

glutaraldehyde-silver technique, that the glomus cells are of 3 different types, one containing 5-hydroxytryptamine, one noradrenaline, and one adrenaline. The localization of the L-DOPA metabolites is studied at present by tracer technique.

It was therefore of interest for this investigation to determine whether the biogenic amines in the carotid body of other animals were similar to those of the horse. This could be demonstrated on the carotid body of the rabbit by thin-layer chromatography using the same technique as described above. Also, the increase of some amines after intraperitoneal application of a MAO-blocker (Pargylin) was obvious.

Zusammenfassung. Die biogenen Amine aus dem Glomus caroticum vom Pferd wurden mit Dansylchlorid umgesetzt. Nach chromatographischer Vortrennung konnte Dopamin als eine der Hauptkomponenten massenspektrometrisch identifiziert werden.

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Aberrant Nerve Fibres in Embryos Treated with Thiopental

The problem of the factors which determine the orientation of nerve fibres in growth has not been solved even though there have been many attempts to do so. There are two large fields of thought on this problem: a mechanical theory which maintains that the direction in which the fibres grow is determined by preestablished routes^{1,2}. The other theory is neurotropic and it claims that the orientation of the nerve fibres is determined by specific substances³⁻⁵. The experimental production of aberrating nerve fibres may help to clarify the problem.

Material and methods. To the embryos of chickens between the 10th and 15th periods⁶ we injected thiopental⁷ in one dose of 1.5 mg. Between the 8-12 days, the embryos were sacrificed and studied histologically. The dye used was hematoxylin-eosin and the Bodian technique.

Observations. Besides the other alterations⁸ we have observed in a great number of embryos aberrating nerve fibres after treatment. The most frequent of these are those bundles which invade the ventricular cavities. In some cases the bundles terminate freely in the ventricular cavity (Figure 1); it is in this free extremity that nuclei of the nerve fibres lie. In other cases, the fibres penetrate the opposite wall after crossing the ventricular cavity (Figure 2). We have also been able to observe how fibres bundles penetrate the cartilage of a future vertebrate body.

Our observations appear to refute the theories supporting the growth of nerve fibres in homogeneous me-

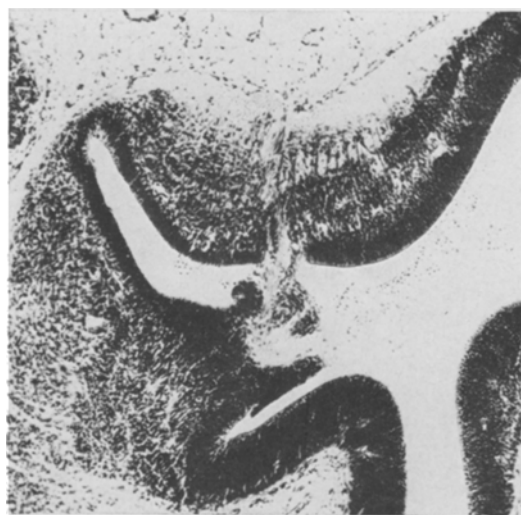


Fig. 2

diums. The appearance of aberrant nerve fibres, because of treatment with thiopental, could be due to an abnormal reaction of the nerve fibres to a normal growth stimulus, or to an agitation in the synthesis, and/or distribution of the orientating growth substance.

Resumen. Embriones de pollo tratados con pentotal sódico muestran fibras nerviosas que penetran en las cavidades ventriculares, lo que parece apoyar las teorías quimotropicas sobre la orientación de las fibras nerviosas en crecimiento.

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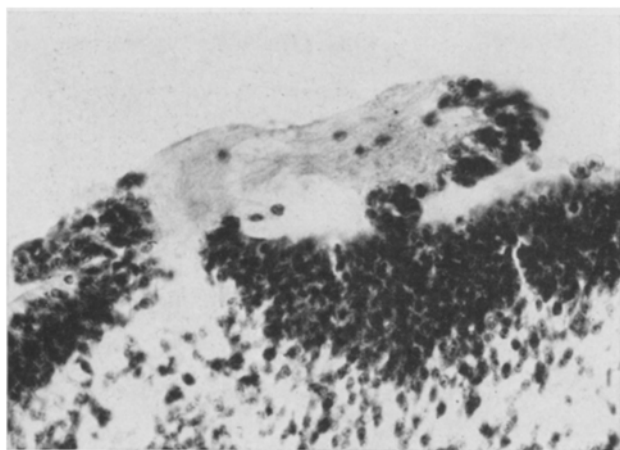


Fig. 1

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