still no nuclear membrane and still no iron-holding nuclein compounds in the cell body or process. The cell bodies appear, quite frequently, reticulated.

The equatorial-plate stage is soon passed, and the chromatin begins to distribute itself in the nucleus. Various steps in the distribution of the chromatin may be followed until a stage, such as is represented in Fig. 15, is reached. By this time a nuclear membrane has been formed. Usually several masses of chromatin are found touching the nuclear membrane, while others are found towards the centre of the nucleus, but all seemingly connected by filaments. There is, as yet, no oxyphile substance in the nucleus. These cells are usually found under the membrane of the medullary canal but in very young embryos they occur in the mantle layer. The nucleus is entirely excentric and the cell body runs out into a long process. The cell body and process are still entirely free from iron-holding nuclein compounds.

As the cells pass outward into the mantle layer and become older, the substance having affinity for toluidin blue in their nuclei disappears and a substance with more affinity for eosin takes its place. Synchronous with this change, a substance with great affinity for toluidin blue appears in the cell around the nucleus (Figs. 16 and 17). With the appearance of this substance in the cell body iron may be detected there for the first time. In this stage, which would correspond to stage 4 of the series described by His, there are several granular masses in the nucleus with marked affinity for toluidin blue, but the most of the nuclear chromatin stains intermediate between the red and the blue.

As development proceeds (Figs. 18 and 19) the basophile substance in the nucleus continues to decrease, while the basophile substance in the cell body increases, and as it does so the affinity of the nuclear chromatin for eosin also increases correspondingly. One part of the chromatin does not alter but remains basophile and constitutes ultimately the peripheral portion of the nucleolus. Figs. 18 and 20 represent cells from the same embryo. The one indicates the distribution of the oxyphile and the basophile parts, while the other shows that both contain iron.

In Figure 21 is represented a cell from the medulla of a 32mm. pig embryo. The basophile substance forms a homogeneous mass filling the cell body. The cell may be said to have undergone at this time complete development of its chromatic substance, for now the nuclear oxyphile substance is completely digestible, and it stains like the substance found in the nuclei of adult mammalian nerve cells.