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Nissl<sup>16</sup> describes the bodies stained by his method, as having the form of larger or smaller, round, oval, spherical, often angular or irregular masses which have thread-like processes. These thread-like processes often unite the different masses into a true reticulum. Bühler<sup>17</sup> and Cox<sup>18</sup> for the spinal ganglion cells<sup>19</sup> and Flemming<sup>20</sup> for the cells of the cord of *Gadus* have noticed this reticulum of chromophilous substance. The reticular nature of this substance is frequently seen in the spinal or sympathetic ganglion cells, or in the cells of Purkinje in the cerebellum, and is occasionally seen in the cells of the cord and cortex. In sections stained with toluidin blue alone, the nucleus is seen as a clear space in the cell containing a large, round, deeply-stained nucleolus. There is usually nothing else stained in the nucleus, but occasionally there may be a faint bluish tint along certain lines.

If instead of employing toluidin blue alone, we use a cytoplasmic stain with it, we get the intergranular substance stained as well as the granules. The combination of eosin and toluidin blue, as employed by Mann, was the one used most frequently, although erythrosin and methylene blue, as employed by Held, give good results. Using these dyes we find the Nissl granules are stained blue, while the intergranular substance appears red. (Figs. 1 and 2). The nucleolus is also blue, but the blue is not the same as that of the Nissl granules, nor is the blue uniform throughout, for in many cases one can see a distinct red centre having a blue-stained layer on the outside. (Fig. 21). Probably the greatest change the addition of eosin to the stain has made in the appearance of the cell is in the nucleus. Here, instead of finding an unstained substance, one sees stretching from the nucleolus to the nuclear membrane a network of eosin-stained material. This substance is generally abundant near the nucleolus and adjacent to the nuclear membrane, while extending across the intervening space is a loose network of the same material. Sometimes, however, this material is found scattered throughout the nucleus in a finely granular form. This eosinophilous substance is generally more abundant in the nuclei of spinal and sympathetic ganglion cells than in the nuclei of cells of the central nervous

<sup>16</sup> Nissl, F., "Mittheilungen zur Anatomie der Nervenzelle," Allgemeine Zeitschrift für Psychiatrie, L, p. 372, 1894.

<sup>17</sup> Bühler, Lc., p. 98.

<sup>18</sup> Cox, W. H., "Die Selbständigkeit der Fibrillen im Neuron," Internat. Monat. f. Anat. und. Phys., XV, p. 209, 1898.

<sup>19</sup> Lugaro (Lo sperimentale, 1895), also observed the reticular nature of this substance. Quoted from Robertson, Brain, 1899, p. 212.

<sup>20</sup> Flemming, W., "Ueber die Structur centraler Nervenzellen," Anat. Hefte Heft, XIX, p. 563, 1896. (Original inaccessible. Quoted from Bühler).