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THE CORTICAL PATHS FOR MASTICATION AND DEGLUTITION. By F. R. MILLER, M.A., M.B.

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THE observation that movements of mastication may be elicited in the rabbit by stimulation of the eerebral cortex is due to Ferrier(1), who found the cortical area vielding the response to be rather extensive and to be situated on the lateral surface of the frontal lobe. Réthi(2) obtained mastication and also deglutition by excitation of the cortex of the rabbit. Stimulation applied to the infraeortical paths yielded both responses as far posteriorly as the subthalamic region. On arrival at the erus eerebri, however, stimulation produced a continuous jaw closure, in place of the rhythmical mastication, whilst swallowing was absent. He argued from these results for the existence of a centre for mastication and deglutition situated within or below the thalamus and above the erus eerebri. A study of the cortical area and subcortical tracts involved in mastication in the rabbit was made by Carpenter(3). He followed the tracts into the medial portion of the crus eerebri. But he makes no mention of a change from masticatory rhythm to continuous jaw elosure, as was recorded by Réthi. The cortical masticatory centre as localised by Mann(4) is somewhat smaller than Ferrier's area and is situated slightly ventral to it.

The present research represents an attempt to investigate somewhat more completely the cortical paths concerned in mastication and deglutition. The rabbit served as the experimental animal and anæsthesia was induced by other or by the injection of chloral hydrate intraperitoneally (about $\cdot 35$ gm. per kilo.) or by a combination of both procedures.

The inductorium used for stimulation was fed by two storage cells; an animeter and a rheostat were arranged in the circuit and the rheostat was adjusted so that, whilst the interrupter of the inductorium vibrated, the animeter indicated a reading of approximately 0.2 ampère. Stimulation was applied by the bipolar and unipolar methods, the latter