artery, vein, or nerve had been injured, so as to cause any fear for the life of the limb below the fracture, and being an *arm*, which experience had shown would indure almost any amount of injury, I determined, if possible, to save it. To secure this object, it became necessary to remove, as much as possible, all the sources of inflammation, and constitutional irritation. These, as experience has already proved, depend upon the irritating points of broken bone, which, when left, pierce the soft parts, or upon abscesses which form in the limb, from not having a sufficiently free and large outlet through the wound. I did then, as in a compound fracture, make an incision and remove all the broken fragments of bone, and also sawed off the sharp end of the broken humerus. The new opening thus made was so large as to drain off the matter as fast as secreted. The fact of the joint being implicated in the fracture, was not reason enough to act differently from the method proposed. Synovial inflammations are to be feared, as we believe, in proportion as the external wound is small; and where there can be no stagnation of matter in the joint, from the external wound being large, these dangers are, for the most part, imaginary. The result, in the present instance, shows the justness of our reasoning. No abscesses formed in the limb, and if we will recur to the minutes of the case, we shall find that there was hardly any constitutional excitement from the accident, that the pulse never exceeded 80, and, in fact, that there was not more local inflammation than is usually met with in simple fracture.

I know not that the condyles of the humerus have

ever before been removed for compound fracture into the joint. For caries it has often been removed in the way recommended by Mr. Syme, and I hoped, in this instance to be as successful in obtaining a new and useful joint, as Mr. Syme had been in his cases. In my operation, the triceps, although split, was left still adherent to the olecranon, and in front I had the biceps, and the brachialis still attached to the radius and ulna. I built great expectations upon this state of things, for I supposed that their contraction would approximate the olecranon to the humerus, and thus secure to the fore-arm its usual fulcrum; that they would, besides acting as moving powers in extention and flexion of the fore-arm, also subserve the purposes of ligaments to the joint. These hopes, as shown by the result, have not been disappointed. The only thing we had to provide against, was the lateral slipping of the bones during the early part of the treatment, and this was affected by means of splints.

All things seemed to conspire in this case, to promise a firm and flexible joint. I therefore declined to rest contented with the usual result—an anchylosed joint, with the fore-arm at a right angle with the humerus.

P. S. April 5th, 1851. Since the middle of March, when the above case was drawn up, a saculated tumor, about the size of a hazelnut, has projected itself through the cicatrix of the wound, in front. I punctured it with a needle, and it discharged a few drops of synovial fluid. The edges became fungous, and I removed them with a ligature. The orifice has contracted, and the discharge amounts now to only a few drops a day; yet I have forbidden the use of the arm, in hopes of preventing entirely this secretion. The strength of the limb, and the facility with which it can be moved is greater than ever, and unattended with pain.

This woman recovered so as to be able to do a day's

washing. She could wring out clothes with as much ease as she could before the accident. The muscles of the fore-arm were powerfully developed. She could raise the fore-arm with a swing and jerk. In order to strengthen the artificial joint, I had a splint of iron prepared to fit each side, and jointed on each side so as to admit of flexion. She occasionally used it, but after a while omitted it altogether.

Some years after this she was found dead, and an inquest was held by the coroner, who removed the joint, and the specimen was presented to the Pathological Society, where it was recognized as my case. The specimen is now, I believe, in the possession of Dr. James R. Wood.

TRACHEOTOMY FOR CROUP.

DEATH FORTY-FIVE HOURS AFTER THE OPERATION.

Dec. 31*st*, 1867. Dr. Austin Flint had been in attendance upon the child of Mr. R., aged about three years, at the Fifth Avenue Hotel, for some derangement of the bowels, and for a mild bronchial affection. He detected, a day or two before he put the case under my immediate charge, a false membrane upon the tonsils. The membrane was distinctly visible. The child was laid in its crib, and four upright pieces of wood affixed to each corner, in order to support a large blanket like a tent. The nozzle of a kettle was so placed as to pour a constant stream of steam into the crib. In addition to this, two spirit lamps with boilers, poured steam into the open room. Simple water was first used, and then lime water. This was continued from January 1st to the 7th. The voice soon became lost, but no croupy breathing, or cough of a croupy kind, presented itself before

the 7th day. The membrane on the tonsil, a few days after this, seemed to be worn away, as if it were made thinner by attrition. From the tonsils it extended to the trachea. Emetics such as ipecac and the turpeth mineral were used, as soon as the croupy sound appeared, and they produced emesis of an hour's duration each time they were given. Food and nourishment were also sedulously given to support the strength.

Finding that no benefit resulted from the treatment, the father was informed that the case had been unusually protracted, and had grown from bad to worse, and that nothing more could be done short of tracheotomy, and that this was a doubtful expedient. He desired that the operation should be performed.

There was no difficulty met with in the performance of the operation beyond that occasioned by the imperfect light of the candles. The operation was done at 8 P.M., in presence of Dr. Flint, Dr. C. D. Smith, and Dr. Emerson.

A large incision was made in the skin by raising and transfixing it. Great care was taken not to deviate from the median line. Not a teaspoonful of blood was lost. On introducing the tube, all difficulty of breathing ceased, and the child fell into a quiet sleep. Chloroform was used during the operation. When he awoke he abstained from touching the tube, as if aware that it secured his safety.

