vomitings, but without other signs of constitutional disturbance. Under these symptoms I enquired if she had a rupture, to which she replied that she believed not, but on rubbing her bowels for relief she had then discovered a swelling in the groin. On examination, a tumour was discovered, of the size of a walnut, resting on Poupart's ligament, midway between the symphysis pubis, and the spinous process of the ilium. This, however, was an enlarged gland, and threw no light on the nature of her attack.

Calomel, and the common purging mixture, with opium combined, were ordered forthwith, and anodyne fomentations to be applied to the belly, and the same repeated early in the morning, if necessary.

31st. 10 a.m. My patient found some relief from the fomentations, but the medicines had aggravated the pain, and vomiting was more frequent, and attended with more pain. Finding therefore that anything of a drastic nature gave her this distress, I ordered her injections with castor oil, the saline aperient mixture, and pills with calomel and opium, to be given every two hours alternately.

5 p.m. No improvement whatever; and as the patient was much worn down by pain and continued retching, I thought it prudent to open a vein, in the hope that such an operation would render the aperients more efficacious. Fortunately, perhaps, for the patient, and owing to faintness, only three or four ounces were obtained. I then persevered in throwing up warm water, with a small quantity of castor oil, until at last two quarts were injected, and the fomentations were ordered to be continued.

November 1st, 9 a.m. I found the patient exceedingly weak, part of the fluid injected returned, and a large quantity of dark-coloured fluid thrown off the stomach. Since the injections of last night pain had ceased, her chief distress now being from frequent vomiting, and from restlessness, arising from weakness; her pulse fluttered; her sight was impaired; she could raise her eyelids with difficulty, and I apprehended that mortification had taken place. A pill, with two grains of calomel, and half a grain of opium, to be given every six hours; half a pint of thin gruel, with twenty minims of laudanum, to be injected every six hours; and a table-spoonful of beef-tea or melted jelly to be given frequently.

5 p.m. The patient remains the same, with the exception that retching is less frequent, and the quantity returned less also. The same means ordered to be continued.

2nd. 9 a.m. Has had some sleep; the pulse is more distinct; vomiting less frequent, though of the same quality. The same means to be continued.

5 p.m. Slight improvement in all respects except as to the torpor of the bowels; the stomach less irritable retching taking place only when its contents amounted to about half a pint.

3rd. 9 a.m. My patient had more sleep, and there was further amendment, with the exception of the absence of all evacuation from the bowels, when it was suggested by a friend of the family that air should be injected to an extent such as the patient could bear, and this was done accordingly.

5 p.m. No benefit was derived from the above-named operation, yet the patient had not lost ground since the morning.

4th. 9 a.m. The patient remained the same in all respects, except that the mouth became tender from the use of the mercury, and the fluid rejected by the stomach consisted of that which was taken, unchanged, but despondency had taken possession of the patient, who turned a deaf ear to all the encouragement offered to her. The plan of treatment to be persevered in, the calomel in the pills being reduced to one grain each.

5th. 9 a.m. No further improvement having taken place, it was agreed upon by the family and myself that I should go to London and have a consultation with Mr. Bacot, the result of which was, that a quarter of a drop of croton oil should be given every two hours until it provoked the bowels to act, which was not adopted, for at 5, p.m., I found since the morning, that my patient had gone through the day as usual, except that within the last hour she had passed a small motion with considerable flatus; this evacuation was in all respects of a healthy character. She was ordered to limit the use of the pill to night and morning, and to continue the injection of gruel and laudanum as heretofore.

6th. 9 a.m. Has had in the course of the night and morning two small motions of the same healthy character; has taken nourishment in a larger quantity; no retching, and has felt better in every respect.

5 p.m. All went on well. The pill was discontinued, and if twelve hours passed without an evacuation, the injection was ordered to be used.

7th, 8th and 9th. The patient improving daily. The stomach and bowels regained their healthy function, and by the latter end of the month she found herself able to attend to her domestic duties as before.

CASES FROM PRIVATE PRACTICE.*

By JOHN RICHARD WARDELL, M.D., Edin.;

Late President of the Royal Physical and Hunterian Medical Societies, Assistant Pathologist in the Royal Infirmary, Edinburgh, &c. &c.

INFANTICIDE.

The condition of the lungs as discoverable on dissection has been long and deservedly considered one of the chief considerations in the medico-legal enquiries on infanticide. Harvey had certain notions concerning the conclusions to be arrived at from these organs, but afterwards Rayger and Schreyer confirmed the hydrostatic test, and to them is undoubtedly due the merit of its first establishment. In a court of justice the medical evidence would most assuredly be asked many questions relative to these organs, hence in the autopsies we can never be too precise and careful in our particulars.

