says, "had Dr. Black been acquainted with these, he would find that the 'facts' he adopts as his premises have been long since proved by direct experiment not to occur during asphyxia".

But what are these direct experiments which controvert my facts? He thus refers to them: "thus the blood may be seen in the *opened* thorax to pass freely through the lungs for some time after the respiratory movements have ceased, etc." I have italicised the word "*opened*", for the whole gist of the controversy lies here. My reviewer, like many others (I will not impute this to Dr. Johnson), seems to think and believe that what takes place in the *opened* thorax, must necessarily take place in the same chamber when *closed*. But the very point to be ascertained is what takes place in the chamber *on condition* of its being closed, and the vivisector with curious infelicity lays it open to ascertain the point, and my critic has perhaps fallen into this pit, and accepted his logic.

Dr. Johnson, preferring Dr. Reid's theory to my own (I am not answerable for the accuracy with which he has given it), says, "Dr. Reid clearly demonstrates that the first impediment to the circulation consequent on the exclusion of air from the lungs occurs, *not in the pulmonary, but in the systemic vessels*". Surely this is contrary to the generally received facts. Have not all observers testified to the *post mortem* proof of asphyxia, as consisting in distension of the right chambers of the heart, and absolute or comparative emptiness of the left? But how could this occur if the systemic capillaries refused passage to the blood? Should we not on such an hypothesis expect to find distension of the arterial system? The blood cannot pass onwards, retreat is obviously impossible, it must therefore remain incarcerated. If I admitted this supposed fact, I would give consideration to Dr. Johnson's ingenious explanation of it, but meanwhile I am excused from attempting this.

Passing from the subject of asphyxia, I go on to the very brief remarks that are offered on my theory of the *thin* pulmonary ventricle; and in the first place I notice what my reviewer is pleased to say about Dr. H. Davies' dismay on my believing an equality to exist between the openings of the pulmonary artery and the aorta. I feel quite certain that Dr. H. Davies will neither raise the eyebrow nor curl the lip on reading what I have said on this subject. I was not indeed acquainted with his excellent and instructive essay, until my attention was thus called to it, but having now read it, it is an agreeable duty to acknowledge his philosophic handling of the subject. But I must not be understood as consenting to all his inferences. Whilst there are some points which we hold in common, there are others on which there is a radical difference between us; and I should be quite willing to accept Dr. Davies' measurements in preference to my own, and still draw the same conclusions, which indeed are rendered rather stronger than weaker by this emendation.

THORACENTESIS: THE PLAN OF CONTINUOUS ASPIRATION.

By F. CRESSWELL HEWETT, A.M.D.

IN cases of empyema, where the cavity has been evacuated by the aspirator, etc., it frequently refills and has again to be emptied, the secretion of pus taking place from the thickened and vascular pleura, parietal and pulmonary, forming the walls of the cavity. In these cases, the removal of the fluid appears to determine an unfavourable result, for, the pressure being removed suddenly from the vessels in the walls of the cavity, transudation takes place, which is followed by the formation of pus, and consequently leaves the patient in the same condition as he was previously as regards the existence of the cavity, while he is greatly debilitated by the loss of the nutritive elements forming this new supply of pus. Beyond this, the occurrence of hæmorrhage into the cavity after its evacuation is by no means rare; and, in the general debilitated state in which these cases must necessarily occur, such loss of blood *per se* is sufficient to cause grave anxiety.

I think that, by the mode of procedure here described, such chances of the repeated filling of the cavity with pus or of hæmorrhage, may be materially lessened. The operation is briefly this: paracentesis being performed with an ordinary trocar and cannula, a caoutchouc tube is passed through the cannula into the empyemic cavity; the cannula is then extracted, and the outer end of the caoutchouc tube is attached to a glass tube piercing the cork and reaching to the bottom of a vessel containing a weak solution of Condy's fluid, or other antiseptic. By gently lowering and raising the bottle, the cavity is washed out, and by changing the first bottle for another and similar one, the cavity is evacuated of pus and filled with the antiseptic solution; thus, the pressure on the vessels in the walls of the sac is not much if at all

altered, and hæmorrhage and transudation are prevented. The amount of fluid allowed to remain in the cavity is lessened day by day by increasing the syphon-action of the apparatus by keeping the bottle at a lower level each day than the day previous. The thoracic and pulmonary pleura gradually approximate and coalesce.

