tissue elements between the nerve-cells and someti. s is specially the c.se with those of the sympathetic, on th' surface, but the hexanitrite leaves their cytoplasm absolutely .ected. The superficially deposited potassium in the sympathetic . 'ls of the frog may be in such quantities in some instances that the triple salt which it forms may wholly obscure the view of the interior of the cells, but this difficulty may be overcome by pressure on the cover-glass and so displacing the superficial precipitate. In the nerve-cells of the retina such a superficial deposition of potassium does not obtain, nor is it found in the nerve-cells of the cerebral cortex or of the anterior cornua of gray matter in the spinal cord in the guinea-pig and frog. To show this, thin sections from fresh material frozen with the carbon dioxide spray v -re treated with the reagent for ten minutes, washed carefully and n..unted in a mixture of glycerine and ammonium sulphide. In such preparations the nerve-cells appeared as white or absolutely unshaded structures in a more or less shaded (dark) gray matter.

This freedom from potassium is found also in the dendrites and axons. As regards the former, the demonstration is not readily made, for these, being very minute structures, are difficult to bring into view or to isolate for the purposes of examination. They form, however, the by far greater part of the outer and inner molecular layers in the retina; and these layers in the frog give no reaction for potassium, although, at times, one may see other structures which present a curious resemblance to the synapsis of dendrites (Fig. 32*a*). In the case of the larger nerve-cells of the spinal cord of the frog the polar processes, as far as they can be traced in the gray matter, show no evidence of the occurrence in them of any potassium compounds.

The case of the axons is much clearer. In preparations of the sympathetic in the guinea-pig and frog the non-medullated fibres may show a faint potassium reaction in their neurilemmas, but not in the axons themselves. Non-medullated fibres from Insecta and Crustacea are not less decisive on this point and are favourable objects for its demonstration. The fact is rendered clear also from preparations of medullated nerve fibres. In these latter the fat-holding sheath offers some resistance to the penetration of the reagent, for in the case of single isolated fibres from the sciatic of the frog somewhat less than half-a-minute is required for the passage of the reagent to every part of the axis cylinder, the paths which it takes being the trabeculæ of neurokeratin and through the nodes of Ranvier. The result, however, is the same even when the reagent obtains immediate access to the axon, as,