Nourishment was given. The heat of the skin increased on the following day, and the cough became urgent, and the inner tube had to be removed frequently in order to clean it of the adhesive discharge which was coughed up.

He sank gradually, and died forty-five hours after the operation. The cause of his death was supposed to be inflammation of the lungs. No examination of the body was allowed.

The ease procured by the operation was striking, and his death was easy.

GLOSSITIS.

I. *Dec. 23d*, 1853. Mr. W., aged 60, in feeble health, and troubled with a catarrhal affection of the nose, for which he was under treatment, had his hair cut, and head shampooed, and after washing it in cold water walked out into the open air. In the evening he was seized with a swelling on the right side of the tongue, which caused him some annoyance before he went to bed. During the night it increased so as to make deglutition painful. He was alarmed, and sent for me. The swelling was readily perceived. Senna and salts directed, leeches applied to the jaw, and the bleeding promoted by poultices. A blister was then applied over the leech-bites.

On the following day the tongue had swollen extensively, and the parotid and submaxillary glands of the right side very much swollen. Two incisions were then made on the right side of the median line, which bled freely to the extent of six ounces. This gave some, but not immediate, relief. On the the third night he could neither eat, sleep, or lie in bed from fear of suffocation.

On the fourth day the swelling on the right side of the tongue had somewhat subsided. It was then perceived that the left side had commenced to swell, and that the submaxillary gland of the same side was beginning to enlarge. The whole neck was swollen and œdematous. The secretions in the throat obstructed the breathing, and caused an irritative cough, which added to his distress, and made me fear, if the swelling continued, that his life would be endangered by suffocation.

An incision was then made upon the surface of the

tongue, on the left of the median line. This did not bleed so freely as the previous incisions had done, but yet sufficiently so to show that, on account of the coagulation of blood in the mouth, there was danger of choking. He passed this night in great distress, and I staid with him, with the intention of performing laryngotomy, if circumstances should require it.

On the following day relief came, from the subsidence of the swelling, so that he could swallow a little.

He gradually convalesced, and at the end of a week was very comfortable.

The practical reflection I would make on this case is, that a free incision into the tongue, when the whole member is enlarged, may add to the suffocation, and possibly may require the immediate performance of laryngotomy, or tracheotomy. The surgeon ought then to be prepared for such an emergency.

II. *Dec.*, 1873. A few years ago I attended a gentleman, who in the course of two years had three attacks of glossitis. They were not so severe as in the case above detailed, yet were distressing. Their frequent occurrence made me regard the case as unusual, and led me to seek for the reason for this strange state of things. On examining the teeth, I found three molars filled with amalgam of mercury. I ordered the filling to be removed, and he has had no glossitis since.

FUNGUS HÆMATODES.

Aug. 3d, 1840. While attending a patient with cancer of the uterus, I was requested to call up stairs, and see her sister-in-law, who showed me the calf of her leg, which was the seat of a tumor as large as the palm of the hand, red, painful, bleeding frequently, and projecting beyond the level of the skin. The discharge from it

was offensive. She thought that she was weakened by the hemorrhage, and the discharge. The leg was swollen, and covered with enlarged veins. There was no difficulty in walking.

Being obliged to return to town at once, and being pressed for an opinion, I advised immediate amputation of the thigh. To this she gave a positive refusal, but expressed a wish to have Dr. David L. Rogers examine it.

Sept. 12th, 1840. Mrs P. wished to consult me with regard to having the tumor removed by an operation short of amputation, and for this purpose I met Dr. Peter Moulton in consultation.

The tumor commenced about three years ago in the skin, resembling a nævus. She had neglected to apply for medical advice until three months ago. At various times it had bled freely. Its color is of a blueish white. On moving the foot it moves with the gastrocnemius muscle. The base was hard, and tender to the touch, and apparently confined to the gastrocnemius muscle. It did not seem to be so much inflamed as it was at my previous visit, owing to the fact of her having lost about a pint of blood from it. Since this hemorrhage it has felt more comfortable. The anterior tibial artery can be felt beating, so that we infer that the tumor originates below the point of union between this artery, and the posterior tibial. There was a small tumor situated on the dorsum ilii near the crest, which she had taken notice of within three weeks past. It was then of a white color. It now has a blueish cast. There was no enlargement of the glands of the groin.

General Health.—She still moves about with considerable activity. Her appetite and strength have diminished; has no marked fever, but last winter was troubled with chills, especially at night. Pulse feeble, about 100.

Treatment,—For the sickness of stomach and poor ap-

petite, has taken the subnitrate of bismuth. The topical applications have been nitric acid, which she applies with a glass rod to arrest the hemorrhage whenever the vessels bleed, and, in addition to this, she has used creasote and arsenic, which have destroyed the surface of the tumor.

Decision.—That the tumor on the hip precluded the hope of any benefit from excision of the tumor on the calf of the leg; that amputation, which had been urged at the former visit, was not to be entertained; that, in fine, the tumor on the hip forbade any operation.

