much coarsely granular matter, probably the remains of atrophied cells. Some of the few cells which remain are larger than those on the healthy side. The nerve-fibres in the interior are not so distinct as on the other side. The parolivary body and the nucleus of the pyramid are unaffected. The hypoglossal nuclei and nerve roots are alike on both sides. The cells of the nuclei have an excess of pigment. I have been unable to detect any tract of degeneration either in the medulla or in the spinal cord.

The case is of interest as a pathological illustration of the crossed connection between the hemispheres of the cerebellum and the olivary bodies. The recorded examples of this condition, so far as I have been able to ascertain, are by no means numerous. Meynert describes the fibres which form the connection, and states that atrophy of one-half of the cerebellum always coincides with atrophy of the opposite olivary body; he makes no further reference to the cases which prove this.

The marked difficulty in articulation, without aphasia, and with complete control over the tongue so far as coarse movements were concerned, is also important. The part of the olivary bodies in controlling the movements of articulation has long been known. It was hinted at even by Willis, but it appears to have attracted little notice till revived by Retzius in 1836. (*Vide* Shroeder Van der Kolk on the Medulla.)

For the illustrative drawings I am indebted to Mr. T. B. Hyslop, pathologist to the asylum.

Three Cases of Choking. Reported by David Welsh, M.B., Assistant Medical Officer Kent County Asylum, Maidstone.

Case I.—J. W., aged 38, a shoemaker, was admitted Oct. 7th, 1876, in a state of acute mania. He was noisy, restless, full of delusions, dirty in his habits, and very destructive. Physically, he was in poor health, and had harsh breathing at the apices of the lungs. The mania, after about 18 months, passed into secondary dementia.

Nov. 2nd, 1876.—Taken ill to-day with sub-acute bronchitis.

Oct. 27th, 1877.—Has again a sub-acute bronchitic attack.

Nov. 22nd, 1878.—Suffers from slight attacks of bronchitis.

July 29th, 1880.—Has again an attack of sub-acute bronchitis.

Dec. 10th, 1884.—Lately has been suffering from slight dyspnœa, apparently due to chronic bronchitis.

Feb. 22nd, 1885.—Remained in his usual state until to-day. After dining in the Hall, he carried off a piece of tough meat, and whilst devouring it he choked. I was at once sent for, and reached

him about two minutes after. The larynx was blocked, and as a last resource I at once performed tracheotomy, thereafter keeping up artificial respiration for 15 minutes, but without avail. When I reached the patient he was apparently lifeless; his face was livid, hands were firmly clenched, respiration had ceased, and pulse was imperceptible at the wrist.

Post-mortem, Feb. 23rd, 1885.—Temperature 45° F. Air moist. Position since death, supine. Cadaveric rigidity, well marked.

External Marks.—Body well nourished. Tracheotomy incision in neck.

Scalp.—Normal.

Calvarium.—Dense; diplöe absorbed.

Dura mater.—Sinuses full.

Arachnoid and Pia mater.—Thickened and opalescent; non-adherent to convolutions; a large amount of subarachnoid fluid.

Cerebrum (34 ozs.).

Grey Matter very much atrophied and very anæmic.

White Matter.—Softened; puncta few.

Ventricles.—Floor smooth; choroids cystic.

Basic Ganglia.—Very soft; anæmic.

Cerebellum (4½ ozs.).—Anæmic; œdematous.

Pons and Medulla (¾ oz.).—Firm; anæmic.

Vessels of Brain.—Healthy.

Organs of Respiration.—Pleuræ: Adhesions of long standing on right side.

Larynx, Trachea, and Bronchial Tubes.—The larynx contained fragments of food, almost completely filling its interior. Within the trachea, just above its bifurcation, and extending for a distance of 1½ inches upwards, was a firm deposit of organised lymph, evidently of long standing, forming a cast of the lower part of the trachea. This structure was slightly adherent to the walls, almost completely blocked the lumen of the tube, and left only a narrow chink, about ⅛ inch in diameter, for air to enter the lungs. The bronchi exuded muco-pus on pressure.

Right Lung (15 ozs.).—Collapsed; congested.

Left Lung (13 ozs.).—Deeply congested.

Organs of Circulation.—Pericardium: Normal.

Heart (9½ ozs.).—Muscular structure, healthy.

Cavities.—Right side filled with recent clots.

Valves.—Healthy.

Aorta.—Slightly atheromatous.

Organs of Digestion.—Peritoneum: Normal.

Stomach and Intestines.—Healthy.

Liver (40 ozs.).—Deeply congested.

Spleen (3 ozs.).—Soft; congested.

