urgent; that if the attempt had wholly failed, he must have inevitably perished. For several days and nights, even the most successful introduction of the catheter afforded very slender promise of his recovery: but patience, perseverance, and care, at length overcame every difficulty. The use of the instrument seemed to preserve the life of the patient till the disease wore itself out.*

If it should be objected to the preceding description, and the remarks connected with it, that they are tediously minute, I would reply, that I have derived essential advantages to myself and my patient in the operation of introducing the catheter, by great particularity in every part of the process. Besides; *let it be remembered, that nothing ought to be considered minute, trifling, or unimportant, that can contribute, in any measure to the relief of any one writhing with agony.*

Lynn, December, 1824.

Case of Laryngotomy—and Case of Phthisis Pulmonalis. By
SAMUEL A. CARTWRIGHT, M. D.

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CASE I.

MY belief that the advantage to be derived from the report of an operation, whether successfully performed or not, can be fully attained only by accurately describing the method pursued, and by candidly acknowledging the difficulties which attended it, is my only reason, in describing the following operation, for dwelling on these often neglected, yet important points. On the 31st of August 1824, I was called on to visit Levi Wicks, of this city, a stout hearty child between four and five years of age, who had, a few hours previously, in sipping up the water of a melon, drawn a seed into his wind-pipe. I found him with great difficulty of breathing accompanied with a shrill cough resembling croup. Consultation being called in, it was thought most advisable to give an emetic of Ipecacuanha. After the operation of the emetic, the little boy became much relieved, and was able to run about the house, his respiration being free and his cough having subsided. Some time in the night his cough and difficulty of breathing returned, but soon went off, and he rested tolerably well. The next morning when I visited him he was out at play. He con-

* Dr Rush.

tinued his usual amusements until evening, when after having fatigued himself by running, the cough returned and he soon fell to the ground apparently dead, being breathless and black in the face as if suffocated. In this situation he was taken up by his mother, and being shaken in her arms, his cough returned and he revived. Something could now be plainly heard moving up and down his trachea. His cough at length subsided and he again became perfectly easy. The fits of coughing and difficulty of breathing continued to return, after intervals of ease of longer or shorter continuance. On the evening of the second of September, I commenced the operation by an incision of the integuments covering the larynx, extending from the superior part of the thyroid cartilage to a little below the cricoid. The laryngeal artery was divided, which in this subject ran between the thyroid and cricoid cartilages, not as it commonly does, between the thyroid cartilage and the os hyoides. The hemorrhage was so considerable before it could be commanded, the pulse of the child became so very feeble, and its strength appeared to be so much exhausted, that it was thought most advisable to proceed no farther with the operation at the present time; more especially as the child was very fleshy, having a very short neck and an enlarged thyroid gland, which would necessarily render the succeeding part of the operation both difficult and dangerous. The wound was accordingly dressed. The succeeding day frequent fits of coughing and laborious respiration took place, but in the intervals, the little patient was able to go about the room. He however came very near being suffocated on the night of the 3d. On the 4th of September, I resolved to finish the operation. I admitted no person into the room but physicians. These were Doctors Hunt, McPheeters and Lattimore. They were sufficient both to hold the child and also to assist me in the operation. The child having his hands confined was laid on a table with a pillow under his neck, and his head projecting a little beyond the edge of the table, supported on the lap of one of the medical gentlemen, while another, by taking hold of his arms, drew down his shoulders, to prevent him from drawing them up and thereby shortening his neck. The former incision was now opened by means of a probe. As it had not extended entirely down to the cartilages, these were now laid bare by successive strokes with a scalpel. The depth of the wound was now nearly an inch so fat was the patient. The crico-thyroidei muscles were unusually large. In exposing the cartilages, another small artery was divided and bled so freely, that it became necessary to pass a ligature around it, which