Nov. 4th, 1840. A consultation with Dr. Cheeseman was held. Her general health had improved since the last visit. The tumor on the hip had increased one third since September. Mrs. P. called each of us separately into her presence after we had consulted together, in order to question us with regard to our opinions. Dr. Cheesman urged amputatation for the reasons that he feared that the fungus on the calf would increase in size, become offensive, lothsome, and shorten her life from hemorrhage, or irritative fever. He did not regard the tumor on the hip as positively the same disease as that on the calf. To the inquiry of my patient I answered, that I regarded the two tumors, on the hip, and calf as identical; that amputation would not remove the disease; that if amputation of the thigh were performed, she would be obliged to take to her bed, and probably would not get out of it again, whereas, now she could walk about, and if hemorrhage came on she could arrest it as she at present did with nitric acid, and if the odor was offensive, she could destroy it as now with creasote.

She decided not to have any operation performed.

Jan. 14th, 1841. I was requested to bring Dr. Perkins with me, in order that she might get a purely *medical* opinion. Her health was much enfeebled. She stated that, on the very day we had the last surgical consulta-

tion, she discovered a hard tumor in the left breast. This was now discovered, and about as large as the last joint of the thumb. The tumor on the hip had disappeared; others had formed there since my last visit, and also disappeared. This was a curious fact. The tumor in the breast was of a cartilaginous hardness. The fungus on the calf has increased in size. Both feet are œdematous. She cannot walk about, but sits in her chair, her lower limbs enveloped in flannels. P. 120; complains of violent pain in the stomach. Probably there is cancerous disease in the abdomen.

Dr. Perkins suggested the use of the phosphate of iron internally and externally, as suggested by Carmichael, and the use of the extract of conium to relieve pain.

A short time after this visit she died. No examination of the body was allowed.

FUNGUS HÆMATODES.

AMPUTATION OF THIGH.

May 19th, 1854. George ——, aged 27, native of Ireland, laborer, was admitted into Bellevue Hospital. He was very intemperate in his habits. Has a hereditary tendency to phthisis, but not, that he knows, to cancer.

Previous History.—Has always been healthy until three years ago, when he was injured by a railroad accident. At that time two of his ribs and his right arm were fractured, and he suffered from concussion of the brain. The inferior extremities were not injured. Two years of good health followed, when he became affected with syphilis. He had a large suppurating bubo, and took large doses of mercury.

History of Present Disease.—About four months ago, while drilling a hole in a rock, he was seized with a sharp

pain just below the left knee. On examining the part, he discovered a swelling about the size of a walnut over the tuberosity of the tibia. This tumor was very tender when touched, and occasionally, when not touched, caused great pain of a lancinating character, especially at night. It has been rapidly enlarging, and becoming more tender until it has assumed its present appearance.

Present Condition.—The patient is of good muscular development; face florid; no marked cachetic expression of countenance. P. 95 and full; respiration rapid, 35 in a minute; complains of a slight cough which he has had for three weeks. On the upper, and anterior part of the left leg, there is a tumor about the size of the two fists, nodulated, and in appearance of a dark venous color. Near the centre there is a small fungous protrusion, of a darker venous color, and which bleeds on being roughly touched. The tumor is distinctly fluctuating, and when a grooved needle was thrust into it, discharged a bloody serum. When a probe was passed through the opening made by the needle, the bone could be touched, and the sensation conveyed to the hand was that which might be occasioned by the breaking of reticulated tissue, which occasioned some slight resistance only.

Drs. C. D. Smith, and Crane saw this patient with me on the day of his admission, and we were of the opinion that the disease was fungus hæmatodes, and that amputation should be performed so soon as the patient could be persuaded to have it done.

Five days elapsed after this decision was arrived at before the operation was performed. During this interval the tumor became very painful, so that he obtained but little sleep, even with the aid of large doses of opium. The tumor grew very rapidly, and increased in its lateral diameter so as to almost encircle the limb. Another fungous protrusion larger than the other, and more vascular, made its appearance.

May 25th. I amputated the thigh at its lower third by the double flap operation. The patient bore the operation well, although a long time was required to bring him fully under the influence of ether. Nausea and vomiting were caused by it, but these unpleasant symptoms soon passed off.

May 28th. He bids fair to have a good recovery. Tongue moist, appetite good, P. 112, but very feeble. Respiration 32 per minute. He has a slight cough. The appearance of the stump is satisfactory. The treatment is supportive, beef tea, brandy, etc.

Dissection of the Tumor.—A division was made through the tumor, and the tibia sawn longitudinally. The mass was reticulated, consisting mostly of coagulated blood. The mass was irregular, and the coagulated blood filled its divisions, or interstices. Some parts of it approached the condition of scirrhous. The anterior portion of the tumor grew from the periosteum. The bone was not affected, nor were there any marks of disease in the interior of the bone. On the posterior part of the tibia a large and soft mass existed, which was also united to the periosteum.

July 15th. There is protrusion of bone, but the stump has nearly healed. He is doing well, has gained flesh, and the cough has left him.

INGUINAL HERNIA. IMPERFECT STRANGULATION.

NO OPERATION. DEATH.

