shows itself as before, now that the general swelling has subsided. Pulse 96; temperature 99° F.

November 25th. The lump is growing softer and smaller. Pulse 88; temperature 98° F.

December 5th. Doing well. All hardness seems to have disappeared. Bowels were moved two days ago by enema.

December 11th. Able to be up for last few days. Walks about a little. Appetite fair. Some fullness, I think, most of the time still to right of umbilicus. Resonance on percussion, and soft feeling on palpation.

January 4, 1882. None of his old "attacks" since last report. Has been out twice, once on foot and another time in a sleigh.

February 17th. Yesterday had a somewhat difficult motion of bowels, and felt chilly afterwards, on account, he thinks, of room being colder than usual. To-day feels some pain in left side of abdomen, requiring opiate.

February 25th. Had a motion of bowels yesterday for the first time in a week. No inconvenience followed. Pulse and temperature normal. No swelling was observed in the right side, as used to be the case after attacks of pain.

March 13th. Doing well. Goes out occasionally when the weather is suitable.

May 15th. Is out nearly every day. Says there is a "conscious feeling" still in the right side of abdomen, as if he realized a movement there more than elsewhere.

August 20th. Went home a few weeks ago by rail, a distance of about two hundred miles.

After his arrival suffered from an attack of subacute rheumatism or scrofulous affection of one knee and wrist, causing swelling and increased effusion of synovia into knee-joint.

September 20th. Much better of joint affections at last report.

October 24th. Heard that he was doing well, and had entered upon the study of law in a lawyer's office.

Remarks. There can be no doubt, I think, that a local peritonitis in this patient was the cause of the formation of the band across the gut in the summer of 1880, and that it was tightened by the attack of peritonitis during the first week of February, 1881. This finally led to total obstruction of the bowel on February 21, 1881, for which I operated just five days afterwards.

The most plausible explanation of the subsequent attacks of local swelling and inflammation I suppose is, that the bowel gave way at the line of constriction, and at times small quantities of fecal matter escaped through the opening thus formed. A wall of lymph having been thrown out about this part, there took place no general extravasation into the abdominal cavity, and after a time all the fecal matter was discharged again into the bowel, and the opening healed, leaving a constriction of the gut at this point. I am led to believe this the more readily, because of the appearance of the intestine at the line of strangulation at the time of the operation. It looked then as if the band across it had already nearly cut through into its cavity.

The history of both my cases seems to forcibly impress on us the importance of operating in all such instances as early as possible after a correct diagnosis has been made, and after, of course, a certain amount of trial has been had of opiates and the use of large enemata through a long tube. Just as in strangulated hernia the danger consists more in delay than in the operation, so to a certain extent it is with internal strangulations. It would undoubtedly have been better for both my patients had the operation been done a day or two sooner than it was.

A CASE OF EMPIEMA.

BY M. H. RICHARDSON, M. D.

Henry S., thirteen years old, Bangor. His father died of cancer of the stomach. Previously well, he had, on December 28, 1881, a chill, vomiting, pain in the chest, and cough without expectoration, which were followed by fever with evening exacerbations, progressive emaciation, occasional chills, loss of strength, etc. During the winter he was under the care of a homeopathic practitioner, who treated him for "enlargement of the liver." In March, 1882, he was seen by Drs. W. H. Simmons and Mason, of Bangor, who aspired the chest without result. The temperature then ranged between 101° F. and 103° F., being always highest at evening. There was slight cough without expectoration. The sleep was good, appetite very good, bowels free. The sweating, previously very profuse, now diminished very much. There was great emaciation, and the patient was in bed most of the time. There were the signs of moderate effusion in the right chest. The liver was not enlarged.

The child came to Boston in May, and the chest was punctured by Dr. Minot in the eighth interspace, below the angle of the right scapula, but no fluid was obtained. He went to Washington and Atlantic City, returning to Boston September 9th.

I first saw the case on the day of the operation, September 18, 1882, with Drs. Minot and Knight. The patient was extremely emaciated, very pale, and so weak that he got about with the greatest difficulty. It was impossible for him to stand erect. His face was pinched and drawn, and his whole appearance was that of a painfully decrepit old man. His weight was about fifty-seven pounds, seventy-five to eighty being the greatest weight he had ever known. Spuita very offensive.