was by no means an easy matter, as it lay deep amidst the fat and cellular substance. Although the cartilages were now laid bare, the first few rings of the trachea were not entirely so, as I was fearful of cutting through them into the trachea, and had therefore elevated the knife after it had passed the lower cartilage. I now examined the wound and observed at its lower angle, extending up to the cricoid cartilage, a reddish substance, which I mistook for a muscle but which was in reality the *isthmus of the thyroid gland*, which extended higher up the trachea than usual in consequence of its being enlarged. The child had now ceased to cry but continued to *sob*, which kept the larynx in constant motion. The two cartilages could have been readily separated by a lancet, or the point of the scalpel and a grooved staff introduced, and the cartilages divided in either direction by a bistoury, had it not been for the motion of the larynx produced by the sobbing. I concluded that the safest plan would be to divide the cartilages and about two rings of the trachea, from *without inward*, by one stroke with the scalpel; which could be so quickly finished, that there would be but little danger of any ill consequences from the motion of the larynx produced by the *sobbing*: nor did I apprehend hemorrhage, as the cartilages were now laid bare and alone remained to be divided, with two rings of the trachea, which rings, I little suspected had any blood vessels over them. An incision was now made into the cavity of the windpipe by one stroke of the scalpel, commencing at the superior part of the thyroid and ending two rings below the cricoid cartilage. The isthmus of the thyroid gland which extended over these rings was cut, and a profuse hemorrhage ensued. The blood spouted out furiously to the opposite wall, dashing at the same time into my face and the face of Dr Hunt, while every inspiration drew the blood down the trachea, to be expelled through the mouth, the nose and the wound by violent cough, accompanied with a hoarse shrill sound, produced by the rushing *in and out* through the wound, of air and blood. I instantly cut the bandage with which the child's arms were fastened, and turned him on his face, to prevent immediate suffocation. Dr Hunt and myself then endeavoured to take up the artery, but as it was not one, but two or more arteries which were throwing out blood, and these were deep within the lower angle of the wound, we could not, in our first attempt, succeed. A pair of curved forceps was now introduced and the melon seed was dislodged from the ventricle of Morgagni, and was pushed up through the glottis and came out through the mouth; almost at the same instant the lower angle

of the wound was pressed out by the forceps, the tenaculum thrust into the gland, amidst the bleeding vessels, and a ligature put around them all together. One small artery yet continued to bleed, which was caught, by turning out the edge of the wound, and secured. The securing of the bleeding vessels was rendered doubly difficult by the necessary position the child had to be placed in, with his face downwards, also from the violent struggling and coughing in the mean time. So soon as the hemorrhage had subsided, the child threw up, (I suppose from his lungs,) about half a pound of blood. His breathing immediately became free and easy and his cough subsided. The wound was closed by adhesive strips, and a thin handkerchief, enclosing a piece of paste-board adapted to the neck, was tied over the dressings to keep the head straight and the strips in their places. An anodyne was now exhibited, and the child was dressed and put to bed, after having lost first and last in the operation, which he bore with heroic fortitude, nearly a half a gallon of blood. It was his violent struggling, no doubt, which enabled him to sustain so great a loss. The pulse of the patient for the first forty-eight hours after the operation, was about 130. The Tinct. Dig. and Sp. Æth. Nitr. were used, but having little effect and fearing the accession of bilious fever, 8 grains of calomel were given, which brought away two or three black evacuations, after which, the pulse became slower and the symptoms better. Although the wound suppurated freely the breathing continued perfectly easy and was unattended by cough. The granulations which became too luxuriant were kept under by a weak solution of Nitric Acid. In less than two weeks the wound healed up perfectly, and left but a small cicatrix.

Whoever undertakes to extract a foreign body from the larynx or trachea, should recollect that it is a much more difficult and dangerous operation, than that of merely making an opening for the insertion of a tube to breathe through, as in cases of tumors of the amygdalæ, bodies wedged in the pharynx or œsophagus, inflammation of the larynx, &c., as in the latter; the opening need not be extensive, and when once made, the difficulty is over; while in the former, the difficulty of removing the foreign substance from the trachea or larynx, yet remains, after a sufficient opening has been made, and if the opening has not been sufficiently extensive, the difficulty has only begun. It would be well to be provided with forceps having long delicate blades, to grasp the foreign body if low down in the trachea; and with curved forceps to extract it if in the ventricle of the larynx. In the event of a hemorrhage

after the incision into the larynx has been made, as happened in the above case, I am of the opinion, that the best plan would have been, to have immediately introduced a canula, as large as the incision would have admitted. The canula would have enabled the patient to breathe more freely, and might also have been used as a lever, to press out the edges of the wound, so as to expose the bleeding vessels. It appeared to me that nothing short of an extensive incision in so fat a child as the above, would have afforded any just grounds of calculating on the detection of the concealed foreign body, by instruments; or of its expulsion, by coughing. In this case the seed was found to be a very large one, having a rough seamed margin. In cutting through the cartilages of the larynx, from without inward, the instrument cannot well have too keen an edge. The one I used was very sharp, yet the cartilages afforded more resistance, than I had, *a priori*, supposed. I distinctly discovered when the knife had entered the larynx; but had it been dull, I can readily conceive that in dividing the cartilages, the anterior parietes might have been made to approximate to the posterior part of the larynx, and thus both walls of the larynx have been divided.

