fibrine were found obstructing the passage of the blood, more especially on the left side, where they extended for about an inch and a half into the primary divisions of the pulmonary artery. Beyond these the arteries were nearly empty, containing only a little fluid blood. These clots were of a yellowish or buff colour, very firm, but not moulded to the vessel in which they lay, and were very different from the soft gelatinous clot in the right ventricle. They were of a leathery consistence, and were not surrounded by any black coagulum. On section, they were all uniform in colour, and partially laminated, with the exception of one, which lay across the pulmonary artery, and was nearest to the heart. In the centre of this, was found a piece of fibrine, of the shape of an almond, and three-quarters of an inch long, surrounded by, but separate from, the remainder of the fibrine, which was of less firm consistence. At its base was an irregular surface, which fitted closely to a corresponding rough surface in a clot in the iliac vein. The valves of the heart and large vessels were quite healthy in structure, and none of the clots were adherent. At the junction of the internal and external iliac veins on the right side was a clot of fibrine about two and a half inches long, adherent at its distal end to the internal iliac vein, while its other extremity was free and lay in the common iliac vein, but not filling up the whole of its canal. About its centre was the roughened portion previously described, from which the nucleus in the pulmonary clot seems to have been detached. The uterus was perfectly healthy and well contracted, and its veins contained no coagula.

The symptoms which caused the death of the patient were so characteristic of obstruction of the right side of the heart and pulmonary arteries, that no other diagnosis was possible. They are precisely those which have been described in numerous cases of the kind which have been recorded. The very careful *post mortem* examination conducted by Dr. Kelly clearly showed that this was a true case of embolism. For, first, was found the firm coagulum obstructing the right iliac vein, showing a ragged portion at the juncture of the right with the common iliac vein, which looked exactly as if a piece of fibrine had been detached from it, and markedly different in appearance from the smooth surface of the coagulum at every other part. Then in the pulmonary arteries were found various masses of fibrine obstructing their calibre, and in the centre of one of these a separate nucleus of fibrine, differing in texture from that surrounding it, and presenting at one extremity a jagged portion, *which accurately fitted the corresponding point in the iliac clot.*

It is very clear, therefore, what had occurred. At some period during the eight days which elapsed between the operation and death, a coagulum had formed in the iliac vein. The portion found in the centre of the pulmonary coagulum had become detached, and was carried through the venous circulation until it was arrested in the pulmonary artery. This, probably, corresponded with the sudden rise in the pulse and temperature on the evening preceding delivery. During the night, the fresh fibrine which surrounded it was deposited, and the pulmonary arteries became more and more obstructed until death ensued. The original coagula in the iliac veins seem to have caused no symptoms, or at least none that were observed.

This explanation of the phenomena is necessarily theoretical, but it is, I believe, the only one which will fully account for the symptoms, and it is strictly in accordance with what has been observed in other cases which have been recorded. There is one difference, however, between this and every other other case of undoubted pulmonary embolism after delivery, which I have yet met with, which is worthy of remark. I have shown by an analysis of twenty-five cases after delivery that, in twelve which were probably due to embolism, the death occurred a considerable time after delivery—generally after the nineteenth day; while, in the remaining fifteen, where the coagulum apparently formed *in situ*, the fatal result occurred at a much earlier period. I explain this curious difference on the supposition that embolism must be preceded by the formation of a blood-clot in some of the peripheral veins, in consequence of a similar blood-dyscrasia to that which produces primary coagulation in cases of pulmonary thrombosis, and occurring about the same time after delivery, and it is not till then the clot so formed has had time to change and soften that a portion of it becomes detached and carried through the circulation to the heart.