On exposing the thoracic viscera, in both cases it is seen that the anterior margins of the lungs were found to overlap the pericardium almost to its

entire concealment, and in the female the diaphragm was less convex than it is when the lungs are in the foetal state. When the child has been avowedly still-born, a very different state of things obtains; the thymus gland and pericardium are prominently in view; the lungs are quite back in the chest, almost at first giving the impression of their being absent; instead of being of a pinkish red, they are of a liver colour, feel dense to the touch, their edges sharp, and the sign termed crepitation is not present; the thorax is not so ample, and it gives the appearance of being sunken and contracted. "The chest of a full-grown child," says Dr. Traill, "which has not breathed, measures from two to three inches transversely, and from about two to two and a half inches from the sternum to the spine. When the same child has breathed, its chest will be from three to four and a half inches wide, and about three in depth."* In the first of the subjects calling forth these remarks, the colour was exactly similar to that noticed when respiration has been normally performed, except on the posterior inferior parts where there was distinct engorgement; the lungs filled the chest completely, nor was there any of that mottled appearance which is presented when the respiratory process has been but imperfectly carried on. On referring to Case No. VI., it is said "They were of a deep pink colour posteriorly, their anterior margins being of a much lighter hue." From these particulars above, it is extremely probable, if it be not affirmed indubitable, that in each natural breathing had been performed.

Dr. Traill gives the average weight of uninspired lungs at from 430 to 600 grains, and after breathing at 1000 grains; and touching the same question, Mr. Taylor thus states:—"The average weight of the lungs, *after respiration*, derived from three cases, was 927 grains, but in making an estimate of this kind much will depend upon the degree to which respiration has been carried." These remarks are very correct, because a child will maintain a kind of tardigrade existence, and thus live even days, when but a very small portion of the organs are distended, and if subjected to the hydrostatic test, they might in a great measure, and it has even been affirmed entirely, sink, where the child had lived. Mr. Taylor objects, and very reasonably, to the statistical tables of Lecieux, who, in his deductions has not made the requisite allowances for partial and imperfect respiration. It would have been decidedly more satisfactory if Lecieux had based his conclusions from the weights of children as much as possible the same, and where the lungs were in each thoroughly distended, but without these precautions his statistics are not nearly so valuable. The lungs of the female child weighed 813 grains, which is less than the averages of Traill and Taylor. Most of the authorities on the subject, it will be found

on reference, weighed the bronchi and trachea as well, which was not done in this case, as I merely weighed the lungs themselves; nor was any ligature placed around the pulmonary vessels, some blood, therefore, would escape which ought to have been reckoned. Hence, if this escaped blood, the bronchi, and trachea, had also been added, certainly not less than other sixty grains would thus have been obtained, and the weight therefore might with confidence be stated at 873 grains. The weight of the lungs in the male was 812 grains, and thus remarkable to say, being but one grain difference in their weight. Surmising that the operator in this instance had weighed merely the lungs, as I had done myself, I wrote to Dr. Wright making the inquiry, and the following is a quotation from that gentleman's note:—"I have a distinct recollection," says he, "that the lungs were weighed with the bronchi, and the lower half of the trachea attached; and that a ligature was thrown around the root of each lung previously to its removal." The mean weight of these two cases is 842 grains. Taking the detailed circumstances into consideration, and recollecting that neither of the children were large infants, it must be inferred that this test was confirmative of the opinion of live birth.

The lungs may swim when respiration has never in the least degree been performed,—when putrefaction has taken place,—and when they have been artificially insufflated. In both these examples, the most cursory observation denoted that not the least decomposition had taken place, not only in the lungs, but in any part of the bodies; besides, it is well known to pathologists, that all the other viscera have a greater tendency to decompose than these organs. Within the last few weeks I was summoned by the coroner of the district to make an examination on a body then exhumed; and although some parts were passing speedily to decay, the lungs were as little altered in colour, consistence, and other characteristics, as I had ever known them where death had only preceded two or three days. If this had been the cause of their buoyancy, there would have been foetor, discolouration, the absence of crepitation, and other manifest indications of the putrescent state, with unequivocal decay of the other viscera. When the lungs float from the gases generated in decomposition, they do not so lightly swim upon the surface, and the pleural covering is raised with blister-like elevations, which, on being punctured, readily collapse. Any one but little conversant with morbid appearances might at once, in each of these examples, have seen that no putrescency existed.

With regard to artificial inflation, it would be impossible, with any show of reason, to maintain even the probability of such having been had recourse to, in either Dr. Wright's case, or my own. When, thus distended, the inflation is irregular, the air insinuates itself into the interlobular cellular tissue, and

* Outlines of Medical Jurisprudence, p. 71.