April 10th, 1836. Mr. Mc ——, has had a hernia for twenty years. It became strangulated yesterday morning, since which time he has applied ice pretty constantly to the tumor. He is a feeble man. There was no tenderness in the hernia, or the abdomen, nor any tympanites; but in the right side, where the hernia was situated, there

was a marked fulness. Pulse 72, and regular. The bowels had been moved, The tendon of the external oblique muscle was readily felt, and defined. It was supposed that the intestine was imperfectly strangulated, and that the circulation still continued in it. He had hiccough when the tumor was handled, but no tenderness. A dose of castor oil was given him which he vomited, then a second dose was taken and retained.

April 11th. Had four evucuations from the bowels from the oil taken yesterday. He was more comfortable, and the tumor lessened in size, and although 4 P.M. was appointed for an operation, his improved condition led to its postponement.

April 12th. He was weak, but there was no direct suffering from the tumor. His diet was the juice of beef with cider. The hernia had retreated without the abdominal ring, but could be felt, and its imperfect reduction was supposed to be due to adhesions in the inguinal canal.

5 P.M. P. 72, feeble. Some heat in the tumor; hands and feet cold, yet he complained of feeling generally warm; could talk only in a whisper. The hernia protruded from the ring, and hiccough was produced by handling it. One dejection from the bowels had taken place since the morning, small, dark, and containing mucus.

He died later in the afternoon. Then the tumor was compressible, as if not strangulated; bowels not swollen, or tense.

Post-mortem Examination.—The superficial facia was strongly developed, and was capable of affording considerable resistance. A flap was made, by making an incision from the umbilicus to the ilium, and turned downwards. We thus exposed the inguinal canal. The fibres of the cremaster, which covered the tumor were so thin as to be hardly distinguishable. No fat existed under

the cremaster. The hernial sac was also quite thin. On opening it we found about one half ounce of dark serum, and a loop of intestine. On looking into the canal from the abdomen, some recent adhesions were found, but the bowel could be readily withdrawn into the abdomen. There was some slight redness of the peritoneum confined to the neighborhood of the internal ring. The bowels were not distended with gas. The seat of the structure was at the internal ring, but it was not tight, for the contents of the bowels, on gentle pressure, could be made to pass through it.

The confinement of the bowel in such a feeble subject was apparently the cause of death, and although the symptoms of strangulation were slight, and deceptive enough to lead to a postponement of the operation, yet it is probable that an operation would have saved his life.

FEMORAL HERNIA. STRANGULATED.

OPERATION. RECOVERY

Mrs. ——, a German woman, under the care of Dr. Stoothoff, had been affected with a femoral hernia for a long time, for which she had worn a truss. On rising in the morning she found that the hernia was down, and could not be reduced. I was called, after an unsuccessful attempt had been made to reduce it. She was spare in flesh, of habitually constipated habit, and in truth the bowels had not been moved for several days. In times past she had occasional sickness of stomach, and more rarely hiccough. I bled her to the extent of twenty ounces, when she became faint, but I did not succeed in reducing the hernia. An injection of salt and water was given, and a paper of fine tobacco dipped in water was applied to the tumor.

March 14th, 1864. The above means had failed, and although the symptoms were not more urgent than yesterday, I thought it to be my duty to urge an operation. This was done in the usual way. Sir A. Cooper's hernia knife used to divide the stricture, in a direction upwards and inwards. The knife was inserted, and handle raised, so as to press the blade against the ligament, which could be heard to crack as it was divided.

Having divided the stricture, I attempted to reduce the hernia, but failed. I introduced the knife again, nicked the neck of the sac in various directions, and was thus enabled to restore the bowel to the abdomen. The omentum was found adhering to the sac, and I separated it partially, but not entirely, with the handle of the knife. Some bleeding took place from the separated omentum, but it was returned to the abdomen, after the bowel was replaced, still adhering to the sac. I would have preferred to have waited a short time, to allow the the bleeding from the omentum to stop, before reducing it, but it was done by one of the assistants at the operation, when my attention was withdrawn. The wound was brought together with stitches, and strips of plaster, and compresses, and bandage applied.

At night she was troubled with a cough, which she asserted had existed for a long time, and she complained of feeling cold. P. 108. The coughing caused some pain about the groin, but there was but slight tenderness to the touch, and at only the spot where the incision had been made.

March 15th. Some tenderness in the side operated upon; cough troublesome. Eight leeches were applied to the groin, and a poultice to be applied after they had drawn. She had also pain in the chest. I feared that pneumonia had attacked the lung, and thought that I detected crepitation. The breathing was quick and short, and restrained by the pain in the groin. P. 108. Saw

her again in the evening. The pain in the iliac region left her after the leeching, and handling the abdomen caused no pain. There is some tympanites. Gave two grains of calomel, and five of Dover's powder every five hours, and a blister to the chest.

March 16th. The sputa consisted chiefly of dirty greyish mucus, but there was one adhesive tinged with blood, showing the presence of pneumonia. The blister had drawn well, and relieved the breathing, but the cough continues. No pain in the bowels. Gave an ounce of castor oil.

