a mesenchymatous tissue. It is thought by some that these early cells are distributed throughout the body to form the later lymph nodes.

After lymph glands appear they probably assume a function of producing leucocytes, and it appears evident that the various leucocytes form different elements in themselves, which have the power of multiplication by mitosis.

It is difficult to make a comparison or to draw any conclusion as to the origin of the white cells by the study of the various vertebrates, for the mode of origin in these different species varies. Thus, in fish and certain amphibia, the bone marrow takes no part in blood formation, and in other vertebrates the lymphatic system is wanting. So we must confine our remarks to the conditions found in man.

The first white cells develop as specific elements from certain embryonal mesoblastic cells, and for some time previous to the development of definite blood forming organs these primary leucocytes multiply in the blood stream. Soon after this the leucocytes are developed at certain sites, which Saxer holds become established by the proliferation of obstructed leucocytes in the mesenchyme. Saxer believes that both red and white cells are produced at these sites.

The thymus gland is considered by most authors as being *par excellence,* the most important organ producing leucocytes in the embryo and fœtus. A number of authors, (Beard, Nussbaum, Schulze and Bell), maintain that the epithelial tissue of the thymus is converted into lymphatic tissue. Beard goes so far as to say that all lymphatic tissue has its origin in the thymus.

It is important to note that certain lymphatic tissue is developed from cells which have wandered to the site from elsewhere, either from the blood or from tissue cells. In the fœtal liver small collections of leucocytes are found on the outside of the capillaries. Whether these cells have originally wandered into these sites, or whether they became developed from the capillary endothelial cells is difficult to say. It is, however, evident that the liver is more active in producing white cells during the first half of fœtal life than it is later. At what stage the spleen enters into the production of leucocytes is not known. The bone marrow is the last tissue which takes on the function of producing white cells. Some believe, that the white cells produced there, are derivatives of leucocytes which have wandered in, others hold that the white cells arise from the connective tissue of the part.

Askanazy supports the view that leucocytes and red blood cells are developed from definite cells which constantly reproduce these cells, but he is also inclined to believe that other than these specific cells may