Kidneys.—Right (4 ozs.), congested.

Left (4 ozs.), deeply congested.

Bladder.—Half-full of urine.

Remarks.—The chief point of interest in this case is the deposit of lymph found at the bifurcation of the trachea. In considering the post-mortem notes and the clinical history, I think there can be no doubt that this was the result of the repeated attacks of bronchitis; but that life was maintained, and that the patient showed so few signs of distress, with one lung in a state of collapse and the entrance to the other almost closed, is somewhat remarkable. In a case like this tracheotomy was so heavily handicapped that, even had it been performed the very instant the food passed into the larynx, a favourable result could scarcely have happened.

Case II.—G. S., aged 46, a carpenter, was admitted June 19th, 1882, in a quiet, but very demented condition. His bodily health was good, but he had all the physical symptoms of general paralysis; this disease ran a very slow course, and nothing worthy of note occurred until June 2nd, 1885. On that day, whilst taking his dinner, he choked. I was present at the time, and at once went to his assistance, and removed about 3 ozs. of half-chewed food from his mouth. Feeling there was still some obstruction, I endeavoured to remove it by forceps, but failed. Tracheotomy was then performed, and followed by artificial respiration for about eight minutes, natural breathing being then quite restored. Owing to patient's weak state of health, and the shock of the operation, he could not be moved from the room adjoining the dining hall until the evening, when he was taken to the infirmary ward. By this time he was breathing quietly and easily through the tube, but if the finger were placed over the orifice, breathing at once ceased, showing that the larynx was still blocked. Patient was very restless, continually throwing off his bed-clothes, and endeavouring to get up.

11.30 p.m.—Spat out of his mouth a piece of meat which weighed $1\frac{1}{4}$ ozs. On placing the finger over the orifice of the tube, breathing was carried on easily by the mouth and nose.

June 3rd, 9 a.m.—Was able to take some fluid nourishment; still very restless; constantly throwing off his bed-clothes.

5 p.m.—Tracheotomy tube removed and wound dressed. Breathes easily by mouth and nose.

June 4th, 9 a.m.—Not nearly so well; pulse is 125 per minute; respiration rapid and shallow; vesicular murmur harsh and accompanied by fine crepitations; temperature 102° F. Evidently caught cold yesterday, and is now in the early stage of acute pneumonia.

5 p.m.—Very restless; no dulness on percussion over lungs. Pulse 130. Temperature 103° F.

11 p.m.—Sudden œdema of lungs has set in. Despite every effort this gradually increased, and he died at 12.30 a.m.

Post-mortem, June 6th, 1885.—Temperature of air 74° F.; dry. Position since death, supine.

Cadaveric Rigidity.—Well marked.

External Marks—Body well nourished; tracheotomy incision in neck.

Scalp.—Healthy.

Dura mater.—Sinuses full.

Arachnoid.—Thickened.

Pia mater.—Adherent to convolutions, especially in frontal region; vessels engorged.

Cerebrum (38 ozs.).—*Grey matter.*—Deeply congested, much atrophied, especially in the frontal lobes.

White matter.—Softened, congested, puncta numerous and well marked.

Ventricles.—Walls and floor granular; choroids cystic.

Basic Ganglia.—Congested.

Cerebellum (5 ozs.).—Congested.

Pons and Medulla ($\frac{1}{2}$ oz.).—Congested.

Vessels of Brain.—Atheromatous.

Organs of Respiration.—Pleuræ: Old adhesions on left side.

Larynx, Trachea, and Bronchial Tubes.—Contain a large amount of frothy fluid; mucous membrane deeply congested.

Right Lung (26 ozs.).—Middle and lower lobes very deeply congested. Whole organ very œdematous.

Left Lung (25 ozs.).—Slightly more œdematous and congested than right lung.

Organs of Circulation.—Pericardium: Adherent to surface of heart.

Heart (10 ozs.).—Muscular structure, pale, fatty, and friable. Right side filled with recent clots. Aortic valves incompetent, cusps thickened and contracted.

Aorta.—Very atheromatous.

Organs of Digestion.—Peritoneum: Normal.

Stomach and Intestines.—Normal.

Liver (42 ozs.).—Fatty, anæmic.

Spleen (4 ozs.).—Soft and pulpy.

Right Kidney (4 ozs.)—Normal.

Left Kidney.—($3\frac{1}{2}$ ozs.).—Normal.

Bladder.—Contracted.

Remarks.—This case shows the value of immediate tracheotomy if the obstruction cannot be removed by the fingers or forceps. The operation undoubtedly prolonged the patient's life, and had he not been so restless would have saved it, but by his constantly throwing off the bedclothes he caught a chill which set up acute pneumonia, and this occurring in an advanced general paralytic at once precluded any hope of recovery.