March 21st. Has gradually improved. P. 70; no pain anywhere; cough continues, but in a much diminished degree. For the whole week, since the operation, she has lived on bread and flax-seed tea, and occasionally gruel. The wound is suppurating, and partially healed.

May 1st. Saw her to-day, she was perfectly well, and had been so for some time.

INGUINAL HERNIA, WITH AMBIGUOUS SYMPTOMS.

May 6th, 1846. Mr. W., of Willett St., has a hernia, which has existed for twenty years, during which time he has worn a truss. The testicle had never descended to the scrotum on the side of the hernia. It can be discovered, as is supposed, on close examination, but is very small, and atrophied.

The hernia has been, now, down for a fortnight, and cannot be restored. He has never had vomiting, hiccough, or fever. Constipation had existed for a day or two after its descent, but since then, he has had a movement from the bowels every day. For the constipation alluded to, he took jalap, and an infusion of tobacco, as

an enema, but unsuccessfully. Epsom salts, however produced the desired effect.

On examining the tumor I found at the inguinal ring a protrusion, feeling like intestine, which, after passing the ring, turned upwards, as is seen in femoral hernia. The cause for this was not readily discovered, but on further examination we found effusion below the hernia, which reminded one of hydrocele of the cord rather than hydrocele of the tunica vaginalis. This fluid has only existed since the hernia descended, which was about a fortnight ago. It is contained in the scrotum, probably in a sac. When this is pressed upon at its lowest part, the fluid does not escape upwards through the abdominal ring. The hernia in its progress downwards, is probably directed upwards by meeting with this sac of fluid.

This man consulted Dr. Valentine Mott several years ago, as well as several other physicians, and they all declared that a hernia existed.

There is but little pain in handling the tumor, and no bad symptoms, therefore an operation is not at present to be thought of.

STRANGULATED FEMORAL HERNIA.

OPERATION. RECOVERY AFTER PERITONITIS.

Dec. 16*th*, 1861. I received a message from Dr. Aikin, to visit Miss P., a patient of his, at Greenwich, Connecticut. She had a femoral hernia, which had been strangulated about thirty-six hours. She had been vomiting, but this had been controlled by opiates. There was great tenderness, with tympanites on the right side of the abdomen, on the side where the hernia existed.

The operation was suggested and performed, without any peculiarity worth mentioning, with the exception

that after the division of the stricture, about an ounce of serum escaped from the abdominal cavity.

There was here peritoneal inflammation. The opiates were directed to be continued in order to prevent movement of the bowels, and to secure adhesive inflammation.

Sept. 21st. I received a letter from Dr. Aiken, giving the account of her case after the operation as follows:

"After the operation, for several days, there was gradually increased swelling of the abdomen, with more or less pain, and a pulse of 120, sharp and quick. On the evening following the operation, the tympanites had become excessive; vomiting ensued; the pain was almost constant, and at times excruciating. Suddenly the pain ceased, and the patient presented symptoms of the fatal termination of inflammation of the bowels. I saw her a few moments after the cessation of the pain, and felt considerably alarmed, telling the friends of my fears. Dr. Mead fully coincided with me in my opinion. We left, not expecting any farther favorable turn in the case. But to my surprise, on Friday morning (the next morning) I found her bright, and lively, and clamorous for food. From that time she made a gradual, but steady recovery. The abdomen continued immensely large for a week after this favorable change, and did not fully subside for two weeks. Her pulse continued above a hundred, during that time, and there was some pain now and then. The wound during all this time healed kindly. There was a tendency to diarrhœa for three weeks after the operation, which I was always able to control. She was kept under the influence of opium from the first, both by the mouth, and by injections. During the first week, when the symptoms of active inflammation were present, it was combined with calomel, and the abdomen thoroughly cupped, and kept covered with flax seed poultice.

She is now able to sit up, and was expecting to drive out to-day. I have procured and adjusted for her one of Marsh's trusses."

FEMORAL HERNIA.

OPERATION. RECOVERY

May 28th, 1872. Mrs. P., aged about 65, has had a femoral hernia for many years. She attributes it to an accouchment thirty years ago. Last year she was in Europe, and it became strangulated for some hours, but was restored after the use of some external applications. She had been in the habit of wearing trusses, but they seem to have been insufficient in preventing the bowel from descending.

On the 25th of May she took a drive in her carriage, and found, on raising her foot to step into the carriage, that the truss was relieved of its pressure, became displaced, and the bowel came down. She continued her drive however. At 5 P.M. I was sent for. The hernia could not be reduced. Dr. Emerson then gave her ether, and I made another attempt to return it, but without success. She was told that an operation was necessary. She objected. A consultation with Dr. Willard Parker was suggested. When he arrived a new attempt was made to reduce it, but unsuccessful. An immediate operation was proposed.

After a short delay occasioned by her fears of an operation, and upon being told that an operation was comparatively free from danger, but that procrastination promised no hopes of returning the hernia, and would compromise her life, she consented. Ether was given. The external cut was a straight line obliquely downwards, and outwards to the extent of three inches. The stricture divi-

ded, and hernia reduced without opening the sac. The wound was dressed, and she was placed in bed, and when she awoke she was unconscious that the operation had been performed. She made a good recovery.

HYDROCELE OF THE NECK CURED BY THE SETON.

