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LETTER TO THE EDITOR

I enjoyed your lingering thoughts on the three departed lymphateers—Degni, Casley-Smith, and Grandval (1)—all great persons and generous hosts. I hope their lymphomania serves them well and those of us who congregate with them in cyberspace.

With respect to Florence Sabin, the forgotten woman professor at Johns Hopkins University (2), I think you gave her less credit than she deserves in the Science of Lymphology. If you examine her contributions to embryology published during World War I (3), you will find that Sabin was one of the first to recognize that lymph arises initially from mesenchyme in the form of separate plasma-filled spaces wherein red blood cells become suspended; and that the lymphatics arise by coalescence of such plasma-filled spaces when plasma flow toward the definitive heart becomes established in chick embryos. Kampmeier (4) disputed her theory of lymphangiogenesis by sprouting from veins, because he found that the definitive lymphatics arise as separate plasma-filled mesenchymal spaces which arise near the jugular veins and coalescence in a progression which parallels the development of arteries extending from the definitive heart. With establishment of continuous arterio-venous flow through the capillaries, the lymph hearts in the thymus and lymph nodes disappear such that few lymphatic-venous connections remain other than the paired cervical and thoracic ducts which drain in synchrony with inspiration into the jugular or subclavian veins (5). Thus, Sabin was among the first to recognize that lymph plasma, essential to the circulation of red blood cells and other formed elements, takes its ultimate origins from mesenchyme. Without this lymph, such formed elements could not flow to induce vascular genesis in proportion to the local flow volume and rate established (5).

After World War I and until 1939, Sabin and her followers (Doan and Cunningham) more or less also established that the mesenchyme, not circulating stem cells, was the true source of all kinds of blood cells as well as the vasculature. During that period, Sabin became a giant in the field of bone marrow development and hematology while working at the Rockefeller Institute from 1925-1938. One of her last publications [J. Exp. Med. 70 (1939), 67-81] featured clasmatosis as the mechanism of soluble antibody formation.

Malcolm Hargraves (of L-E cell notoriety) took some training with Sabin and was my preceptor in Hematology at the Mayo Clinic in 1953-56. He and I became interested in clasmatosis in the wake of Sabin and afterward Hal Downey and Franz Weidenreich, whose work on the development of organized lymphatic tissue from mesenchyme and its relation to development of the vasculature still remains a classic.

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