The intervals of easy respiration, between the paroxysms of coughing, that patients having a foreign substance in the windpipe often enjoy, are well calculated to produce fallacious hopes in their friends, that an operation may be unnecessary; and also a degree of reluctance on the part of the surgeon to operate, which he would not feel, if a mangled limb required amputation, or a compressed brain, the trepan. The reluctance which I felt, in calling a child from his play, to be tied and placed on a table, with a view to make a sufficient opening in his windpipe to search for, and extract a foreign body concealed in its larynx or trachea; an operation rendered unusually difficult and dangerous, in consequence of an enlarged thyroid gland, its short neck and its being so very fleshy, was readily overcome, by a conviction of the absolute necessity of the operation and the danger attending further delay.

CASE II.—PHTHISIS PULMONALIS.

Mr S. N. aged 30, was attacked in January 1824, with an acute inflammatory affection of the chest, which gradually subsided without any manifest critical evacuation. While in a debilitated condition, produced by the original inflammatory affection, he began to complain of a fixed pain in the right side

beneath the seventh rib, also of a tightness across his breast and dyspnœa, which were increased when he lay on his *right* side. He also complained of pain in the shoulder, extending a little way down the arm, with a numbness of the limb. A very troublesome *dry cough*, with fever succeeding a chilly sensation, daily attended the above symptoms. After he had continued in this situation for a few weeks, he began to cough up purulent matter, mixed with blood, in great quantities. In one night he coughed up more than two pounds of such matter. In a few days the expectoration gradually subsided and the cough again became *dry*. The pain and dyspnœa were considerably relieved about the time of the expectoration, but gradually returned after its cessation, only to be relieved by another copious expectoration of blood and purulent matter, which would again take place in the course of a few weeks. This was the course the disease pursued for some months. At length the intervals between the expectoration of matter became shorter, and the expectoration itself continued longer, until the *intervals* were gradually lost in an almost constant purulent expectoration mixed with blood. The appetite now became voracious. Hectic fever came on with colliquative sweats or diarrhœa—the eyes of a pearly white—the nails, claw like—the ends of the fingers enlarged. The remedies used in the latter stage were the Nitro-Muriatic Acid bath, cough mixtures, tonics, &c. all of which did no good, and the patient died on the 7th of September. In an hour afterwards, in company with Dr McPheeters of this city, I proceeded to make post-mortem examination. In the first place I plunged a knife into the right side, between the 6th and 7th ribs, and then opened the thorax. The knife was found buried in a large empyema, which rested on the diaphragm below, against the ribs of the right side, as far up as the third rib, and surrounded by the lungs in every other direction. There was upwards of a quart of thick purulent matter of a brownish colour, and mixed with blood contained in the empyema, also two hydatids each the size of an hen's egg. This matter was walled in on all sides by a firm cartilaginous sac, more than half an inch thick, and contained *no opening* either into the lungs, or any other part. Yet the matter contained in the sac resembled very much the matter which had been expectorated. Dr McPheeters called my attention to that part of the pleura which had not degenerated into cartilage, that was reflected off from the cartilaginous sac, it being here lined with a thick coat of purulent matter. The lungs, which enclosed the sac on all sides except the part resting on the diaphragm and against the right

ribs, were firmly adhered to the sac; and although the lung in contact with the sac, appeared to be diminished in size yet no abrasion or ulceration of the lung could be discovered; so far from it, the pulmonary tissues in immediate contact with the sac, had the appearance of becoming cartilaginous; nor could the least ulceration be discovered in any part of the lungs; nor did the lungs contain any tubercles or abscesses; but on the contrary they appeared sound in all their parts. When squeezed in the hand they gave out a frothy fluid. That part of the diaphragm on which the collection of matter rested had completely degenerated into cartilage, and the liver below firmly adhered to it. The peritoneal covering of the liver at this part had become cartilaginous. Except the adhesion of the liver to the diaphragm and the cartilaginous nature of its membranes at this part, it appeared perfectly natural and no way diseased.

In the above case had paracentesis thoracis been timely performed, and the matter evacuated, before the formation of the cartilaginous sac, the patient no doubt would have recovered. We are told by Pliny, that Phalereus was once dispaired of by his physicians in consequence of an abscess in his lungs; but Phalereus rather than die with the disease, chose rather to fall by the sword, and plunged his spear in his breast, which instead of killing him, proved his cure. "Phalereus, tum deploratus a Medicis vomicæ morbo, cum mortem in acie quæreret, vulnerato pectore medicinam invenerit ex haste." LIB. vii. Cap. 1.

