

we know by experiment that the smaller the dose of an infective material the less likely is a person to succumb to it. Moreover, as we have seen, facts are not wanting to show that other cities have suffered in just the same way that we have. In 1882 and 1883 Providence suffered severely from typhoid fever, and as we had not at that time the means for thoroughly investigating the epidemic, its cause was not determined; but as it began suddenly October 23rd and caused nearly four hundred and fifty cases between that time and November 17th, when it somewhat abruptly ceased, and as it was general throughout the city, and as the disease was not unusually prevalent in other parts of the State, it is probable that it was due to the pollution of the Pawtuxet water. With the thawing which occurred in March the epidemic again made itself felt in about the same way as in the Fall, and was confined exclusively to the city. In the Fall of 1883 the rest of the State suffered, but the city did not. There is no evidence that our water-supply has been contaminated with the typhoid poison at any other than the times mentioned.

For several years Dr. Swarts, our medical inspector, has kept a watchful eye upon our milk-supply, but typhoid fever has in no instance been traced to it. Last year Dr. Swarts found that of three hundred and eighty-nine cases of typhoid in no instance were more than four persons supplied by the same milk man. He found a very different state of things in Bristol last summer. In England it is not unusual to find the source of typhoid fever in the milk. Such instances have occurred in Providence, but as they were before I was superintendent of health I have no record of them.

If the air does not directly infect with typhoid, and if polluted water and milk furnish only a limited number of the deaths from typhoid which occur each year, how are the rest to be explained? It seems to me, from the recently acquired knowledge of this disease, that it is usually caused in somewhat the following manner. The dried spores of the bacillus are carried here and there by the wind or the numberless agencies by which the seeds of the higher plants are distributed, and, like the seeds, these spores take root, as it were, wherever they find a suitable soil. Animal and vegetable matter furnish such a soil, particularly the former. Privy-vaults, cesspools, swill-tubs, decayed wooden sink-spouts, filthy yards, vegetables in the cellar, furnish such organic matter. Fortunately for us this material is largely monopolized by the non-pathogenic organisms of putrefaction. But in the Fall, when the conditions of moisture and temperature are right, the organism grows in certain of these situations which are peculiarly favorable to it, and multiplies enormously. Some of these organisms thus produced find their way into the house and fall perhaps into milk put in the cellar, where it is cool, or upon cold potatoes on the pantry shelf only a few feet from an infected privy, or else, finding their way up the waste-pipe of a refrigerator which discharges on the moist ground or on an open drain, multiply at their leisure on the damp shelves that are rarely washed or aired, and now and then contaminate the custard pie or oatmeal that is put there. The food is eaten without being cooked, the organisms sometimes escape the hostile action

of the gastric juice, and we have a case of typhoid fever, which those who have paid little attention to bacteriology would be likely to quote as of *de novo* origin.

Clinical Department.

CASE OF A PEANUT SHELL LODGED IN THE BRONCHUS.

TRACHEOTOMY: DEATH ON THE SEVENTEENTH DAY.

BY J. W. ELLIOT, M.D.

THE case here reported came under my care while temporarily in charge of the wards of Dr. Homans at the Massachusetts General Hospital. The notes have been arranged by Dr. Augustus Thorndike, who was then house-pupil.

T. D., a powerfully built young man, entered the hospital on the evening of June 2nd, 1888. Three quarters of an hour earlier, as he was buying a ticket at the Fitchburg Depot, he had accidentally, in talking, drawn into his throat part of a peanut which he was cracking between his teeth. He had had a long fit of coughing, lasting for half an hour. When admitted he was breathing without trouble, but had occasional attacks of coughing, followed by a continuous whistling noise, lasting half a minute, which could be plainly heard in all parts of the room.

Examination showed the respiratory movements of left side of chest deficient, and the respiratory murmur entirely absent. It was therefore evident that the peanut had entered the left bronchus.

Thinking that nothing could be gained by delay I immediately opened the trachea as low down as possible. Violent coughing was excited by tickling the trachea, but the peanut could not be dislodged. Long forceps were repeatedly passed down into the trachea and into both bronchi, but no foreign body could be felt. The difficulties seemed insurmountable in that the very large size of the patient made the working distance exceptionally long and the lightness of the peanut shell made an almost intangible object. The patient was held upside down and the same procedure again failed. Respiration was then found to have returned in the upper lobe of the left lung, so it seemed as if the object had been pushed further down. A large tracheotomy tube was placed in the wound and the patient sent to the ward.

The night after the operation was a quiet one. Patient did not cough much, and breathed easily all through the day. Examination of the chest showed that the respiration had returned throughout the left chest, but was absent (or nearly so) over the lower lobe of the right lung. This showed that the peanut had been coughed out of the left bronchus and had lodged in the right.

