

and while I had had no reason for opposing the views of the leading histologists of the past decade, like Dr. John Williams, and all others who had worked in my line in physiology, I had put one of the effects for the cause, and accepted their dogma, that the blood vessel itself, instead of being merely the means by which nutrition is brought to a rapidly growing tissue, is in reality the *source* from which that tissue springs.

I was peculiarly fortunate in my material, for I was frequently able to freeze and cut a specimen that Mr. Tait had removed from a living subject, before there was any possible chance for post-mortem changes to take place. Among these specimens, I obtained several menstruating uteri, whose conditions I could in no way harmonize with the views of menstruation, as taught by Dr. John Williams. Not satisfied with these specimens which, as some might have said, had already had pathological changes; through the kindness of the staff of the General Hospital in Birmingham, I was given free access to the immense mass of material which its dead house afforded, and for several months spent my leisure time studying the life history of the human endometrium. From this work I was convinced, that not only was Dr. John Williams wrong in his idea of the shedding of the endometrium, but that the endometrium itself, like the lymphatic gland, is another mass of adenoid tissue, whose function is to form the placenta. Like some other organs in the body, the hair follicles and the like it lies dormant for the first few years of extra-uterine existence, and like the thymus gland, finishes its course long before the rest of the economy is exhausted.

By a strange coincidence, just about two years ago, when I gave the results of this work to the British Gynæcological Society (without either of us having the slightest idea of the contents of the other's paper), Mr. Bland Sutton read a paper on "Menstruation in Monkeys," which, so far as it went, fully confirmed every idea which I had advanced in regard to the errors of Dr. John Williams, and all those who claim that menstruation destroys instead of purifying the endometrium. Being satisfied from its integral elements that I had a permanent adenoid tissue to deal with, the question at once came up, Where is its emergent stream which washes away its ripened products common to all other adenoid structures? The

answer came at once — It is the menstrual discharge, and it is the spleen, and not the axillary gland to which it is most closely allied. In the herbivora, however, whose comparative anatomy I at once began studying, I found not only the same adenoid tissue, but a lymphatic apparatus which was capable of disposing of any possible amount of corpuscular growth which the cotyledons, under any circumstances, could produce. Thus showing at once that it is the erect position which necessitates menstruation; for with loose lymphatic network, necessary to the passage of a lymph stream, the erect position of the uterus could not possibly be maintained. The lack of this lymph stream also shows the necessity for the maternal placenta, being passed *in-toto*, and not being left to be absorbed, as is the case with the diffuse and multiple, and some forms of the single placenta.

After these studies of the herbivora, I went more deeply into the comparative histology of the endometrium, the results of which were given to the British Gynæcological Society last June. It would occupy too much of your time to follow out at length the reasonings in that paper, but those of you who wish to see it will find it in the November number for 1887, of that Society's journal. The deductions which I draw from it are that *all* endometria are adenoid, but as there are great variations in the different forms of the placenta of the lower animals, there necessarily must be great differences in the structures of the organs which make them, and, further, that the same endometrium, particularly of the dog, goes through very radical changes, during the cycle of the rut, and that the causes for the widely different descriptions with which the world has been presented by different observers, of the same endometrium, is due to their examining it in different stages of the cycle of the œstrus. But for our present purpose, the principal thing that is necessary to know is, that from the ultimate fibres of the endometrium, no matter to what animal it may belong, there is a greater or less cell development constantly going on.

Last September, before the American Gynæcological Society, I reported a paper, which shows what the arrested development of this organ may accomplish, and what I now wish to give to you, is the picture which its one development produces. The first idea I ever had of the real nature of the