Dr. Hunter says that bullæ are produced, which run in lines. It would have been utterly impossible to inflate them, *in situ*, so thoroughly as they were distended in these instances, for even under the hands of an adroit operator, it is difficult to entirely fill them, and far more so by unskilful persons. The air will pass down into the stomach and bowels, and these organs are then found filled with air. It has been proved by experiment, that however perfectly the organs are artificially distended, such distention does not in any appreciable degree add to their weight; whilst on the other hand, the process of breathing makes them almost as heavy again. The forcing in of air rather tends to make their weight less, because it forces out some quantity of watery fluid. Another great test is, that the air thus transmitted can by pressure be perfectly expressed, and the lungs be deprived of their buoyancy; but when respiration has been performed, no degree of pressure, however powerful, can expel the air, and thus make them sink,—facts which have been particularly insisted upon by Beclard, and indeed by all recent writers upon the subject. In both these cases, as mentioned in the reports, even small sections of the pulmonary tissue, however powerfully compressed, could not be entirely deprived of air, and made to sink. The increased weight depends thus, from what has been said above, not merely upon distention; it is owing to the change in the circulation,—to the cessation of foetal, and the institution of separate, life,—to the influx of blood, by which the vascular tissue proper to these organs, becomes normally distended with the vital fluid. When artificial insufflation has been attempted, the lungs are almost invariably but in part distended, the lower portions retain their foetal characters, and when placed in water the inferior parts fall towards the bottom. •

Some rare examples have been recorded where children have breathed before delivery, when the mouth of the child was at the os uteri, which is termed *vagitus uterinus*; and where inspiration has been performed while the head remained in the vagina; such has been called *vagitus vaginalis*. These cases, however, are mere possibilities, and when they have taken place it has been in exceedingly difficult, or, perhaps, it might be said, always instrumental labours. From the thorough manner in which the lungs were filled with air, there could be no plausibility of reason in the supposition that they were distended by the kind of breathing described, either in Dr. Wright's case, or my own.

There are cases recorded in which the foetal lungs acquired a very considerable size from disease; but enlargement from such cause can be readily detected, for they are, when diseased, indurated, and present the characteristics known by the term *hepatization*; and if from *emphysema*, that state is also distinguishable. The mean weight of the heart in these two cases was 346 grs.

It has been maintained by some, especially by Brent, of Vienna, that immediately after the change in the circulating apparatus has ensued, the *ductus arteriosus* becomes manifestly altered; hence this has been called the Vienna test. The professor has with more confidence set forth this opinion than facts substantiate, because it does not invariably present the appearances which he has imagined never fail to follow the establishment of breathing. If this had been an infallible proof of inspiration, it must needs have been of paramount importance, and well-nigh rendered all other investigations supererogatory. In the first case the duct certainly was contracted in its central portion; in the second there was narrowing at the aortal end. In the female the *ductus venosus* was empty, but did not show other indications of change. Dr. Wright makes no mention of this vessel in his report, which is of little consequence where the child has existed but a short time, because the duct does not become very different for some days after birth. In both, the foramen ovale was carefully examined, but in neither was the orifice closed; indeed it is generally some days before it is filled up, and I have seen it patulous in *post-mortem* examinations of the adult, its value therefore, in a medico-legal point of view, becomes very questionable.

In conclusion to these imperfect remarks, a few points may be briefly reiterated. In these cases the length, weight, perfectly-formed nails, abundance of hair, together with other appearances, left not a shadow of a doubt that the children were born at or near maturity; whilst the perfectly expanded lungs, the colour of these organs, their consistency, buoyancy, general crepitation, weight, etc., the contraction of the aortic duct, together with other signs, gave indubitable evidence that the respiratory function had been for a shorter or longer time carried on,—or in other words, that they had supported an independent existence. The mark upon the neck of Case No. V.,—the excoriation, subcutaneous effusions of blood, frothy mucus in the bronchi, congestion of the lungs, bloody coagula discovered in the deep-seated parts of the neck, the considerable encephalic turgesence, and the effusion of dark fluid blood that escaped on removal of the calvarium, rendered it abundantly conclusive that the infant had been strangled; and if the suspicious circumstances under which the child was found, together with the appearance of the funis, be also taken into account, there could be no moral doubt remaining that the child had been feloniously destroyed. Such opinion being deposed, the jury after a deliberate review of the facts returned a verdict of “*wilful murder against some person or persons unknown.*” With regard to Dr. Wright's case, there being no marks of violence, and the manner in which the funis had been divided, that is, its division taking place so near its umbilical insertion, rendered it possible that the

child might, according to the woman's statement, have been suffocated in the discharges, and as there was no further evidence of the graver accusation, she received the benefit of that possibility, and was therefore merely punished for concealment.

