

previous to detachment, at menstruation and during gestation, Kundrat and Englemann have stated that "if we examine the process of menstruation, we will find that the cellular elements surrounding the tubular glands undergo rapid proliferation, especially those layers which are nearest to the cavity of the uterus, while the glands themselves participate in this activity, becoming thereby larger, and thrown into wavy folds, in order to accommodate themselves to this increased length. If there is no necessity for further development, a process of fatty degeneration commences in the most superficial layers, where the growth was most rapid, including the interglandular tissue, the epithelium of the glands and the blood-vessels—which may possibly be caused by the fact that this extreme activity of growth may have cut off, by the compression of the bloodvessels, the source of nutrition. The walls of the capillaries now rupture, and the menstrual hemorrhage is established, while the superficial layer of the mucus membrane is gradually cast off with the discharge.

But if fecundation has occurred, this retrograde process does not take place, but, on the contrary, excited by the stimulus of the growing ovum, the inner two-thirds of the mucus membrane now participate in the process, many of the cells in the interglandular substance become larger, and send out prolongations, while their nuclei undergo repeated division.

The orifices of the glands are separated from each other, while their calibre is narrowed by the advancing growth." The mucus membrane gradually loses its peculiarities of structure, and finally appears a transparent homogeneous membrane at term. The ovular and uterine decidua coalesce after the fifteenth week. At birth it has been observed that the uterine decidua hangs in shreds upon the ovular decidua. Virchow notes a case where the membranes after birth "were found to contain hypertrophied decidual elements, but also muscular fibre-cells; and he further remarks the case, in this respect, remains unique." I have no fault to find with Virchow's facts as to the actual presence of muscular fibre-cells attached to the decidua, inasmuch as I have time and again recognized the same condition under the microscope, and if that illustrious pathologist had deigned to read the paper, (I have already mentioned,) presented to the Obstetrical Society of London, in July, 1872, he would have found that the case related by him is by no means a unique one. The same author would have found that the character of labor that occurred in the case he records

is precisely the same as a case noted by myself, given in illustration of the views then advanced.

But to return to the mucus membrane during gestation, it is self-evident that there is a sufficient contact with the muscular surface to preserve its vitality. Also that pathological changes supervene with the progress of gestation and finally detach it about the end of the ninth month, or 275th day. At this period the changes just mentioned cause the decidua, with its contents, to act as a foreign body inducing reflex action of the organ, and this ends in expulsion of the foetus and after-birth. Thus we have a satisfactory answer to the question, "why labor supervenes at the end of the ninth month."

This view, taught to my class four years ago, is now accepted by several writers on the subject, and will be, ere long, acknowledged by all teachers of midwifery. Dr. Karl Schroeder accepts and enunciates the views advanced by myself as just stated, and says, "that as pregnancy advances a fatty degeneration of the decidua takes place (which reaches its climax at the end of the tenth lunar month,) whereby the organic connection between the ovum and the uterus gradually becomes solved, and the ovum acts as a foreign body and irritates the terminal fibres of the motor nerve of the uterus, the sympathetic when this irritation has reached a certain degree, a corresponding reflex action, in the form of a contraction of the uterine muscular fibres, takes place, which contraction is repeated as soon as the requisite sum of irritation is again obtained; and this rotation continues, each successive contraction being intensified by the separation of the ovum, from the uterine wall, and therefore stronger and more rapid, until the expulsion of the ovum takes place."

Abortion, like parturition, must be due to reflex action of the uterus, excited by the pathological condition of its contents. Admitting the correctness of this view, we must seek out the causes that endanger the life and development of the embryo, and not unfrequently jeopardize the life of the mother also. These pathological changes are, in my opinion, chiefly due to a diseased condition of the mucus membrane prior to conception. From this condition of things as a starting point, I think we can trace a large amount of uterine disorders, such as hyperplasia of the body and the neck, abrasions and ulcerations of the os and cervical canal, with their accompanying phenomena. I am aware that, on the other hand, it may be argued that many of the conditions of the uterus, as mentioned, may be regarded as the result rather than the cause of abor-