The propriety of evacuating the matter of an empyema, I apprehend will not be questioned, if, in the first place, it be clearly ascertained that it exists, and in the second place, if there be any known method, by which the matter of the abscess can be evacuated without endangering the life of the patient. Hippocrates informs us, that whenever an acute inflammation of the thoracic viscera after continuing longer than usual subsides, without any evident evacuation by hemorrhage, expectoration, sweat, urine or stool, that we may expect the formation of an empyema. Whenever then, Phthisis Pulmonalis supervenes after such an inflammatory affection, the general health not having been fully reinstated, between the termination of the one and the accession of another, ought we not to view the empyema as its cure? the existence of which will be more clearly proved, if there be local pain in the chest, a cough at first dry, with a tightness across the breast, and a difficulty of lying except on the side which is *not affected*. Hippocrates particularly notices the latter symptom. "Quum tu-

berculum lateri aboritur, tussis dura detinet et dolor, et febris, et pondus in latus incumbit, et dolor acutus eundem locum semper occupat, et situs vehemens, et calidum potum eructat, et decubitus in latus affectum non sustinet, sed in sanum." De Morbis, Lib. 2.

Ought we not, in such cases, instead of trusting the life of the patient to the feeble aid of any article, or combination of articles of the *Materia Medica*, endeavour to remove the cause of the disease, by making an incision into the side opposite to that on which the patient prefers to rest, and evacuate the matter of the empyema? which like any other foreign substance, would do, keeps up a mechanical irritation on the lungs, and thereby brings on all the awful symptoms of confirmed *Phthisis Pulmonalis*. Suppose no abscess were found, I can conceive of no evil which would result from the operation, even admitting the case to have been, not an apostematous, but a tubercular *Phthisis*. If there were no matter to draw off, the irritation, produced in the integuments, by the incision, would no doubt, have as good an effect in diminishing the irritation in the lungs, whether produced by tubercles or not, as the ancient custom of introducing issues or setons, or applying the actual cautery to the integuments; or the modern one of applying blisters or tartar emetic ointment.

The above case shows us, that a collection of matter in the thorax, by enlarging the chest in pressing down the diaphragm, and producing an adhesion between the diaphragm and liver, may, by bringing on a functional derangement of the latter organ, be mistaken for chronic hepatitis. I mistook the case in the first instance entirely. Seeing a large quantity of matter periodically discharged, preceded by pain in the side and shoulder extending to the insertion of the deltoid, and attended with a dry cough, I concluded that an abscess had formed in the liver, and had burst into the lungs; and that chronic inflammation still continuing in the liver, produced a new collection of matter, after the prior collection had been evacuated. But autopsic appearances shewed that such an opinion, was alike erroneous, with the notion of the ancients, that the expectoration of purulent matter was the necessary consequence of an ulcer in the lungs. We also learn from the above case that a sac containing purulent matter by mechanically irritating the lungs, and thereby producing a greater determination of blood to them, may cause the lungs to take on purulent secretion, which we know to be one of the methods by which a part frees itself from congestion. In the above case, the lungs having removed the congestion, produced by the irri-

tation of the sac, by a copious purulent secretion, would secrete little or no purulent matter, until the congestion, (the formation of which was indicated by pain and soreness in the breast, dry cough and dyspnœa,) had made progress to such an extent, as to become the antecedent to the formation of purulent matter, by which it was removed. Finally, we may infer that the great secret of curing Phthisis Pulmonalis, consists in finding out the antecedent of the pulmonary irritation and removing it if practicable; or if this cannot be done, to establish *new antecedents* of irritation in other parts of the system, either temporary or permanent, and by thus producing an increased determination of fluids to other parts or organs, to *diminish the increased determination to the pulmonary system*, the consequent of preternatural irritation in that system, and the antecedent to those symptoms denominated Phthisis Pulmonalis.

Natchez, (Miss.) Nov. 13, 1824.

Case of Remarkable Costiveness; and Case of Anomalous Symptoms produced by the Irritation of a Foreign Body. By Dr SAMUEL B. WOODWARD.

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J. L., aged about 18 years, fell into a cistern, in the summer of 1818, and injured her head. During the autumn, she complained considerably of headache, which increased in the winter and spring following, and was accompanied by pain in the eyes and limbs, coldness of the extremities and surface of the body, which were pale and bloodless. She now ceased to menstruate; her bowels became very costive, and her stomach very irritable. By the use of friction, warm bath, guaiacum, and other internal stimulants, she mended in the summer, and continued more comfortable till the spring of 1820. At this time her headache returned, and was very distressing; derangement of mind followed, and extreme emaciation and debility. Her stomach was excessively irritable; the bowels obstinately costive, the surface cold and pale. During the fall season the costiveness became more obstinate, and the puking increased, attended by much pain in the abdomen, and daily slight hemorrhage from the lungs; the blood expectorated being of a dark colour. At this time, two circles appeared about the eyes, about two inches in diameter, which were at first pale blue, but in the progress of the complaint changed to the deepest indigo colour, (which considering the paleness and delicate