

out around and between the villi, until these villi, already shrouded in the two decidua membranes, are completely bound up and embraced by the delicate membrane constituting the walls of the sinuses, which thus encloses them upon every side, and amongst which, these tufted villi may be said to take root. All intercourse existing between the circulation of the mother and that of her offspring, takes place through the medium of the two decidua membranes, the one placental, the other uterine, through the intervention of which the tufted, arborescent villi of the chorion are brought into close approximation with the blood of the mother contained in the uterine sinuses; the fatal blood being oxygenated in its transit through these villi by the arterial circulation of the mother, exactly in the same manner as the blood of fishes and of the larvæ of the *Batrachia* is aerated in their branchial tufts by exposure to oxygenated water.

The union thus established between the placenta and the uterus, though sufficiently firm for the respiratory purpose it was destined to fulfil, is quite incapable of withstanding the violent muscular contractions of the uterine walls which accompany the expulsion of the fœtus, and the placenta is commonly thrown off by the same contractile effort which accomplishes the birth of the child; the delicate walls of the uterine sinuses being torn and lacerated in the violent separation; and these being frequently of a size sufficient to admit the passage of a finger, it is evident that the life of the mother at this critical period depends upon firm and persistent contraction of the muscular fibres of the uterus;—this failing from any cause, and for a very short period of time after the detachment of the placenta, she dies.

It would be impossible to enter into a consideration here of the causes which predispose to hæmorrhage after delivery, or of the management during parturition, best calculated to avert that catastrophe; nor can I touch upon the various kinds of post-partum hæmorrhage, depending upon a great variety of causes (such as intra-uterine polypi, peritoneal adhesions to the fundus or body of the womb, and the irregular action of the uterine fibres known as hour-glass contraction. And that peculiar, but not uncommon condition of the organ, wherein various sets of fibres composing its walls are successively and alternately

contracting and expanding irregularly, producing no uniform condensation of the tissue, and giving the uterus a knotted and uneven sensation beneath the hand, all of which are attended by more or less pain, and a troublesome and exhausting discharge, and which, individually require for their management a modified treatment, specially directed to the peculiar circumstances of each, such being beyond the scope of this paper.

The cases to which I now especially refer, comprise that large and important class, wherein from a variety of causes, (impossible to enumerate here) the uterus shortly after the delivery of the child, and either previous or subsequent to the expulsion of the placenta, not only fails to contract uniformly and persistently, but remains so passive and inert that it is rapidly distended by the pouring out of blood from the uterine sinuses, and not unfrequently expands or relaxes so suddenly as to draw in through the vagina a considerable amount of air.

In these cases, as is well known, the organ is no longer found small, firm, and hard beneath the hand placed over the hypogastrium, but a large, soft, diffuse tumour occupies the abdomen, and these symptoms are accompanied, either internally, externally, or both, by rapid and alarming hæmorrhage.

The great desideratum here is doubtless to procure prompt and permanent uterine contraction, and the measures we find recommended in the text-books, such as grasping the uterus firmly through the abdominal walls; friction and kneading of the same; the sudden application of cold by means of wet cloths to the genitals and hypogastrium, or by pouring cold water from a height upon the abdomen; the administration internally of emetics, ergot, cold drinks, opium in various forms, and acetate of lead; compression of the aorta; cold enemata thrown into the rectum; galvanism and the introduction of the hand within the uterus, all have the same object in view, namely, to rouse the organ from its inertia and to excite contraction of its muscular fibres.

But this inertia, in a large number of cases, depends upon exhaustion of contractility, arising from excessive or long continued action, nervous shock, &c., and many of the remedies above named, if persisted in beyond a certain point, not only possess no virtue, but are positively produc-