Miss Mc——, a young woman, aged 16 years, was sent to me by Dr. I. E. Taylor. She had a saculated tumor of the neck, which lay, for the most part, under the mastoid muscle. This tumor had existed from birth. A few years ago it had suppurated, and decreased somewhat in size. Lately it has begun to enlarge. The tumor descended from the ear to a point below the thyroid cartilage. She wished to get rid of the deformity, and I advised the passage of three or four threads of of ligature silk through the tumor.

March 11th, 1856. The operation was performed by pressing upon the sac so as to make it project beyond the mastoid muscle. When it was punctured, and the fluid, which was serous allowed to escape, a probe was introduced, and carried in every direction under the mastoid, and against the hyoid bone. The probe was made to impinge against the integuments, about two inches from the first puncture, cut upon, and drawn out with the threads which had been passed through its eye.

A good deal of swelling followed in the sac. It became extremely hard, and its dimensions were much larger than was at first supposed. It extended below the lowest part of the thyroid cartilage. This induration was painful. There was some, but not extensive suppuration.

The seton was allowed to remain fifteen days, and in a week afterwards the tumor had diminished to the size of

a nutmeg. The orifices through which the seton had been passed, were healed, and we believed the cure to be complete.

She had no return of the disease.

POLYPUS OF THE NOSE.

John Welsh had both nostrils wholly obstructed, and from the imperfect account given of the history of the disease, it must have existed for more than two years. He had undergone five or six operations for its removal, without any but temporary relief.

March 3d, 1835. An examination was made, during which he was very timid. A small tumor could be felt through the mouth, but the coughing, and suffocation were so great, as to frustrate all attempts to move it. Seven large pieces of polypus, with bone attached, were removed with the forceps, besides several pieces without bone. The right nostril was thus cleared, so that he could breathe through it. He lost about a half pint of blood. By his request further operations were suspended.

March 6th, 1835. Breathing well through the right nostril. There was a slight watery discharge from the nose. He thought he could move the tumor in the throat, on drawing a full breath. A small bulb of polypus could be felt with the finger, behind the soft palate.

Three pieces of considerable size were removed from the left nostril with the forceps, the largest of these pieces was the one that was felt behind the palate. He could now blow easily through both nostrils. The left nostril was now stuffed with three pieces of charpie, rolled in powdered sulphate of copper, and the posterior nares plugged. He suffered a great deal from this operation.

At 5 P.M., suffering much, and on his entreaty I re-

moved two pieces of charpie. The piece highest in the nose was allowed to remain.

March 8th. Face much swollen, looking like erysipelas. An attempt was made to remove the lint from the nose, but unsuccessfully, It was so brittle that it broke on being seized with the forceps. There was a watery discharge from the nose.

March 11th. He was quite comfortable. The tent was withdrawn from the left nostril, and another tent with sulphate of copper introduced into the right nostril.

March 12th. P. 80. Slept none last night. There was pain in the head, and some inflammation about the right eye. The tent still continued in the right nostril. The air was noticed not to pass through the left nostril, which was supposed to be clear. Directed forty drops of laudanum, which is to be repeated in six hours if he does not sleep. He wished to have the tent removed, but was persuaded to let it remain.

March 14th. He was quite comfortable; no inflammation about the eye. Removed the tent from the right nostril. He can breathe through both nostrils. A piece of lint was removed from the left nostril, which was probably a detached piece from that which was inserted on the 6th. The breathing was rendered still more clear by its removal.

March 16th. Is up and dressed; breathes with equal facility through both nostrils; says he has not been so well these two years. I injected a solution of sulphate of zinc, ℥i to the pint of water up the nose. This caused considerable pain.

March 19th. An injection of sulphate of copper, ℥i to a pint of water was used. This caused great pain at the time, and was returned discolored with blood.

May 20th. He returned home on the 20th of March, with directions to use the injections of zinc daily for a week.

After the last report, two months elapsed, which he had spent at his own home. The nostrils were still clear, and he breathed as well as he ever did.

POLYPUS OF THE NOSE.

This case occurred in the practice of Dr. Wm. J. Walker, during the month of June, 1834, when I was a pupil in his office.

The patient, Mr. Foster, had been several times an inmate of the Massachusetts General Hospital for the present complaint. It was regarded as growing exclusively from the nose, from which only it had been extracted. It made its first appearance about six years ago. About a year ago, Dr. Walker operated by passing a loop along the base of the nostril, and raising it so as to embrace the polypus. He had at that time, in order to secure success, separated the septum close to the æthmoid bone, by means of a curved saw, and also divided it at the base of the nostril, and removed it entirely.

The loss of blood, and suffering, from the numerous operations he had undergone, had weakened him very much, but his fortitude was unshaken.

At the present time, the tumor fills both nostrils completely, and extends beyond the soft palate, and presses it down upon the tongue. The left cheek is much swollen from the polypus extending into the antrum, and absorbing the maxillary bone. The left eye is thrust forward from its socket, by the absorption of the orbital plate of the maxilary bone. The vision of the eye is somewhat impaired by the distortion.