Patient was etherized, and the needle of the aspirator introduced in the seventh intercostal space, in the middle axillary line. A few drops of pus were obtained. To determine whether the point of the needle was in a cavity of pus too thick or too flocculent to pass through, I used an exploring sound which I had devised for such cases, which gave evidence of the existence of a cavity. A very large trocar was then attached to the vacuum bottle and introduced through the first puncture, by which a few ounces of dark and exceedingly fetid pus were obtained. It having been thus determined that pus was there, a free incision, one and one half inches long, was made through the eighth intercostal space, cutting on the exploring director in the usual way. Much to our disappointment it was impossible to reach the cavity in this place. The point of the knife seemed to be in a solid friable mass. On introducing the finger I could feel what seemed to be degenerated lung tissue, easily broken up, and extending as far as the finger could reach. It was next thought best to make another incision in the space above. This was done with rather unsatisfactory res-

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1 Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, March 14, 1883.
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Carbolized gauze was applied in the usual manner. The regular antiseptic method was used throughout, but the spray was out of order, and was very unsatisfactory. Recovery from ether was complete, and patient seemed in good condition.

On the following day the dressing was changed. There had been no discharge whatever. The boy was very fretful, and complained very much of pain from the tubes, and discomfort of the dressings. It was now possible to observe how extreme the emaciation was, and how great the deformity of the thorax. On the affected side the chest bulged very much, and there was a marked deviation of the spine to the left. The whole right side was flat except at apex before and behind, where there was some resonance and respiratory murmur. There were no adventitious sounds in respiration, however, and there had been none. Bad taste gone.

During the next ten days things remained about the same, though the patient seemed on the whole somewhat relieved. The daily average temperature gradually increased, and it seemed probable that there was still a collection of pus which had not been reached in the first operations. At every dressing I tried all possible means of striking the concealed collection that I dared. Bougies could be introduced through the friable tissue several inches in all directions. Tin sounds answered the purpose very well, and could be gently forced into the thorax to various depths. Bougie catheters were also used without success.

This condition of things lasted until September 30th, when I noticed a small fluctuating tumor at the cicatrix of the first incision in the eighth space, which meanwhile had healed. On opening up this wound dark pus of the most offensive nature spurted out to the amount of three pints, and gurgling of air with the efforts of respiration proved that the pleural sac had certainly been reached at last.

When I attempted to introduce drainage tubes into the cavity, however, I found the greatest difficulty, and besides the probable explanation of all previous failures. The tin sound showed that the track followed by the pus in its escape left the thorax in the eighth intercostal space, about two inches from the spine, ran along the space itself, and appeared at the first incision. In order to reach the cavity with the sound, it had to be passed backwards and upwards four inches, and then by a sharp turn the sac was found. A long, single drainage tube was inserted well into the cavity with free drainage, as shown by reflux of carbolic solution and passage of air to and fro with the movements of respiration. The temperature fell at once, and very rapidly, two degrees within an hour after evacuation. Resonance and respiration were at once improved in the upper part of the lung.

On the next dressing, a day later, absolutely no discharge was visible, though the tube was perfectly clear. Temperature slightly elevated in the evening. During the two following days the temperature rose to 102°F. in the evening, and the tube seemed obstructed. Air no longer escaped during coughing, etc., and it was thought that the tube had in some manner been displaced from its uncertain and insecure position.

October 3d, however, I was called very early in the morning to find that about a pint of pus had suddenly escaped through the drainage tube.

The chest was washed out as before with one to eighty carbolic acid, and dressings reapplied.

From this moment the discharge from the chest disappeared entirely and completely; with the exception of a few drops of pus from under the shield of the tubes nothing whatever could be found. The dressings were continued daily because the patient was much more comfortable with fresh gauze. As will be seen by the chart the temperature was not satisfactory during the five days, though the average was considerably better. The absence of discharge during these days was a source of great annoyance, because it seemed from the temperature and from our previous experience that there must still be pus retained. Physical examination during this time showed continually increasing resonance and respiratory murmur. In the region of the incision, however, and in the anterior base, there was much dullness and little if any signs of
expansion. Daily attempts were made to explore the track of the tube, as before, without any results. The general health was improved; appetite and sleep were better; there was less complaint of pain from the bandages, and much less fretfulness.

October 8th, there having been no discharge since the 3d, Dr. Minot advised shortening the tube, which was accordingly done to the extent of an inch.

During this time, that is, since the reopening of the eighth space, that in the seventh had entirely closed, and nothing was left except a small granulating surface. With the shortening of the tube, which was daily made, the temperature began to fall, and the patient to improve. Finally, October 16th, about four weeks after first operation, it was removed altogether.