In the case above narrated, however, the embolus seems to have been detached *before* delivery. The difference is probably due to the fact that the iliac clot was formed during some portion of the eight days which elapsed between the operation and the death of the patient; and its original deposition may have been produced by some blood-changes resulting from the operation itself. In the absence of any definite data as to the exact time at which it was formed, there is nothing to prevent us from believing that a sufficient period had elapsed to allow of those retrograde metamorphoses of the fibrine which favour the separa-

tion of a portion. As this is the only case in which death so nearly coincided with delivery, and as it was preceded by an operation, it seems a very fair inference that the operation was in some way the determining cause of the coagulation in the iliac vein, from which the embolus was derived. There can be no doubt that the alteration in the blood due to pregnancy favoured the occurrence; but, beyond this, it is questionable whether the delivery itself had anything to do with it; and I see no reason to alter the conclusion at which I formerly arrived, "That embolism usually occurs at a much later period after delivery than thrombosis; and that spontaneous thrombosis probably corresponds with, and is due to, some cause similar in its nature to that which produces the obstruction of the peripheral veins in true cases of embolism."

NOTES OF A CASE OF SEPARATION OF THE UTERUS FROM THE BODY BY LACERATION DURING LABOUR.

By THOMAS PAGET, F.R.C.S., and EDWARD R. C. DENTON, M.R.C.S., Leicester.

THE distressing imputations which Mr. Popplewell has recently incurred by attendance upon a case of entire separation of the uterus from its vaginal attachments, prompts us to offer the following report of a similar sad occurrence which has come under our own notice. The more frequent such records become, the less liable will our professional brethren be to suffer from misconstruction on the part of the ignorant.

February 11th, 1869. S. F., aged 24, the mother of two children, was confined of her third full-grown child this morning early. The labour was described by the midwife and others present as not unusually severe, and it was over in three hours. The placenta was removed with but little traction twenty minutes after the birth. To this, however, on examination, a large fibrous mass was found to be attached, and closer investigation showed that this mass comprised the whole uterus, Fallopian tubes and ovaries; with, of course, their usual peritoneal covering. The vaginal membrane hung loose and was jagged by laceration. Surgical aid was sought; but the poor woman collapsed and died in full retention of her senses about three quarters of an hour after delivery, and before Mr. Denton's assistant could arrive. The quantity of blood lost does not appear to have been large or above the average of labour.

Post mortem section showed the pelvis occupied by coagula; and the hand passed from the abdomen to the os externum, through which the fingers readily made their way out.

If it appear at first as probable that in these cases the dreadful result has for its cause an undue force used by the obstetrician, let us take a view of the uterus at the point of mature gravidity, floating in the abdomen, moored, so to speak, to the pelvis only by the round ligaments and the unsubstantial vagina. Then let us see it in labour as the power for forcing the fetus through the pelvis, the only power, indeed, except the abdominal muscles, attenuated as they are at the full period. Whether their aid be much or little, or whatever may be the force left for the uterus to exert, its capability and habit of violent effort is great, and may be estimated by the pinching and extrusion of the hand of the operator in cases of turning and hour-glass contraction, and cannot be lightly considered by those who have had their hand paralysed for the time by it.

For the exertion of the detrusive power of the uterus, there is no *point d'appui*, no purchase, except the forenamed slender moorings—the round ligaments and sheet-like attachments of the vagina. Who shall wonder that they occasionally give way? Nor, looking further at the mechanism of parturition, and the opportunities of doing mischief open to the practitioner, do we find more than the bare possibility of this damage arising from such a source. It is certain that no force can be applied to lacerate the uterus from its pelvic attachments until it is inverted and wholly outside the vulva; and surely not the most wretched meddler would be so mindless as to continue traction beyond this point—to remove a placenta when twice its substance was already in hand. The uterus, too, after dilaceration, would remain inverted, which condition has never yet been named in connection with the accident, and certainly did not obtain in the present case. If any one, then, be ready to believe that in turning or hour-glass contraction of uterus sufficient force can be used by the operator simultaneously with the paralyzing contraction of the womb itself to tear away the womb itself, we cannot think that he has ever had his hand cramped into a powerless state as above.

It may be mentioned that the verdict at the inquest expressed that there was not sufficient to show that undue force had been exerted by the midwife, who had previously attended more than 500 labours.