At a consultation of the surgical staff it was decided to make no further attempt to extract the peanut shell, but to wait, hoping that it would be coughed out. The tracheotomy tube was removed three days after the operation without difficulty. The larynx was examined by Dr. F. H. Hooper, who found nothing abnormal beyond an inflamed condition of the lining membrane of the trachea.

The patient said that he felt first-rate, and was up and dressed on the two following days. On the next day, however, six days after the accident, he developed a cough with profuse muco-purulent expectoration. There was no dulness, and a few râles could be heard over both sides of the chest, and increased voice sounds over a small patch in the lower right axillary region.

During the next week the patient grew steadily worse; the expectoration became more profuse and very foul. The temperature fluctuated between 102° and 103°. The pulse rose steadily to 150°, and the respiration to 40°. Bronchial râles were heard and felt in abundance over the entire chest. The chest was repeatedly examined by Drs. Fitz, Langmaid, Cutler, and others, and at one time it was thought that an abscess had formed in the lung which could be opened and drained. But even this last hope was finally abandoned, and the patient died on the seventeenth day.

The autopsy made by Dr. Fitz showed that the right bronchus, at the level of its second branch, was plugged by one half of a peanut shell broken off across the constricted middle portion of the nut. There was putrid bronchitis with gangrenous pneumonia; acute pleuritis of left side; atelectasis, etc.

Reports of Societies.

THE ONE HUNDRED AND EIGHTH ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY,

JUNE 11TH AND 12TH, 1889.

THE clerk of the weather favored the members of the State Medical Society, gathered in very large numbers at their annual conclave, with two contrasting days,—the former insufferably hot, and the latter tempered with the cooling breeze which brings to Bostonians frequent comfort in summer. Whether because the early summer has caused an unusual leisure among medical practitioners, or because this year's innovation in the method of conducting the meetings proved an influential attraction, the attendance upon the more serious and prosaic exercises was unusually large, the numbers in the surgical section alone exceeding the usual first-day audience of the general meeting, while the papers presented on the second day, to the society as a whole, found a remarkably large, interested, and appreciative audience. There was a change as well in the place of meeting, the Institute of Technology being this year forsaken for the large building of the Massachusetts Charitable Mechanics' Association on Huntington avenue. The sections found accommodation in some of the smaller rooms, while the general meeting was held in a room occupied on Sundays for a Roman Catholic church. The banquet was served in the largest hall of the building. The customary exhibit by the druggists and instrument dealers was conspicuous by its absence, and the distant member, predatory with carpet-bag or overcoat pocket, was obliged to go home empty-handed. The censors' conference has also lapsed into a state of innocuous desuetude.

The initial exercises of the first day of the meeting may fairly be considered to occur at the hospitals, to whose wards and amphitheatres many members, in pursuance of the annual invitation, betook themselves. At the

CHILDREN'S HOSPITAL.

Dr. E. H. BRADFORD resected a piece of a rib and established drainage in a case of empyema, and also, with the osteoclast, fractured both bones in each lower leg for the correction of bow-legs.

MASSACHUSETTS GENERAL HOSPITAL.

At this hospital a large and varied number of interesting cases and operations were presented by the surgeons now on duty and others of the staff.

Dr. H. H. A. BEACH operated for the relief of epileptic symptoms by cutting down upon the cicatrix left by a compound depressed fracture of the skull, the lesion having occurred eleven years before. A dural cyst, containing clear fluid, was excised and the cicatricial tissues adherent to the dura mater. The aperture in the bone, left by the injury, was carefully separated from its adhesions for a margin of half an inch from the edge of the bone surrounding the opening. A sharp spicula of bone projecting inward from the anterior border of the bone was removed with the bone forceps.

He also operated for hare-lip and for the radical cure of hydrocele, and amputated a thigh in the upper third for a compound comminuted fracture of the bones of the leg and foot, due to a railroad accident.

Dr. JOHN HOMANS performed a resection of the knee-joint for tuberculous disease, uniting the bones with a double wire suture; removed a ball which had been imbedded in the tibia for three weeks with a fistulous opening leading to it, and divulsed a firm and unyielding stricture of the urethra.

Dr. J. C. WARREN operated for a peri-typhlitic abscess with a history of intestinal obstruction for a week.

Dr. M. H. RICHARDSON performed ovariectomy in a case where there had been a history of a ruptured sac four years before.

The first and last operations described were done in the new aseptic ward of the hospital, in which the members of the society expressed much interest.

Dr. BEACH showed several cases as follows: one was a patient with a good result following an excision of the elbow-joint performed one year before for tuberculous disease. There was good flexion, extension, pronation, and supination, the patient being able to earn her living in the use of it. Another was one of recovery from an excision of knee-joint for ankylosis following injury; the operation was done two years ago, and, from having been confined to the use of crutches on account of the useless limb, she is now able to walk about without a crutch or cane, an addition having been made to the heel and sole to compensate for the shortening. Another was one of excision of the knee-joint for tuberculous disease. Although the amount of disease had been extensive, and required a most radi-