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ily be noted in these preparations and this differentiation was confirmed with supravitally stained tubules and histological preparations.

As shown in previous studies phenol red is actively concentrated in the lumen of the proximal segment of the tubule. When the individual tubule is followed distally the red color seen in the proximal tubule disappears and the distal segment appears colorless, in most observations. Whether this loss of color is due to the acidification (change to yellow) of the dye needs further verification, but in a few instances a yellow tinge has been observed in the distal tubule. The presence of an apparent ciliary current in the tubule was observed; this current should be an aid in transporting the dye to the distal tubule.

These preliminary observations indicate that, when the proper conditions are achieved, a preparation can be made in which the acidification of the urine can be visualized directly in the individual renal tubule under controlled conditions. Such preparations can be utilized in studies on the mechanism of acidification with regard to the effects of salt concentrations, inhibitors, drugs, etc., on this mechanism.

Central Control of Autonomic Function in the Dogfish

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The classical response to stimulation of the mammalian central nervous system above the decussation of the pyramids is contraction of the contralateral muscles. There is a small area in the cerebral cortex with which some investigators have been able to obtain ipsilateral response.

The present investigations were undertaken to study central control of autonomic function in the dogfish. No valid findings were obtained on that point. However, it was noted that stimulation of the tectum produced the forced circling movements of the fish with dorsal fins and tail pointed toward the side of stimulation. This result was regularly obtained when the fish were stimulated with the tail already pointed towards the side of stimulation or with the fish lying in a tank of water perfectly straight. However, occasionally if the tail was already pointed away from the side of stimulation, there would be further contraction of the muscles of the contralateral side.

Similar results were obtained from the cerebellum. However, the threshold of stimulation was considerably lower than at the tectum.

Conclusions from the dogfish: The primary motor response is uncrossed. The highest center for motor control in the dogfish is the tectum. However, the cerebellum is also a motor area, with a lower threshold than the tectum.