Dr. Walker prepared an instrument for passing a ligature, which consisted of a piece of wire, bent to conform to the passage in the skull, and perforated at the end, so

as to carry the ligature. The object expected to be gained was to pass over the tumor, and graze the æthmoid bone, so that the roots of the tumor could be encircled. A string was attached to the eye of the wire, and then introduced into the nostril. Some slight force was necessary to make it pass, on account of the adhesions of the polypus, but on the whole, the facility with which it was used was admirable. When the instrument made its appearance behind the palate, the string was seized with a tenaculum, drawn out, and the ligature, which was to embrace the tumor, attached to it, and the whole drawn back through the nostril. The same thing was done in the other nostril, and thus the loop made which was to surround the tumor. It was then found that the cartilage of the nose had united again. A sharp pointed bistony opened it, and both ends of the ligature brought through one nostril, and tightened by means of a canula. In a few days the ligature was tightened, which brought the tumor forward, and caused it to press more forcibly upon the soft palate.

About a week after the noosing of the polypus, a message was sent to the office, stating that he was in great distress, and wandering about the house like an insane person. Mr. C. Bates, and myself visited him, found him breathing like a person in croup, the soft palate firmly compressed upon the tongue, so that he was unable to swallow. In about an hour Dr. Walker came, tightened the ligature, which cut through the base of tumor, and came away. This brought the tumor more forward, pressed down the palate still more, and obstructed the breathing altogether. Dr. W. immediately seized him, and succeeded in pushing the tumor to one side of the throat, and thus enabled him to breathe. He then attempted to pull the tumor out of the mouth with lithotomy forceps, but failed. Blood was gushing from the nose and mouth the whole time, and now co-

agulating, obstructed the breathing again. The only resource now, seemed to be in tracheotomy, and Dr. Walker had opened his pocket knife for this purpose, but he seized the patient again, trust his fingers into the nostrils, broke up by main force the remaining adhesions, forced the tumor into the mouth, and withdrew it. A large gush of blood followed, which stopped almost immediately. The length of the polypus was five and a half inches, the greatest circumference five and three-quarter inches, and its weight three ounces.

He slept after the operation with considerable muttering, and seemed at times a little delirious. In a few days he quite recovered from the effects of the operation, was much elated at its success, and said he had not felt so well for five years.

The portion beneath the cheek, and in the antrum still remained, which he was anxious to have removed.

June 11th, 1834. An incision was made just below the jugum, obliquely downwards. The facial artery was cut and tied. The opening in the upper maxillary bone, through which the polypus protruded, was enlarged by breaking off the rough edges. Two lobes were seized and noosed with great difficulty. So many, and strong adhesions had taken place that it was impossible to force the tumors into the nose. The danger, too, of injuring the intermaxillary artery, rendered the use of much force unadvisable, for it was beating at the side, and back of the tumor. A seton was passed through the antrum, and brought out of the nose, in hopes that it would cause the polypus to suppurate. The wound was left open. The operation was very severe, and tedious. The patient suffered more than in the previous one, fainted, and lost about five, or six ounces of blood.

The next day he was quite comfortable; could see better with the left eye, because the pressure of the tumor against it was removed. There was some flow of

a fluid, supposed to be saliva tinged with blood, from the wound.

June 23d. The eleventh day after the operation, the lobes of the polypus, which had protruded through the wound, and which had been twisted daily, were cut away. Since then, the seton has been enlarged, in hopes of destroying the portions in the antrum; the discharge of matter has been rather copious, and of an offensive smell. The patient's strength had become reduced, and he had grown irritable, and despondent. He complained of pain about the jugum. The seton answered the purpose of more violent remedies, which his strength would not admit of. The discharge of watery fluid was small, and it was therefore concluded that the parotid duct had escaped injury.

July 4th. 23d day after the operation. The seton had destroyed the parts in the antrum. No remains of the polypus could be felt on examination, excepting the root, which arose from the æthmoid bone, and this was pulled away with the small forceps.

The patient departed for his home in the country, with directions to inject a solution of alum into the nose. A single thread was left passing through the antrum, and out of the nose, as a guide to direct us in case any future operation should become necessary.

Aug. 17th. 44th day after the operation. He had returned several times, before the present date, in order to be examined. He had gained flesh, and strength, and was enjoying perfect health, without any return of the tumor. To-day I heard from him. He was perfectly well, without any return of the disease.

In both of these cases, operations were performed, which were unsuccessful in permanently eradicating the disease. More cases of a similar character to the first of these could be added without adding to our experience. The treatment, in order to be effective, must be

severe, and even cruel to an observer; but if we remember that polypus, especially when it extends through the posterior nares, depresses the palate, extends into the antrum, and causes absorption of upper maxillary bone, projects the cheek outward, and perhaps the eyeball, so as to injure the sight, that it causes deafness, necrosis of the bone, and unless relieved, certain death, then the steps taken for its removal, however severe, are justifiable.

John Bell, who has given so graphic, glowing, and true an account of polypi of the nose, remarks as follows: "I begin with the forceps, and conclude with caustic." I find it (the exterpation of a polypus) a work at once slow and difficult, and often, I fear, imperfectly accomplished. "Operations for the cure of polypus to be successful must be, in some degree cruel."