The temperature continued to jump about in the most remarkable manner, and it was thought advisable to remove the dressings altogether. The spray was accordingly abandoned, and a light carbolic gauze compress, sufficient to keep the granulating surface aseptic, substituted.

Morning temperature was below normal, and evening not taken, and two days later it was omitted altogether, having become a source of great annoyance to the patient, anxiety to the mother, and bewilderment to the physician.

From this time convalescence, already begun, proceeded with astonishing rapidity. There had been no cough during the latter days of the Lister; the appetite had become enormous, and the general appearance of the patient wonderfully improved. By November 1st his clothes were too small for him, and before Christmas he weighed eighty-seven pounds, and could not be recognized as the same boy who had been limping about with so much difficulty three months before.

In reviewing this case the interesting points to me are, first, the apparently clear diagnosis of purulent effusion, which the aspirators failed to verify; the unfavorable prognosis which made the operation an almost hopeless last resort; the difficulty experienced in finding the pus cavity, and having found it, of keeping it open long enough for the lung to expand and fill it; the remarkable absence of any and all discharge when the drainage was certainly free; and, finally, the almost instantaneous establishment of convalescence on removing the tube and dressings.

With regard to the first point it is my opinion that the pus was too thick to run through the needle, or it was flocculent,— and that the existence of a fluid-filled cavity could have been demonstrated with the exploring probe. The prognosis, though unfavorable, was not absolutely so, because there were no signs of disorganization on auscultation or percussion.

The difficulty in penetrating to the pus cavity was due, I think, to the existence of fibrinous tissues, found between the diaphragm and base of lung, of considerable thickness. Had the opening been made three or four inches from the spine in the same space, I believe we should have had no difficulty in immediate and easily maintained drainage.

The absence of discharge seems to me remarkable even in the light of modern aseptic operations for empyema. There was not even a serous discharge. The lung must have expanded immediately, and thereby filled the entire pleural sac. The rapid convalescence and sudden cessation of high temperature are explained, I think, by the patient's very great irritability. He complained excessively of the discomfort of any and all restraining bandages, was very much annoyed by the tubes, and, as a result, I am inclined to think he worried himself into a fever. He was so intelligent that he always was much depressed by an unfavorably high temperature, and that improvement was thereby retarded I am sure. For this reason I omitted it altogether. In the light of the later days of the case I am convinced that the tubes might have been removed a week sooner.

REPORT UPON THE INSPECTION AND ADULTERATION OF FOOD AND DRUGS.

By DR. B. P. DAVENPORT.

A BILL to take away the execution of the Adulteration of Food and Drugs Act of the year 1882 from the control of the State Board of Health, Lunacy, and Charity was defeated in the Senate on May 31st. The two analysts appointed under the provision of that act are therefore continuing their work of examining series of samples of the more important articles of food and drugs sold in the markets of this State, to ascertain which of these are at present adulterated, as well as the constituents and proportions of the foreign substances. Their monthly reports made to the State Board have not yet been published, as the first year of the work has not been completed. These analysts have, however, thus far reported upon some five to six hundred samples examined by them.

The inspector of vinegar for the city of Boston, in his last annual report upon some 300 samples of vinegar, says that of the cider vinegars obtained by him from stores in the city only about one sample in ten proved to be of good quality. The rest were commonly either some variety of so-called white wine vinegar colored and flavored with a little more or less of true cider vinegar, to imitate the genuine article, or else a partially made and watered cider vinegar, which has had its acidity somewhat increased by the addition of acetic acid.

The inspector of milk for the city has reported upon his inspection of 1153 samples of milk, of which he had only 14 analyzed as adulterated, as they all proved to be. The analyst of food for the State Board, however, who himself analyzes all of his samples, has found only about ten per cent. of his samples to be unadulterated with water. This, like the observations made by the present inspector of vinegar, shows the different results which are obtained by skilled scientists, amply able to do all their own work, as compared with those inspectors who have hitherto been appointed under the former various anti-adulteration laws in this State. Under those provisions contained in Chapter 208 of the Public Statutes, although they have been the law so long, a single conviction has never yet been obtained, and they might as well be now repealed.

The last Report of the New Jersey State Board of Health, which acts under a similar law to that of Massachusetts and New York, contains an important article upon Health, Invalid and Infant Foods, by Prof. A. R. Leeds, of the Stevens Institute in Hoboken, one of the Public Analysts. It ends with the following table of analyses of infant foods and conclusions therefrom, which should be compared with the average human milk containing its natural amount of water, and also with the same reduced to a nine percentage of water:—