Through the kindness of my friend Dr. Browning Smith, of Kensington, who procured for me the body of a still-born child, is briefly presented to the reader the appearances where breathing *had not* been performed, and in these the apposite conditions will at once be manifest.

Post-mortem examination on the body of a still-born female infant, February 15th, 1848. Is a small child, but from the quantity of dark hair, the well-developed nails, on both fingers and toes, as well as from its general appearance, there is no doubt of its having been born at or very near the full period of gestation. The mother stated that it was within a few days of the natural time, and was a *primiparous* birth; chest looks small and contracted; intercostal spaces, especially at the inferior anterior parts of the thorax, very distinctly depressed. On opening the chest, the heart and thymus gland are prominently presented to view; lungs occupy the posterior part of the chest, and when brought forward are condensed liver-like substances; upon being squeezed between the fingers there is not the least crepitation at any part of the organ, and on being thrown into water readily sink to the bottom. The lungs weigh together 365 [?] grains—right 203 grains, and left 183 grains, (without the bronchi or any of the trachea.) Heart rather small, and after it has been washed weighs 150 grains; ductus arteriosus and ductus venous flabby and uncontracted. On reflecting back the scalp some bloody jelly-like matter, in the sub-scapular cellular tissue, similar to what is generally observed consequent upon pressure during parturition; on exposing the external surface of the brain, the convolutions are seen normally developed, and upon making sections of the organ no præternatural vascularity is apparent. The other organs manifest their wonted characteristics.

If the reader compare the appearances discovered in this case with those above, the very diverse conditions of the chest, the lungs, and the ductus arteriosus, cannot but be at once apparent. In this there was no lapping over of the anterior margins of the lungs on the pericardium, but the heart and thymus gland, as mentioned, were prominently presented to the view. Again, the organs were of a dark liver-coloured red, not the bright pink as witnessed in instances where the function of respiration has been carried on; and instead of being buoyant, they quickly sunk to the bottom. In this example the pulmonary organs did not fill the chest, but occupied a very inconsiderable space, and on first opening the thorax it almost seemed as if they were really wanting, whilst the absence of crepitation, and their weight, exemplified the broad and wide difference between the examples contrasted. Regarding this illustration, then, as a negative proof of the conclusions arrived at above, it tends to confirm the opinion that Cases V. and VI. had respired, and consequently been self-existent beings; and so far as the first example is concerned, and of which I can more positively speak, there can be no sort of moral doubt

at its being destroyed, and especially when the line on the neck, the great vascularity of the brain, together with other conditions, are also taken into account. There are some other considerations, perhaps, which might have been briefly mentioned in these imperfect remarks, that have not been adverted to, but as it is my intention to institute a series of enquiries touching certain points in the pathology of infanticide, I hope that in a future communication these will be fully embraced.

(*To be continued.*)

Hospital Reports.

CUMBERLAND INFIRMARY, CARLISLE.

SURGICAL CASES UNDER THE CARE OF W. B. PAGE, ESQ.,

(Reported by EVAN THOMAS, Esq., House-Surgeon
to the Infirmary.)

CASE I.

DISLOCATION OF THE RIGHT HIP ON THE DORSUM
ILIUM: REDUCTION AT THE END OF MORE THAN
SIX WEEKS.

Robert H., a robust railway labourer, aged 22, was admitted from Crawford Mair, in Scotland, October 19th, under the care of Mr. Page.

He stated that while working on the Caledonian railway on the 4th of September, he was violently knocked down by a slip of earth falling upon him, he being at the time in a stooping posture, and when taken up he found that he was unable to move his right thigh. A surgeon who saw him immediately afterwards, detected the dislocation, and aided by fourteen men, made strenuous efforts to reduce it, but to no purpose, and since that time several "bone-setters" had made similar attempts, but with no beneficial result. Nothing had been done for three weeks prior to his admission, he having been persuaded that the limb only wanted exercising to become useful. He had struggled hard to crawl about with the aid of crutches, and was daily gaining more power on the limb. On admission the right leg was more than three inches shorter than its fellow, inverted, and the great toe resting on the left metatarsus. On examining the gluteal region, the nature of the injury was at once apparent, as the head of the femur could plainly be seen, and felt rotating, when the limb was moved, high up on the dorsum of the ilium.

After having been in a warm bath for an hour, in which he fainted, he was laid on a mattress on the floor lying on his back, his pelvis being kept steady by a jack towel placed around the perineum, and fixed to a hook in the floor. A bandage was applied above the knee, and gradual extension made with the pulleys in a direction across the opposite thigh, just above the knee. He was kept in a depressed state by the administration of repeated doses of tartar-emetic, and after nearly an hour was bled to about forty ounces. The limb was occasionally rotated during the period