The second case mentioned is remarkable for its excessive growth, but especially important as presenting an original method of passing the ligature around the base of the tumor. Slitting up the nostrils and palate have been recommended, and practised. The osa nasi have been divided at their base, and the whole nose turned downward, in order to give access to the nares, and consequently to the tumor. But none can be recommended as superior to the method adopted in the present case. I would also call attention to the use of the seton in destroying the polypus in the antrum, and, in the first case, to the use of caustics in destroying the roots of the disease. If success proves the goodness of the treatment, then we have reason to be satisfied. No one method is perhaps suited to every case; but the two cases we have given deserve to stand along side of those mentioned by John Bell, as standard representatives of this disease, and of the difficulties that attend successful treatment,

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LITHOTOMY.

RECOVERY.

June 29th, 1849. James Daly, aged seven years, next month, has suffered for about two years with symptoms of stone. Has pain in urinating, which is excruciating after passing his water. He can hardly sleep in bed, but catches short naps in the sitting posture. He is much emaciated, and haggard, and probably cannot live much longer, unless something is done for his permanent relief. I have sounded him several times, and with one exception, have always found the stone.

Having found the stone, I commenced by tying the hands and feet together, and proceeded with the operation. The external incision was long, but no muscular fibres could be recognized. Great care was taken to cut deep into the fat of the perineum, and having felt the deep fascia with my finger, divided it in the same line with the external incision, opened the urethra on the staff, and carried the scalpel forwards into the bladder. Very little urine escaped. Fearing that if I continued with the scalpel, I might wound the opposite wall of the contracted bladder, I changed the scalpel for the beaked knife, holding it firmly in the groove of the staff, and keeping the concavity of the staff under the pubes, and brought it forwards, and downwards. This movement of the staff carried it with the knife high into the bladder, and raised it from the rectum. I then inserted my finger, felt the stone, and introduced the forceps. Having done this, the staff was removed; made several efforts to seize the stone, but could only grasp its superior surface. Then introduced the scoop, turned the stone over, grasped it with a small pair of forceps, and with moderate efforts abstracted it. The rectum was not cut. Little hemorrhage took place, and soon stopped. Perhaps in all, he lost two ounces of blood. The only de-

lay in the operation was occasioned by the escape of the left hand from the bandage which confined it to the foot, just after the skin was divided. This was soon remedied. He was faint after the operation, but soon rallied, after taking a little brandy and water. The stone was sawn in halves, and it then weighed five drachms.

Four hours after the operation, reaction had fully taken place, and he was very comfortable. The bowels had been evacuated. Passed my finger into the bladder to remove any coagula which might have remained there. but found none; introduced a bit of lint into the wound.

June 30th. Had slept well. P. 120, feeble; no pain anywhere; urine passes through the wound.

July 3d. Has done well to this time. Yesterday took a dose of oil, which had operated six times, and caused some pain in the bowels; none is produced on pressure. Eats bread and milk.

July 5th. Looks as if fatigued, perhaps from the excitement of the 4th of July. Complains of pain in the wound, and also in the belly, but pressure does not produce it. The urine discharges wholly through the wound. The cut surfaces are covered with lymph and pus. P. 120, quick, and weak; skin cool; tongue moist. Prefers bread and milk to any other food. Sleeps well, and his mother states, that since the operation he has slept better than he has for two years.

July 9th. Yesterday had several movements from the bowels, and each time passed water through the urethra, and other times it dribbles through the wound. He sleeps well, and is in good health and spirits.

July 12th. Doing well. Is growing fat. The wound has contracted about one third. Has had two evacuations from the bowels, and each time about a wine-glassful of urine passed through the penis. It still dribbles through the wound.

July 21st. The wound has contracted fully two thirds,

and is filled with healthy granulations. He has grown fat. Appetite great, and he sleeps well all night. Some of the urine still passes through the wound, but to-day he has passed nearly the whole of it through the penis. He still remains in bed, with his legs tied together.

Aug. 8th. Is sitting up. A small opening still continues at the wound. For the last twenty-four hours he has passsd nearly all his urine per penis. The bed is scarcely wet with it. Asks for the pot when he wishes to urinate. The incision is touched with the nitrate of silver.

Aug. 12th. During the absence of his mother he ran out of doors, and played there for an hour. He was then seized with a swelling of the left leg, and thigh, and of the left side of the scrotum. I was sent for, but did not reach Brooklyn, where he lived, until 9 P. M., about twelve hours after notice was sent to me. The swelling of the limb had disappeared, but I found the left side of the scrotum œdematous. The perineum was not swollen, or painful. A small opening still continues, but not large enough to admit the entrance of a female catheter.

I incised the scrotum, and had a bread and milk poultice applied.

Aug. 28th. After the incision, he kept his bed tenaciously, thinking apparently, that I had cut him as a punishment for his disobedience in going out of doors without permission. I had to lift him from the bed, in order to assure him of my wishes that he should get up. The incision in the scrotum has healed; the wound of the operation is perfectly united. All the urine passes through the penis. He is well. The left testicle is a little enlarged, and has the appearance it assumes after the injection for hydrocele. Sloughing prevented.