To say the least of this mode, abroad, in many cases where it is necessary to evacuate pus from the thorax, recourse must be had to the use of instruments which, in the great centres of advancement, are looked upon as almost primitive, and to their use the above method cannot add any complication; while, from the results of two cases, as far as the operation went, which were treated upon this plan, hope appears of doing something more for the patient than is frequently attempted or possible.

OBSTETRIC MEMORANDA.

VICISSITUDES OF LABOUR.

OCCASIONALLY patients give accounts of the practice of their previous medical attendants, which are remarkable only for the misconceptions they betray. The following history of successive labours, however, scarcely admits of that explanation, extraordinary as it is; and it occurs to me to be interesting enough to be placed on record. I was requested to deliver the patient on the last occasion mentioned below, and she subsequently gave me the following information. In her first labour, which occurred when she was 28 years old, she was attended by a student from a neighbouring hospital. At the instance of her friends, the resident accoucheur was twice summoned during the first twelve hours; but he saw no occasion to interfere. At the eighteenth hour, a neighbouring practitioner was called in, who expressed the opinion that the cause of delay consisted in a contraction of the pelvis, and he at once proceeded to deliver with the forceps, which, he thought, might have been advantageously employed much earlier. On the second labour, the same surgeon was engaged to attend. It was conducted by his brother, who, at the thirty-fourth hour, attempted delivery with the fillet; but, he failing, the former came to the rescue with the forceps, with which he extracted a moribund fœtus, which subsequently died. Appalled by her previous experience, and entertaining the idea that delivery might be effected in some other manner, in the seventh month of her third pregnancy she sought a new adviser. She was not disappointed; for this gentleman, without making any previous vaginal examination, promptly decided that the induction of premature labour was necessary, and within a few days performed the operation. Labour came on; the feet presented, and the body was born without assistance; but, in order to deliver the head, it was deemed necessary first of all to reduce its bulk by craniotomy. These vicissitudes convinced the patient that there must be something very serious in the condition of her pelvis, which appeared to offer greater obstacles to delivery with each succeeding labour; and on the fourth occasion she felt she would be scarcely safe but in a lying-in hospital. She obtained a bed, and at the full term labour commenced; but, instead of having a harder time of it than ever, she was delivered in the course of eight hours of a well grown female child without any assistance whatever. Such were the peculiarities of her pelvis. On the fifth occasion, encouraged by her last experience, she determined to lie-in at home, and engaged a midwife to attend her. All was again changed. The breech presented, and, after labour had continued for eighteen hours, the midwife made strenuous efforts to assist delivery. These failing, I was sent for, and, of course, I was informed that the child was "jammed" in the pelvis. The patient was suffering very severely, either from the protracted labour, or (as she said) from the interference to which she had been subjected. On making an examination, I first of all discovered an extraordinary gap in the foetal perineum; and, on making some remark upon it to the midwife, she volunteered that she was afraid the child's leg was broken. Such turned out to be the case. Although the pains were fair, and promising to expel the child in a reasonable time, the mother's condition made it necessary to deliver at once; and that, with the assistance of a ligature passed through the groin, was very easily effected, for the pelvis presented no abnormality whatever. On examining the child, I found that the midwife, mistaking the breech for the bag of waters, had thrust her finger through the perineum, producing a gaping wound an inch and a half deep. Much force must have been used to effect this; for the wound did not involve either the vagina or the rectum, so that the skin must have been penetrated. The right thigh-bone was fractured about its middle. The child perfectly recovered from both these injuries; but the mother suffered from a severe attack of fever of the milder kind, and was not well for two months.

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