Case III.—H. T. D., aged 38, a painter, was admitted December 4th, 1884, in a very noisy, restless, and excited condition, full of very exalted delusions. Physically, he was in good health, but had all the symptoms of general paralysis.

February 16th, 1885.—Is very restless and destructive; requires constant supervision to keep him from devouring filth, rubbish, &c. Nothing further worthy of note occurred until May 20th, 1885, when he was put to bed in a single room at 7.45 p.m. About five minutes later he was heard making a peculiar gasping noise, and the attendant at once went to see what was wrong. He found him gasping for breath, his face livid, a piece of cloth hanging from the corner of his mouth, and with a circumscribed swelling about the size of a hen's egg on the left side of his neck. The attendant removed the piece of cloth, which proved to be the collar of his shirt, and then sent for assistance. When I reached the patient two minutes afterwards respiration had ceased, and he was apparently lifeless; the swelling mentioned above was now diffuse, and the only sign of its presence was a slight fulness on the left side of the neck. Artificial respiration was kept up for fifteen minutes, but without avail.

Post-mortem, May 21st, 1885.—Temperature 56° F. Moist. Position since death, supine.

Cadaveric Rigidity.—Well marked.

External Marks.—Slight fulness on left side of neck. Body well nourished.

Scalp.—Normal.

Calvarium.—Dense, diplöe absorbed.

Dura mater.—Sinuses engorged.

Arachnoid.—Thickened and opalescent.

Pia mater.—Adherent to convolutions in frontal region; vessels engorged.

Cerebrum (45 ozs.).—*Grey Matter:* Deeply congested, atrophied in frontal lobes.

White Matter.—Congested, puncta, numerous and well marked.

Ventricles.—Floor granular.

Basic Ganglia.—Recent clot, $1\frac{1}{2}$ inches long by 1 inch broad, in anterior part of the right corpus striatum, tearing up the brain tissue and extending laterally into the frontal lobe.

Cerebellum ($4\frac{1}{2}$ ozs.).—Congested.

Pons and Medulla ($\frac{3}{4}$ oz.).—Congested.

Vessels of Brain.—Fairly healthy.

Organs of Respiration.—*Pleuræ* non-adherent.

Larynx, Trachea, and Bronchial Tubes.—On making the incision to remove the larynx a large quantity of recently extravasated blood was found occupying the area of the left anterior triangle, extending upwards to the base of the skull, downwards to below the clavicle, backwards to the middle of the posterior triangle, and forwards to the median line of the neck. In the midst of the

clot were the carotid artery and the vagus nerve; their sheath had been ruptured and lay deeper in the clot. The upper and lower parts of the internal jugular vein were found, but unfortunately, owing to the large amount of blood effused, the precise point of rupture could not be ascertained. The carotid artery was intact and showed no sign of disease.

The larynx was clear, and there was no obstruction in it or in the bronchi.

Lungs.—Right (18 ozs.), slightly œdematous at base.

Left (16 ozs.).—Similar.

Organs of Circulation.—Pericardium: Normal.

Heart (13½ ozs.)—Muscular structure firm and fibrous; hypertrophied in left ventricle. Cavities empty. Valves: Aortic valve incompetent; cusps contracted and thickened.

Aorta.—Healthy.

Organs of Digestion.—Peritoneum: Healthy.

Stomach.—Several small ulcers in pyloric region.

Intestines.—Healthy.

Liver.—(50½ ozs.).—Pale and fatty.

Spleen (6 ozs.).—Large and soft.

Kidney, Right (4 ozs.)—Capsule strips with difficulty, leaving a granular surface, cortex diminished, and structure crowded.

Left (4 ozs.).—Similar, but diseased condition further advanced.

Bladder.—Half full of urine.

Remarks.—The choking in this case was only the first step in the chain of events which led to death. In all probability the patient tore off his shirt-collar and stuffed it into his mouth; it became impacted at or near the glottis, and in the subsequent struggles, which resulted in its expulsion, the vessel in the corpus striatum gave way and also the internal jugular vein. The blood from the latter was at first confined within the tough sheath of the great vessels of the neck, giving rise to the circumscribed swelling; soon, however, the sheath, unable to resist the pressure, ruptured, and the blood became diffused amongst the muscles.

This case shows the value of post-mortem examinations in determining the precise cause of death; the clinical history points to suffocation, the result of impaction of a foreign substance in the air passages; needless to say, the post-mortem notes show that the immediate cause of death was of quite a different nature.